SPECIAL, 9/22/2014 1:30:00 PM

BE IT REMEMBERED that on September 22, 2014, there was begun and holden a SPECIAL session of the Commissioners Court of Jefferson County, Texas, with the following members and officers present and participating except those absent as indicated:

Honorable Jeff Branick, County Judge

Commissioner Eddie Arnold, Commissioner Pct. No. 1

Commissioner Brent Weaver, Commissioner Pct. No. 2

Commissioner Michael Sinegal, Commissioner Pct. No. 3

Commissioner Everette D. Alfred, Commissioner Pct. No. 4

Honorable G. Mitch Woods, Sheriff (ABSENT)

Rod Carroll

Honorable Carolyn L. Guidry , County Clerk (ABSENT) -

Shelia Briggs

When the following proceedings were had and orders made, to-wit:

Jeff R. Branick, County Judge
Eddie Arnold, Commissioner, Precinct One
Brent A. Weaver, Commissioner, Precinct Two
Michael S. Sinegal, Commissioner, Precinct Three
Everette "Bo" Alfred, Commissioner, Precinct Four

NOTICE OF MEETING AND AGENDA OF COMMISSIONERS' COURT OF JEFFERSON COUNTY, TEXAS September 22, 2014

Notice is hereby given that the Commissioners' Court of Jefferson County, Texas, willmeet at **1:30 PM,** on the **22nd** day of **September 2014** at its regular meeting place in the Commissioner's Courtroom, 4th Floor, Jefferson County Courthouse, 1149 Pearl Street, Beaumont, Texas.

Said meeting will be a **Special** for the purpose of transacting the routine business of the County. Persons with disabilities requiring auxiliary aids for services who wish to attend this meeting should contact the County Judge's Office to arrange for assistance.

In addition to the routine business of the County, the subject of said meeting will be the following:

INVOCATION: Everette "Bo" Alfred, Commissioner, Precinct Four

PLEDGE OF ALLEGIANCE: Eddie Arnold, Commissioner, Precinct One

PURCHASING:

1. Reject all bids (IFB 14-024/KJS), Electrical Vault Replacement at Jack Brooks Regional Airport.

   Motion by: Commissioner Weaver
   Second by: Commissioner Sinegal
   In favor: County Judge Branick, Commissioner Arnold, Commissioner Weaver, Commissioner Sinegal, Commissioner Alfred
   Action: APPROVED

2. Approve specifications for (IFB 14-041/JW), Term Contract for Liquid Soil Stabilizer for Jefferson County.

   SEE ATTACHMENTS ON PAGES 12 - 43

   Motion by: Commissioner Weaver
   Second by: Commissioner Sinegal
   In favor: County Judge Branick, Commissioner Arnold, Commissioner Weaver, Commissioner Sinegal, Commissioner Alfred
   Action: APPROVED

3. Rescind award of (IFB 11-013/KJS), Term Contract for Motor Fuel for Jefferson County, Transport Delivery to Jefferson County Service Center from Petroleum Traders.

   Motion by: Commissioner Weaver
   Second by: Commissioner Sinegal
   In favor: County Judge Branick, Commissioner Arnold, Commissioner Weaver, Commissioner Sinegal, Commissioner Alfred
   Action: APPROVED

4. Consider and approve Amendment I (one) to contract (IFB 11-013/KJS), Term Contract for Motor Fuel for Jefferson County. The Amendment will add Tankwagon Delivery from Tri-Con, Inc. for the Sheriff's Department (Jefferson County Airport Nederland).

   SEE ATTACHMENTS ON PAGES 44 - 44

   Motion by: Commissioner Weaver
   Second by: Commissioner Sinegal
   In favor: County Judge Branick, Commissioner Arnold, Commissioner Weaver, Commissioner Sinegal, Commissioner Alfred
   Action: APPROVED

5. Consider and approve, execute, receive and file Change Order No. 1 for (IFB 14-011/JW), Hangar # 7 Apron (Phase II) for the Jack Brooks Regional Airport, with SIMCO Enterprises, Ltd., for an increase of $5,845.00 due to excavation, flex base, lime treatment, concrete pavement, mobilization, chain link installation, and chain link removal to complete the project. This brings the contract total from $154,504.00 to $160,349.00.

SEE ATTACHMENTS ON PAGES 45 - 46

Motion by: Commissioner Weaver
Second by: Commissioner Sinegal
In favor: County Judge Branick, Commissioner Arnold, Commissioner Weaver, Commissioner Sinegal, Commissioner Alfred
Action: APPROVED

6. Consider and approve award, execute, receive and file contract (IFB 14-025/KJS), Taxiway D Reconstruction (2014) at Jack Brooks Regional Airport with APAC-Texas Inc. with a Base bid amount of $1,884,587.00 and an additive alternate in the amount of $21,531.00. Funded by FAA AIP #30 Grant.

SEE ATTACHMENTS ON PAGES 47 - 450

Motion by: Commissioner Weaver
Second by: Commissioner Sinegal
In favor: County Judge Branick, Commissioner Arnold, Commissioner Weaver, Commissioner Sinegal, Commissioner Alfred
Action: APPROVED

7. Consider and approve award, execute, receive and file contract (IFB 14-026/KJS), Runway Safety Area Grading at Jack Brooks Regional Airport with APAC-Texas Inc. in the amount of $119,490.00. Funded by FAA AIP #30 Grant.

SEE ATTACHMENTS ON PAGES 451 - 666

Motion by: Commissioner Weaver
Second by: Commissioner Sinegal
In favor: County Judge Branick, Commissioner Arnold, Commissioner Weaver, Commissioner Sinegal, Commissioner Alfred
Action: APPROVED

8. Consider and approve award, execute, receive and file contract Bids (IFB 14-027/KJS), Runway 16/34 Rehabilitation at Jack Brooks Regional Airport APAC-Texas Inc. in the amount of $305,518.00. Funded by FAA AIP #30 Grant.

SEE ATTACHMENTS ON PAGES 667 - 922

Motion by: Commissioner Weaver
Second by: Commissioner Sinegal
In favor: County Judge Branick, Commissioner Arnold, Commissioner Weaver, Commissioner Sinegal, Commissioner Alfred
Action: APPROVED

COUNTY AUDITOR:

9. Consider and approve budget transfer - Printing - additional cost.

120-1018-419-3078	OFFICE SUPPLIES	$10,000.00	
120-1018-419-5077	CONTRACTUAL SERVICE		$10,000.00

SEE ATTACHMENTS ON PAGES 923 - 923

Motion by: Commissioner Alfred
Second by: Commissioner Weaver
In favor: County Judge Branick, Commissioner Arnold, Commissioner Weaver, Commissioner Sinegal, Commissioner Alfred
Action: APPROVED

10. Consider and approve budget amendment - 252nd District Court - additional indigent defense cost.

120-2037-412-5072	PAUPER ATTORNEY FEES	$60,000.00	
120-1024-419-5077	CONTRACTUAL SERVICE		$60,000.00

SEE ATTACHMENTS ON PAGES 924 - 924

Motion by: Commissioner Alfred
Second by: Commissioner Weaver
In favor: County Judge Branick, Commissioner Arnold, Commissioner Weaver, Commissioner Sinegal, Commissioner Alfred
Action: APPROVED

11. Consider and approve budget amendment - Transfers Out - purchase of video camera systems for five vehicles for Constable, Precinct 1 at a cost of $4,820 per vehicle.

120-0000-491-8006	CAPITAL PROJECTS FND #311	$24,100.00	
120-3065-425-3084	MINOR EQUIPMENT		$7,100.00
120-3065-425-1005	EXTRA HELP		$7,000.00

120-3065-425-1095	EDUCATION PAY		$10,000.00

SEE ATTACHMENTS ON PAGES 925 - 926

Motion by: Commissioner Alfred
Second by: Commissioner Weaver
In favor: County Judge Branick, Commissioner Arnold, Commissioner Weaver, Commissioner Sinegal, Commissioner Alfred
Action: APPROVED

12. Consider and approve budget amendment - Transfers Out - purchase of video camera systems for three vehicles for Constable, Precinct 6 at a cost of $4,820 per vehicle.

120-0000-491-8006	CAPITAL PROJECTS FND #311	$14,460.00	
120-3070-425-1005	EXTRA HELP		$11,285.00
120-3070-425-3084	MINOR EQUIPMENT		$3,175.00

SEE ATTACHMENTS ON PAGES 927 - 928

Motion by: Commissioner Alfred
Second by: Commissioner Weaver
In favor: County Judge Branick, Commissioner Arnold, Commissioner Weaver, Commissioner Sinegal, Commissioner Alfred
Action: APPROVED

13. Regular County Bills - check #398542 through check #398795.

SEE ATTACHMENTS ON PAGES 929 - 937

Motion by: Commissioner Alfred
Second by: Commissioner Weaver
In favor: County Judge Branick, Commissioner Arnold, Commissioner Weaver, Commissioner Sinegal, Commissioner Alfred
Action: APPROVED

COUNTY COMMISSIONERS:

14. Consider and possibly approve a Proclamation celebrating September 22, 2014 as Judge Larry Gist Day in Jefferson County, Texas.

SEE ATTACHMENTS ON PAGES 938 - 939

Motion by: Commissioner Arnold
Second by: Commissioner Alfred
In favor: County Judge Branick, Commissioner Arnold, Commissioner Weaver, Commissioner Sinegal, Commissioner Alfred
Action: APPROVED

15. Consider, possibly approve and authorize the County Judge to execute Local Project Advance Funding Agreement for Voluntary Local Government contributions to Transportation Improvement Projects with No Required Match between Jefferson County and the Texas Department of Transportation pursuant to Transportation Commission Minute Order No. 114027. (This is for relocation of an existing crossover on US 90 at Green Pond Gully Road.)

SEE ATTACHMENTS ON PAGES 940 - 955

Motion by: Commissioner Alfred
Second by: Commissioner Sinegal
In favor: County Judge Branick, Commissioner Arnold, Commissioner Weaver, Commissioner Sinegal, Commissioner Alfred
Action: APPROVED

16. Consider, possibly approve, authorize the County Judge to execute and receive and file Articles of Agreement between Jefferson County, Texas and the Jefferson County Deputy Constables Association for October 1, 2014 – September 30, 2017.

SEE ATTACHMENTS ON PAGES 956 - 988

Action: TABLED

17. Consider, possibly authorize the County Judge to execute and receive and file a deed from Mr. William Edward Kestler to Jefferson County for the purchase of property to be used for parking at the Port Arthur Health Clinic.

SEE ATTACHMENTS ON PAGES 989 - 991

Motion by: Commissioner Alfred
Second by: Commissioner Sinegal
In favor: County Judge Branick, Commissioner Arnold, Commissioner Weaver, Commissioner Sinegal, Commissioner Alfred
Action: APPROVED

18. Consider, possibly approve, ratify the execution by the County Judge and receive and file the Texas Department of Public Safety FY 2014 Emergency Management Performance Grant (EMPG), DHS No. 2014-EP-00011, Grant No. 14TX-EMPG-389.

SEE ATTACHMENTS ON PAGES 992 - 992

Motion by: Commissioner Alfred
Second by: Commissioner Sinegal
In favor: County Judge Branick, Commissioner Arnold, Commissioner Weaver, Commissioner Sinegal, Commissioner Alfred
Action: APPROVED

19. Consider, possibly approve and authorize the County Judge to execute the Southeast Texas Regional Planning Commission Region Mutual Aid Agreement.

SEE ATTACHMENTS ON PAGES 993 - 1003

Motion by: Commissioner Alfred
Second by: Commissioner Sinegal
In favor: County Judge Branick, Commissioner Arnold, Commissioner Weaver, Commissioner Sinegal, Commissioner Alfred
Action: APPROVED

20. Consider and possibly authorize the County Judge to execute a lease between Jefferson County, Texas and Herb and Sherry Schwarznau for the parking lot and boat ramp located at Umphrey State Park.

SEE ATTACHMENTS ON PAGES 1004 - 1011

Motion by: Commissioner Alfred
Second by: Commissioner Sinegal
In favor: County Judge Branick, Commissioner Arnold, Commissioner Weaver, Commissioner Sinegal, Commissioner Alfred
Action: APPROVED

21. Consider and possibly approve a General Order Regarding Disbursements from the County Energy Transportation Reinvestment Zone Increment Fund.

SEE ATTACHMENTS ON PAGES 1012 - 1014

Motion by: Commissioner Alfred
Second by: Commissioner Sinegal
In favor: County Judge Branick, Commissioner Arnold, Commissioner Weaver, Commissioner Sinegal, Commissioner Alfred
Action: APPROVED

22. Consider and approve Sheriff and Constables' Fees to be effective January 1, 2015.

SEE ATTACHMENTS ON PAGES 1015 - 1016

Motion by: Commissioner Alfred
Second by: Commissioner Sinegal
In favor: County Judge Branick, Commissioner Arnold, Commissioner Weaver, Commissioner Sinegal, Commissioner Alfred
Action: APPROVED

23. Consider and approve order to adopt tax rate at .365 cents per $100 valuation. Tax rate is .340366 for maintenance and operations and .024634 for debt service.

SEE ATTACHMENTS ON PAGES 1017 - 1017

Motion by: Commissioner Alfred
Second by: Commissioner Sinegal
In favor: County Judge Branick, Commissioner Arnold, Commissioner Weaver, Commissioner Sinegal, Commissioner Alfred
Action: APPROVED

24. Conduct public hearing on proposed 2014 - 2015 Jefferson County Budget.

Motion by: Commissioner Alfred
Second by: Commissioner Sinegal
In favor: County Judge Branick, Commissioner Arnold, Commissioner Weaver, Commissioner Sinegal, Commissioner Alfred
Action: APPROVED

25. Adopt the 2014 - 2015 Jefferson County Budget.

SEE ATTACHMENTS ON PAGES 1018 - 1145

Motion by: Commissioner Alfred
Second by: Commissioner Sinegal
In favor: County Judge Branick, Commissioner Arnold, Commissioner Weaver, Commissioner Sinegal, Commissioner Alfred
Action: APPROVED

26. Consider and possibly approve Jefferson County Tourism Committee Hotel Occupancy Tax allocation recommendations for: Requested Recommended Ford Park (promotion & advertising) $77,150 $76,350 Ford Park (ball field turfing project) $160,567 $160,567

Motion by: Commissioner Alfred
Second by: Commissioner Sinegal
In favor: County Judge Branick, Commissioner Arnold, Commissioner Weaver, Commissioner Sinegal, Commissioner Alfred
Action: APPROVED

SHERIFF'S DEPARTMENT:

27. Consider and possibly approve donations from the Brewster Procurement Group on behalf of Shell Pipeline and Motiva Enterprises. They have requested that the money would be used for Emergency Responders to educate on topics such as pipeline awareness precautions, pipeline markers and signs, potential hazards, etc. The amount of this donation is $ 1,000.00.

SEE ATTACHMENTS ON PAGES 1146 - 1146

Motion by: Commissioner Weaver
Second by: Commissioner Arnold
In favor: County Judge Branick, Commissioner Arnold, Commissioner Weaver, Commissioner Sinegal, Commissioner Alfred
Action: APPROVED

28. Receive and file executed Inter-local Contract for the Southeast Texas Auto Theft Task Force between the Counties of Jefferson, Hardin, Jasper and Orange and the Cities of Beaumont and Port Arthur.

SEE ATTACHMENTS ON PAGES 1147 - 1213

Motion by: Commissioner Weaver
Second by: Commissioner Arnold
In favor: County Judge Branick, Commissioner Arnold, Commissioner Weaver, Commissioner Sinegal, Commissioner Alfred
Action: APPROVED

29. Consider and possible adopt a Resolution recognizing Dorothy H. Dean for 17 years and 10 months of dedicated service as a Corrections Officer for the Jefferson County Sheriff's Office and to the citizens of Jefferson County and wishing her well in her retirement.

SEE ATTACHMENTS ON PAGES 1214 - 1215

Motion by: Commissioner Weaver
Second by: Commissioner Arnold
In favor: County Judge Branick, Commissioner Arnold, Commissioner Weaver, Commissioner Sinegal, Commissioner Alfred
Action: APPROVED

Other Business:

***DISCUSSION ON ANY OTHER ITEM NOT ON AGENDA WITHOUT TAKING ACTION.

Receive reports from Elected Officials and staff on matters of community interest without taking action.

_____

Jeff R. Branick
County Judge

JEFFERSON COUNTY PURCHASING DEPARTMENT
Deborah L. Clark, Purchasing Agent

1149 Pearl Street, Beaumont, TX 77701 409-835-8593 Fax 409-835-8456

LEGAL NOTICE
Advertisement for Invitation for Bids

September 22, 2014

Notice is hereby given that sealed bids will be accepted by the Jefferson County Purchasing Department for IFB 14-041/JW, Term Contract for Liquid Soil Stabilizer for Jefferson County. **Specifications for this project may be obtained from the Jefferson County website, http://www.co.jefferson.tx.us, or by calling 409-835-8593.**

Bids are to be sealed and addressed to the Purchasing Agent with the bid number and name marked on the outside of the envelope. Bidders shall forward an original and two (2) copies of their bid to the address shown below. Jefferson County does not accept bids submitted electronically. Late bids will be rejected as non-responsive. Bids will be publicly opened and read aloud in the Jefferson County Commissioners' Courtroom at the time and date below. Bidders are invited to attend the sealed bid opening.

BID NAME:	**Term Contract for Liquid Soil Stabilizer for Jefferson County**
BID NO:	**IFB 14-041/JW**
DUE DATE/TIME:	**11:00 AM, Tuesday, October 21, 2014**
MAIL OR DELIVER TO:	**Jefferson County Purchasing Department** **1001 Pearl Street, 3rd Floor** **Beaumont, Texas 77701**

Any questions relating to these requirements should be directed to Jamey West, Contract Specialist, at 409-835-8593.

All interested firms are invited to submit a bid in accordance with the terms and conditions stated in this bid.

RESPONDENTS ARE STRONGLY ENCOURAGED TO CAREFULLY READ THE ENTIRE INVITATION.

Deborah L. Clark
Purchasing Agent
Jefferson County, Texas

Publish: Beaumont Enterprise – September 24th & October 1, 2014

IFB 14-041/JW
Term Contract for Liquid Soil Stabilizer for Jefferson County
Bids due: 11:00 AM, Tuesday, October 21, 2014

Table of Contents

Return with Bid	Description	Page(s)
	Table of Contents	1
	Instructions to Bidders	2-5
	General Conditions of Bidding and Terms of Contract	6-10
	Special Requirements/Instructions	11-13
	Minimum Specifications	14
X	Offer to Contract Form	15
X	Acceptance of Offer Form	16
X	Bid Form	17
X	Bid Questionnaire	18-19
X	Vendor References	20
X	Signature Page	21
X	Conflict of Interest Questionnaire	22-23
X	Good Faith Effort Determination Checklist	24
X	Notice of Intent	25
X	HUB Subcontracting Participation Declaration Form	26-29
X	Residence Certification/Tax Form	30
X	Bid Affidavit	31

BIDDER IS RESPONSIBLE FOR RETURNING ALL REQUIRED PAGES (MARKED WITH AN "X" ABOVE) WITH THE BID. ADDITIONALLY, BIDDER MUST MONITOR THE PURCHASING WEB SITE (HTTP://WWW.CO.JEFFERSON.TX.US/PURCHASING/MAIN.HTM) TO SEE IF ADDENDA OR ADDITIONAL INSTRUCTIONS HAVE BEEN POSTED. FAILURE TO RETURN ALL REQUIRED FORMS COULD RESULT IN A BID BEING DECLARED AS NON-RESPONSIVE.

Instructions to Bidders

1. Bid Submission

Bids must be submitted in complete original form by mail or messenger to the following address:

Jefferson County Purchasing Department
1001 Pearl Street, 3rd Floor
Beaumont, TX 77701

Bids will be accepted at the above address until the time and date specified herein, and immediately after will be publicly opened and read aloud.

All bids shall be tightly sealed in an opaque envelope and plainly marked with the Bid Number, Bid Name, Bid Due Date, and the Bidder's Name and Address; and shall be addressed to the Purchasing Agent.

Late bids will not be accepted and will be returned unopened to the bidder.

All bids submitted in response to this invitation shall become the property of Jefferson County and will be a matter of public record available for review.

2. Courthouse Security

Bidders are advised that all visitors to the Courthouse must pass through Security. **Bidders planning to hand deliver bids must allow time to get through Security, as a delay in entering the Courthouse will not be accepted as an excuse for late submittal.** Mondays and Tuesdays are particularly heavy days. Bidders are strongly urged to plan accordingly.

3. Preparation of Bids

The bid shall be legibly printed in ink or typed.

If a unit price or extension already entered is to be altered, it shall be crossed out and initialed in ink by the bidder.

The bid shall be legally signed and shall include the complete address of the bidder.

Jefferson County is exempt from Federal and State Sales Taxes, and such taxes shall not be included in bid prices.

4. Signatures

All bids, notifications, claims, and statements must be signed by an individual authorized to bind the bidder. The individual signing certifies, under penalty of perjury, that he or she has the legal authorization to bind the bidder.

5. County Holidays – 2014:

January 1	Wednesday	New Year's Day
January 20	Monday	Martin Luther King, Jr. Day
February 17	Monday	President's Day
April 18	Friday	Good Friday
May 26	Monday	Memorial Day
July 4	Friday	Independence Day
September 1	Monday	Labor Day
November 11	Tuesday	Veterans Day
November 27-28	Thursday-Friday	Thanksgiving
December 25-26	Thursday-Friday	Christmas

6. Rejection or Withdrawal

Submission of additional terms, conditions or agreements with the bid document are grounds for deeming a bid non-responsive and may result in bid rejection. Jefferson County reserves the right to reject any and all bids and to waive any informalities and minor irregularities or defects in bids. Bids may be withdrawn in person by a bidder or authorized representative, provided their identity is made known and a receipt is signed for the bid, but only if the withdrawal is made prior to the time set for receipt of bids. Bids are an irrevocable offer and may not be withdrawn within 90 days after opening date.

7. Award

The bid will be awarded to the responsible, responsive bidder(s) whose bid, conforming to the solicitation, will be most advantageous to Jefferson County – price and other factors considered. Unless otherwise specified in this IFB, Jefferson County reserves the right to accept a bid in whole or in part, and to award by item or by group, whichever is deemed to be in the best interest of Jefferson County. Any bidder who is in default to Jefferson County at the time of submittal of the bid shall have that bid rejected. Jefferson County reserves the right to clarify any contractual terms with the concurrence of the Contractor; however, any substantial nonconformity in the offer, as determined by Jefferson County, shall be deemed non-responsive and the offer rejected.

In evaluating bids, Jefferson County shall consider the qualifications of the bidders, and, where applicable, operating costs, delivery time, maintenance requirements, performance data, and guarantees of materials and equipment. In addition, Jefferson County may conduct such investigation as it deems necessary to assist in the evaluation of a bid and to establish the responsibility, qualifications, and financial ability of the bidders to fulfill the contract.

Jefferson County reserves the right to award this contract on the basis of **lowest and best bid** in accordance with the laws of the State of Texas, to waive any formality or irregularity, to make awards to more than one offeror, and/or to reject any or all bids. In the event the lowest dollar offeror meeting specifications is not a awarded a contract, Offeror may appear before the Commissioners' Court and present evidence concerning Offeror responsibility after officially notifying the Office of the Purchasing Agent of Offeror's intent to appear.

8. Contract

A response to an IFB is an offer to contract with Jefferson County based upon the terms, conditions, and specifications contained in the IFB. Bids do not become contracts unless and until they are executed by Jefferson County, eliminating a formal signing of a separate contract. For that reason, all of the terms and conditions of the contract are contained in the IFB, unless any of the terms and conditions is modified by an IFB Amendment, a Contract Amendment, or by mutually agreed terms and conditions in the contract documents.

9. Waiver of Subrogation

Bidder and bidder's insurance carrier waive any and all rights whatsoever with regard to subrogation against Jefferson County as an indirect party to any suit arising out of personal or property damages resulting from bidder's performance under this agreement.

10. Fiscal Funding

A multi-year contract (if requested by the specifications) continuing as a result of an extension option must include fiscal funding out. If, for any reason, funds are not appropriated to continue the contract, said contract shall become null and void.

11. Bid Results

Bid results are not provided in response to telephone inquiries. A preliminary tabulation of bids received will be posted on the Purchasing web page (http://co.jefferson.tx.us/ purchasing/main.htm) as soon as possible following bid opening. A final tabulation will be posted following bid award, and will also be available for review in the Purchasing Department.

12. Changes and Addenda to Bid Documents

Each change or addendum issued in relation to this IFB document will be on file in the Office of the Purchasing Agent, and will be posted on the Purchasing web site as soon as possible. It shall be

the bidder's responsibility to make inquiry as to change or addenda issued, and to monitor the web site. All such changes or addenda shall become part of the contract and all bidders shall be bound by such addenda. Information on all changes or addenda issued will be available at the Office of the County Purchasing Agent.

13. Specifications

Unless otherwise stated by the bidder, the bid will be considered as being in accordance with Jefferson County's applicable standard specifications, and any special specifications outlined in the bid document. References to a particular trade name, manufacturer's catalogue, or model number are made for descriptive purposes to guide the bidder in interpreting the requirements of Jefferson County, and should not be construed as excluding bids on other types of materials, equipment, and supplies. However, the bidder, if awarded a contract, will be required to furnish the particular item referred to in the specifications or description unless departure or substitution is clearly noted and described in the bid. Jefferson County reserves the right to determine if equipment/ product being bid is an acceptable alternate. All goods shall be new unless otherwise so stated in the bid. Any unsolicited alternate bid, or any changes, insertions, or omissions to the terms and conditions, specifications, or any other requirements of the bid, may be considered non-responsive.

14. Delivery

Bids shall include all charges for delivery, packing, crating, containers, etc. Unless otherwise stated by the bidder (in writing on the included Bid Form), prices bid will be considered as being based on F.O.B. destination/delivered freight included.

15. Interpretation of Bid and/or Contract Documents

All inquiries shall be made within a reasonable time prior to the date and time fixed for the bid opening, in order that a written response in the form of an addendum, if required, can be processed before the bids are opened. Inquiries received that are not made in a timely fashion may or may not be considered.

16. Currency

Prices calculated by the bidder shall be stated in U.S. dollars.

17. Pricing

Prices shall be stated in units of quantity specified in the bid documents. In case of discrepancy in computing the amount of the bid, the unit price shall govern.

18. Notice to Proceed/Purchase Order

The successful bidder may not commence work under this contract until authorized to do so by the Purchasing Agent.

19. Certification

By signing the offer section of the Offer and Acceptance page, bidder certifies:

- The submission of the offer did not involve collusion or other anti-competitive practices.
- The bidder has not given, offered to give, nor intends to give at any time hereafter, any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, or service to any public servant in connection with the submitted offer.
- The bidder hereby certifies that the individual signing the bid is an authorized agent for the bidder and has the authority to bind the bidder to the contract.

20. Definitions

"County" – Jefferson County, Texas.

"Contractor" – The bidder whose proposal is accepted by Jefferson County.

21. Minority-Women Business Enterprise Participation

It is the desire of Jefferson County to increase the participation of Minority (MBE) and women-owned (WBE) businesses in its contracting and procurement programs. While the County does not have any preference or set aside programs in place, it is committed to a policy of equitable participation for these firms.

General Terms and Conditions Of Bidding and Terms Of Contract

By execution of this document, the vendor accepts all general and special conditions of the contract as outlined below and in the specifications and plans.

1. Bidding

1.1 Bids. All bids must be submitted on the bid form furnished in this package.

1.2 Authorized Signatures. The bid must be executed personally by the vendor, duly authorized partner of the partnership, or duly authorized officer of the corporation. If executed by an agent, a power of attorney or other evidence of authority to act on behalf of the vendor shall accompany the bid to become a valid bid.

1.3 Late Bids. Bids must be in the office of the Jefferson County Purchasing Agent before or at the specified time and date bids are due. Bids received after the submission deadline shall be rejected as non-responsive and returned unopened.

1.4 Withdrawal of Bids Prior to Bid Opening. A bid may be withdrawn before the opening date by submitting a written request to the Purchasing Agent. If time allows, the bidder may submit a new bid. Bidder assumes full responsibility for submitting a new bid before or at the specified time and date bids are due. Jefferson County reserves the right to withdraw a request for bids before the opening date.

1.5 Withdrawal of Bids after Bid Opening. Bidder agrees that its offer may not be withdrawn or cancelled by the vendor for a period of ninety (90) days following the date and time designated for the receipt of bids unless otherwise stated in the bid and/or specifications.

1.6 Bid Amounts. Bids shall show net prices, extensions where applicable and net total. In case of conflict between unit price and extension, the unit price will govern. Any ambiguity in the bid as a result of omission, error, unintelligible or illegible wording shall be interpreted in the favor of Jefferson County.

1.7 Exceptions and/or Substitutions. All bids meeting the intent of the specifications and plans will be considered for award. Vendors taking exception to the specifications and plans, or offering substitutions, shall state these exceptions in the section provided. If bid is made on an article other than the one specified, which a bidder considers comparable, the name and grade of said article must be specified in the bid and sufficient specifications and descriptive data must accompany same to permit thorough evaluation. The absence of stated exceptions and/or substitutions shall indicate that the vendor has not taken any exceptions to the specifications and shall be responsible to perform in strict accordance with the specifications. As a matter of practice, Jefferson County rejects exception(s) and /or substitutions as non-responsive but reserves the right to accept any and/or all of the exception(s) and/or substitution(s) deemed to be in the best interest of Jefferson County.

1.8 Alternates. The Invitation for Bid and/or specifications may expressly allow bidder to submit an alternate bid. Presence of such an offer shall not be considered an indication of non-responsiveness.

1.9 Descriptions. Unless otherwise specified, any reference to make, manufacturer and/or model used in the bid specifications is merely descriptive and not restrictive, and is used only to indicate type, style, or quality of material desired.

1.10 Bid Alterations. Bids cannot be altered or amended after submission deadline. Any interlineations, alterations, or erasures made before opening time must be initialed by the signer of the bid, guaranteeing authenticity.

1.11 Tax Exempt Status. Jefferson County is exempt from federal excise tax and state sales tax. Unless the bid form or specifications specifically indicate otherwise, the bid price must be net, exclusive of above-mentioned taxes and will be so construed. Therefore, the bid price shall not include taxes.

1.12 Quantities. Quantities indicated are estimated quantities only and are not a commitment to buy. Approximate usage does not constitute an order, but only implies the probable quantity that will be used. Commodities will be ordered on an as-needed basis. Bidder is responsible for accurate final counts.

1.13 Bid Award. Award of contract shall be made to the most responsible, responsive bidder, whose offer is determined to be the best value, taking into consideration the relative importance of price. Jefferson County reserves the right to be the sole judge as to whether items bid will serve the purpose intended. Jefferson County reserves the right to accept or reject in part or in whole any bid submitted, and to waive any technicalities or informalities for the best interest of the County. Jefferson County reserves the right to award based upon individual line items, sections or total bid.

1.14 Silence of Specifications for Complete Units. All materials, equipment and/or parts that will become a portion of the completed work, including items not specifically stated herein but, necessary to render the service(s) complete and operational per the specifications, are to be included in the bid price. Vendor may be required to furnish evidence that the service, as bid, will meet or exceed these requirements.

1.15 Addenda. Any interpretations, corrections or changes to the specifications and plans will be made by addenda no later than forty-eight (48) hours prior to the bid opening. Addenda will be posted on the Purchasing web site. Vendors are responsible for monitoring the web site in order to remain informed on addenda. Vendors shall acknowledge receipt of all addenda with submission of bid.

1.16 General Bid Bond/Surety Requirements. Failure to furnish bid bond/surety, if requested, will result in bid being declared non-responsive. Non-responsive bids will not be considered for award.

1.17 General Insurance Requirements. Failure to furnish Affidavit of Insurance, if required in these specifications, will result in bid being declared non-responsive. Non-responsive bids will not be considered for award.

1.18 Responsiveness. A responsive bid shall substantially conform to the requirements of this Invitation to Bid and/or specifications contained herein. Bidders who substitute any other terms, conditions, specifications and/or requirements or who qualify their bids in such a manner as to nullify or limit their liability to the contracting entity shall have their bids deemed non-responsive. Also, bids containing any clause that would limit contracting authority shall be considered non-responsive. Examples of non-responsive bids include but shall not be limited to: a) bids that fail to conform to required delivery schedules as set forth in the bid request; b) bids with prices qualified in such a manner that the bid price cannot be determined, such as with vague wording that may include “price in effect at the time of delivery,” and c) bids made contingent upon award of other bids currently under consideration.

1.19 Responsible Standing of Bidder. To be considered for award, bidder must at least: have the ability to obtain adequate financial resources, be able to comply with required or proposed delivery/completion schedule, have a satisfactory record of performance; have a satisfactory record of integrity and ethics, and be otherwise qualified and eligible to receive award.

1.20 Proprietary Data. Bidder may, by written request, indicate as confidential any portion(s) of a bid that contain proprietary information, including manufacturing and/or design processes exclusive to the vendor. Jefferson County will protect from public disclosure such portions of a bid, unless directed otherwise by legal authority, including existing Open Records Acts.

1.21 Public Bid Opening. Bidders are invited to be present at the opening of bids. After the official opening of bids, a period of not less than one week is necessary to evaluate bids. The amount of time necessary for bid evaluation may vary and is determined solely by the County. Following the bid evaluation, all bids submitted are available for public review.

2. Performance

2.1 Design, Strength, and Quality. Design, strength, and quality of materials and workmanship must conform to the highest standards of manufacturing and engineering practices. The apparent silence of specifications and/or plans as to any detailed description concerning any point shall be

regarded as meaning that only the best commercial practices are to prevail. All interpretations of these specifications and/or plans shall be made on the basis of this statement.

2.2 Age and Manufacture. All tangible goods being bid must be new and unused, unless otherwise specified, in first-class condition, of current manufacture, and furnished ready to use. All items not specifically mentioned that are required for a complete unit shall be furnished.

2.3 Delivery Location. All deliveries will be made to the address(es) specified on the purchase order during normal working hours of 8:00 a.m. to 4:00 p.m., Monday through Friday, unless otherwise authorized by the Purchasing Agent or designee.

2.4 Delivery Schedule. Delivery time may be an important consideration in the evaluation of best value. The maximum number of days necessary for delivery ARO shall be stated in the space, if provided, on the bid form.

2.5 Delivery Charges. All delivery and freight charges, F.O.B. destination shown on Jefferson County purchase order, as necessary to perform contract are to be included in the bid price.

2.6 Installation Charges. All charges for assembly, installation and set-up shall be included in the bid price. Unless otherwise stated, assembly, installation and set-up will be required.

2.7 Operating Instructions and Training. Clear and concise operating instructions and descriptive literature will be provided in English, if requested. On-site detailed training in the safe and efficient use and general maintenance of item(s) purchased shall be provided as needed at the request of Jefferson County. Instructions and training shall be at no additional cost to the County.

2.8 Storage. Bidder agrees to provide storage of custom ordered materials, if requested, for up to thirty (30) calendar days.

2.9 Compliance with Federal, State, County, and Local Laws. Bids must comply with all federal, state, county and local laws, including, but not limited to, all applicable standard safety, emission, and noise control requirements. Any vehicles or equipment shall contain all standard safety, emission, and noise control requirements required for the types and sizes of equipment at the time of their manufacture. The contractor agrees, during the performance of work or service, to comply with all applicable codes and ordinances of Jefferson County or the State of Texas as they may apply, as these laws may now read, or as they may hereafter be changed or amended.

2.10 OSHA. The bidder will certify all equipment complies with all regulations and conditions stipulated under the Williams-Steiger Occupational Safety and Health Act of 1971, as amended. The successful bidder will further certify that all items furnished under this project will conform and comply with federal and State of Texas OSHA standards. The successful bidder will agree to indemnify and hold harmless Jefferson County for any and all damages that may be assessed against the County.

2.11 Patents and Copyrights. The successful vendor agrees to protect the County from claims involving infringements of patents and/or copyrights.

2.12 Samples, Demonstrations and Testing. At Jefferson County's request and direction, bidder shall provide product samples and/or testing of items bid to ensure compliance with specifications. Samples, demonstrations and/or testing may be requested at any point prior to or following bid award. Samples, demonstrations and/or testing may be requested upon delivery and/or any point during the term of resulting contract. All samples (including return thereof), demonstrations, and/or testing shall be at the expense of the bidder/vendor.

2.13 Acceptability. All articles enumerated in the bid shall be subject to inspection by an officer designated for that purpose by Jefferson County. If found inferior to the quality called for, or not equal in value to the specifications, deficient in workmanship or otherwise, this fact shall be certified to the Purchasing Agent, who shall have the right to reject the whole or any part of the same. Items and/or work determined to be contrary to specifications must be replaced at the vendor's expense. Inferior items not retrieved by the vendor within thirty (30) calendar days, or an otherwise agreed upon time, shall become the property of the County. If disposal of such items warrants an expense, an amount equal to the disposal expense will be deducted from amounts payable to the vendor.

2.14 Maintenance. Maintenance required for equipment bid should be available in Jefferson County by a manufacturer authorized maintenance facility. Cost for this service shall be shown on

the bid sheet as requested or on a separate sheet, as required. If Jefferson County opts to include maintenance, it shall be so stated in the purchase order and said cost will be included. Service will commence only upon expiration of applicable warranties and should be priced accordingly.

2.15 Material Safety Data Sheets. Under the "Hazardous Communications Act," common known as the "Texas Right to Know Act," a bidder must provide the user department, with each delivery, material safety data sheets which are applicable to hazardous substances defined in the Act. Failure of the bidder to furnish this documentation, will be cause to reject any bid applying thereto.

2.16 Evaluation. Evaluation shall be used as a determinant as to which services are the most efficient and/or most economical for the County. It shall be based on all factors having a bearing on price and performance of the items in the user environment. All bids are subject to tabulation by the Jefferson County Purchasing Department and recommendation to Jefferson County Commissioners' Court. Compliance with all bid requirements and needs of the using department are considered in evaluating bids. Pricing is not the only criteria for making a recommendation. The Jefferson County Purchasing Department reserves to right to contact any bidder, at any time, to clarify, verify or requirement information with regard to this bid.

3. Purchase Orders and Payment

3.1 Purchase Orders. A purchase order(s) shall be generated by the Jefferson County Purchasing Agent to the successful vendor. The purchase order number must appear on all itemized invoices and packing slips. The County will not be held responsible for any work orders placed and/or performed without a valid current purchase order number. Payment will be made for all services rendered and accepted by the contract administrator for which a valid invoice has been received.

3.2 Invoices. All invoices shall reference the Purchase Order number. Invoices shall reference the bid item number or a detailed description for each item invoiced. If an item purchased and itemized on the invoice does not correspond to an item in any of the categories awarded to the vendor, invoice shall reference the item as "N/C" to indicate that it is a non-contract item. This requirement is to assist the County in verifying contract pricing on all invoices. Payment will be made under terms of net thirty (30) days unless otherwise agreed upon by seller and the purchasing department.

3.3 Prompt Payment. In accordance with the State of Texas Prompt Payment Act, Article 601f V.T.C.S., payment will be made after receive and acceptance by the County of the merchandise ordered and of a valid invoice. Successful bidder(s) is required to pay subcontractors within ten (10) days after the successful bidder receives payment from the County.

3.4 Funding. Jefferson County is operated and funded on an October 1 to September 30 basis; accordingly, the County reserves the right to terminate, without liability to the County, any contract for which funding is not available.

4. Contract

4.1 Contract Definition. The General Conditions of Bidding and Terms of Contract, Specifications, Plans, Bidding Forms, Addenda, and any other documents made a part of this bid shall constitute the complete bid. This bid, when duly accepted by Jefferson County, shall constitute a contract equally binding between the successful bidder and Jefferson County.

4.2 Contract Agreement. Once a contract is awarded, the unit prices offered by the successful bidder shall remain firm for the term of the contract. Contract shall commence on date of award and, upon agreement between vendor(s) and Jefferson County, may be renewed annually for up to four (4) additional years.

4.3 Change Order. No different or additional terms will become part of this contract with the exception of a change order. No oral statement of any person shall modify or otherwise change, or affect the terms, conditions or specifications stated in the resulting contract. All change orders to the contract will be made in writing and at the discretion and approval of Jefferson County. No change order will be binding unless signed by an authorized representative of the County and the vendor.

4.4 Price Re-determination. A price re-determination may be requested at the time of annual renewal. All requests for price re-determination shall be in written form. Cause for such request, i.e., manufacturer's direct cost, postage rates, Railroad Commission rates, Federal/State minimum wage law, Federal/State unemployment taxes, F.I.C.A, Insurance Coverage Rates, etc., shall be substantiated in writing by the source of the cost increase. The bidder's past experience of honoring contracts at the bid price will be an important consideration in the evaluation of the lowest and best bid. Jefferson County reserves the right to accept or reject any/all requests for price re-determination as it deems to be in the best interest of the County.

4.5 Termination. Jefferson County reserves the right to terminate the contract for default if the bidder breached any of the terms therein, including warranties of bidder or if the bidder becomes insolvent or commits acts of bankruptcy. Such right of termination is in addition to and not in lieu of any other remedies which Jefferson County may have in law or equity. Default may be construed as, but not limited to, failure to deliver the proper goods and/or service within the proper amount of time, and/or to properly perform any and all services required to Jefferson County's satisfaction and/or to meet all other obligations and requirements. Contracts may be terminated without cause upon thirty (30) days' written notice to either party unless otherwise specified. Jefferson County reserves the right to award canceled contract to the next lowest bidder. Bidder, in submitting this bid, agrees that Jefferson County shall not be liable to prosecution for damages in the event that the County declares the bidder in default.

4.6 Conflict of Interest. Employees of the County are not permitted to maintain financial interest in, or receive payment, directly or indirectly, borrow from, lend to, invest in, or engage in any substantial financial transaction with any individual, organization, supplier, or subcontractor who does business with the County without disclosure. When conflict of interest is discovered, it shall be grounds for termination of contract.

4.7 Injuries or Damages Resulting from Negligence. Successful vendor shall defend, indemnify and save harmless Jefferson County and all its officers, agents and employees from all suits, actions, or other claims of any character, name and description brought for or on account of any injuries or damages received or sustained by any person, persons, or property on account of any negligent act or fault of the successful vendor, or of any agent, employee, subcontractor or supplier in the execution of, or performance under, any contract which may result from bid award. Successful vendor shall pay any judgment with cost which may be obtained against Jefferson County growing out of such injury or damages.

4.8 Interest by Public Officials. No public official shall have interest in this contract, in accordance with Texas Local Government Code.

4.9 Warranty. The successful vendor shall warrant that all materials utilized in the performance of this contract shall conform to the proposed specifications and/or all warranties as stated in the Uniform Commercial Code and be free from all defects in material, workmanship and title.

4.10 Uniform Commercial Code. The successful vendor and Jefferson County agree that both parties have all rights, duties, and remedies available as stated in the Uniform Commercial Code.

4.11 Venue. This agreement will be governed and construed according to the laws of the State of Texas. This agreement is performable in the County of Jefferson, Texas.

4.12 Sale, Assignment, or Transfer of Contract. The successful vendor shall not sell, assign, transfer or convey this contract, in whole or in part, without the prior written consent of Jefferson County.

4.13 Silence of Specifications. The apparent silence of these specifications as to any detailed description concerning any point, shall be regarded as meaning that only the best commercial practices are to prevail. All interpretations of these specifications shall be made on the basis of this statement.

Special Requirements/Instructions

The following requirements and instructions supersede General Requirements where applicable.

1. Bid Requirement

Each bidder shall insure that all parts of the bid are **completed and returned.** The Table of Contents indicates specifically which pages need to be returned; these pages shall constitute the vendor's bid. Vendor shall use an opaque envelope, clearly indicating on the outside the **Bid Number, Bid Description, and marked "SEALED BID"**. Jefferson County shall not be responsible for any effort or cost expended in the preparation of a response to this IFB. All protests should be coordinated through the Purchasing Office prior to award recommendation to Commissioners' Court. **Bidders shall submit one (1) original and two (2) copies of the bid.**

2. Multiple Vendor Award

Jefferson County reserves the right to award this contract to more than one vendor at the County's discretion.

3. Delivery

If delivery is required, all items must be packaged so as to be protected from damage during shipping and handling. Any item(s) damaged in shipping must be replaced in kind, or repaired, by the contractor, at the discretion of, and at no additional charge to, Jefferson County.

4. Payment

Jefferson County will pay original invoices that clearly itemize the goods and/or services provided as to quantity, part number, description, price, applicable discount (if any), labor charges showing time differential, if applicable and if previously agreed to, and delivery, installation, and set-up costs, if applicable and if previously agreed to. Only charges as stated on the Bid Form(s) submitted as a part of the bid will be considered.

Invoices must indicate Jefferson County as applicable, the address to which the product(s) and/or service(s) were delivered, and the applicable purchase order number. Invoices will be matched to delivery tickets prior to payment; therefore, all delivery tickets should have an accurate description of the product(s) and/or service(s).

5. Usage Reports

Jefferson County reserves the right to request, and receive at no additional cost, up to two (2) times during the contract period, a usage report detailing the products and/or services furnished to date under a contract resulting from this IFB. The reports must be furnished no later than five (5) working days after written request and itemize all purchases to date by Jefferson County department, description of each item purchased, including manufacturer, quantity of each item purchased, per unit and extended price of each item purchased, and total amount and price of all items purchased.

6. Insurance

The contractor (including any and all subcontractors as defined in Section 7.1.3 below) shall, at all times during the term of this contract, maintain insurance coverages with not less than the type and requirements shown below. Such insurance is to be provided at the sole cost of the contractor. These requirements do not establish limits of the contractor's liability.

All policies of insurance shall waive all rights of subrogation against the County, its officers, employees and agents.

Contractor shall furnish Jefferson County with Certificate of Insurance naming Jefferson County as additional insured.

All insurance must be written by an insurer licensed to conduct business in the State of Texas.

Minimum Insurance Requirements

Public Liability	$1,000,000.00
Excess Liability	$1,000,000.00
Property Insurance	Improvements & Betterments
Workers' Compensation	Statutory Coverage (see attached)

7. Workers' Compensation Insurance

7.1 Definitions:

7.1.1 **Certificate of coverage ("Certificate")** – A copy of a certificate of insurance, a certificate of authority to self-insure issued by the commission, or a coverage agreement, DWC-81, DWC-82, DWC-83, or DWC-84 showing statutory workers' compensation insurance coverage for the person's or entity's employees providing services on a project, for the duration of the project.

7.1.2 **Duration of the project** – Includes the time from the beginning of the work on the project until the contractor's/person's work on the project has been completed and accepted by the governmental entity.

7.1.3 **Persons providing services on the project ("subcontractor") in article 406.096** – Includes all persons or entities performing all or part of the services under the contractor has undertaken to perform on the project, regardless of whether that person contracted directly with the contractor and regardless of whether that person has employees. This includes, without limitation, independent contractors, subcontractor, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity which furnishes persons to provide services on the project. "Services" includes, without limitation, providing, hauling or delivering equipment or materials, or providing labor, transportation, or other service related to a project. "Services" does not include activities unrelated to the project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.

7.2 The Contractor shall provide coverage, based on proper reporting of classification code and payroll amounts and filing any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all employees of the contractor providing services on the project, for the duration of the project.

7.3 The Contractor must provide a certificate of coverage to the governmental entity prior to being awarded the contract – refer to Section 6 above.

7.4 If the coverage period shown on the Contractor's current certificate of coverage ends during the duration of the project, the Contractor must, prior to the end of the coverage period, file a new certificate of coverage with the governmental entity showing that coverage has been extended.

7.5 The Contractor shall obtain from each person providing services on a project, and provide to the governmental entity:

7.5.1 A certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project; and

7.5.2 No later than seven (7) days after receipt by the Contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate ends during the duration of the project.

7.6 The Contractor shall retain all required certificates of coverage for the duration of the project and for one (1) year thereafter.

7.7 The Contractor shall notify the governmental entity in writing by certified mail or personal delivery, within ten (10) days after the contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project.

7.8 The Contractor shall post on each project site a notice, in the text, form and manner prescribed by the Texas Department of Workers' Compensation, informing all persons providing services on the project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.

7.9 The Contractor shall contractually require each person with whom it contracts to provide services on a project to:

7.9.1 Provide coverage, based on reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all its employees providing services on the project, for the duration of the project.

7.9.2 Provide to the Contractor, prior to that person beginning work on the project a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the project, for the duration of the project.

7.9.3 Provide the Contractor, prior to the end of coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project.

7.9.4 Obtain from each person with whom it contracts, and provide to the Contractor:

7.9.4.1 A certificate of coverage, prior to the other person beginning work on the project; and

7.9.4.2 the coverage period, if the coverage period shown on the current certificate of a new certificate of coverage showing extension of coverage, prior to the end of coverage ends during the duration of the project.

7.9.5 Retain all required certificates of coverage on file for the duration of the project and for one (1) year thereafter.

7.9.6 Notify the governmental entity in writing by certified mail or personal delivery, within ten (10) days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and

7.9.7 Contractually require each person with whom it contracts to perform as required by paragraphs 7.1. – 7.7., with the certificates of coverage to be provided to the person for whom they are providing services.

7.10 By signing this contract or providing or causing to be provided a certificate of coverage, the Contractor is representing to the governmental entity that all employees of the contractor who will provide services of the project will be covered by workers' compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.

7.11 The Contractor's failure to comply with any of these provisions is a breach of contract by the Contractor which entitles the governmental entity to declare the contract void if the Contractor does not remedy the breach within ten (10) days after receipt of notice of breach from the governmental entity.

Minimum Specifications

The following requirements and specifications supersede General Requirements where applicable. Contact Jamey West (e-mail: jwest@co.jefferson.tx.us; phone: 409-835-8593), regarding any questions or comments. Please reference bid number 14-041/JW.

Scope

Vendor shall provide Liquid Soil Stabilizer for Jefferson County subject to the terms and conditions stated herein for a period of one year **beginning on or about Date of Award**.

Prices shall be F.O.B. delivered to various locations in Jefferson County with delivery prepaid and allowed. Bidder bears freight charges. All prices must be written in ink or typewritten.

There is no expressed or implied obligation for Jefferson County to reimburse responding bidders for any expense incurred in preparing bid in response to this request and Jefferson County will not reimburse bidders for these expenses.

Jefferson County purchased 3,630 gallons of Liquid Soil Stabilizer in 2008. No promise is made or implied that these quantities will be purchased. Quantities purchased may be affected by weather conditions or available funds. Orders will be placed on an as-needed basis for the duration of contract. Purchase Orders will be released to successful bidder as required. Minimum orders are not acceptable.

Contract

This bid, when properly accepted by Jefferson County Commissioners' Court, shall constitute a contract equally binding between the successful bidder and Jefferson County. No different or additional terms will become a part of this contract.

General

It is the intent of the following minimum specifications to describe Liquid Soil Stabilizer for Jefferson County and to establish an annual fixed price contract for the purchase of these items on an "as-needed basis." Brand names, where used, are for descriptive purposes. Bidder shall assume specifications to read "or approved equal or better." Alternate brands bid shall be named in the submitted bid. Jefferson County retains sole discretion in determining whether item(s) bid will be considered "equal" or "better."

The item bid shall be soil stabilizer and compactor. Compound shall increase soil compatibility, general soil stability, soil internal drainage process, and soil bearing capacity.

OFFER AND ACCEPTANCE FORM

OFFER TO CONTRACT

To Jefferson County:

We hereby offer and agree to furnish the materials or service in compliance with all terms, conditions, specifications, and amendments in the Invitation for Bid and any written exceptions in the offer. We understand that the items in this Invitation for Bid, including, but not limited to, all required certificates are fully incorporated herein as a material and necessary part of the contract.

The undersigned hereby states, under penalty of perjury, that all information provided is true, accurate, and complete, and states that he/she has the authority to submit this bid, which will result in a binding contract if accepted by Jefferson County.

We acknowledge receipt of the following amendment(s): _____, _____, _____, _____.

I certify, under penalty of perjury, that I have the legal authorization to bind the firm hereunder:

_____
Company Name

_____
Address

_____
City State Zip

_____
Signature of Person Authorized to Sign

_____
Printed Name

_____
Title

For clarification of this offer, contact:

_____
Name

_____
Phone Fax

_____
E-mail

Bidder Shall Return Completed Form with Offer.

Acceptance of Offer

The Offer is hereby accepted for the following items: Term Contract for Liquid Soil Stabilizer for Jefferson County. Contract Term: One (1) year from date of award with an option to renew for four (4) additional years.

The Contractor is now bound to sell the materials or services listed by the attached contract and based upon the Invitation for Bid, including all terms, conditions, specifications, amendments, etc., and the Contractor's Offer as accepted by Jefferson County.

This contract shall henceforth be referred to as Contract No. 14-041/JW, Term Contract for Liquid Soil Stabilizer for Jefferson County. The Contractor has not been authorized to commence any billable work or to provide any material or service under this contract until Contractor receives a purchase order and/or a notice to proceed from the Jefferson County Purchasing Agent.

Countersigned:

Jeff R. Branick
County Judge

Date

Attest:

Carolyn L. Guidry
County Clerk

Bidder Shall Return Completed Form with Offer.

Bid Form

Description	Amount per gallon
Price per gallon in ___ gallon drums (complete drum capacity) Dilution Rate: _____	$_____
	Coverage Rate Linear Feet per gallon
Please advise coverage in linear feet per gallon, based upon crushed limestone base material and roadway 20'-0 x 6" deep.	
TOTAL	**$**

Acknowledgment of Addenda (if any):

Addendum 1 _____ Date Received_____

Addendum 2 _____ Date Received_____

Addendum 3 _____ Date Received_____

Bidder Shall Return Completed Form with Offer.

Bid Questionnaire

Instructions: Complete this questionnaire as it applies to your bid, and include with your bid submission.

	Yes	No
Unit Weight: 9.81 +/- 0.2 Lb./Gal.		
Specific Gravity: 1.1495/1,200B		
Non-Volatile: 61.89%		
PH 10 ± 1.5		
Materials must be:		
Buffered compound		
Non-Corrosive		
Non-Allergenic		
Non-Toxic		
Non-Flammable		
Cohesive, not adhesive (to prevent sticking to blade)		
Guarantee: Standard Manufacturer's guarantee shall be provided		
Training:		
Successful bidder **shall furnish a qualified representative to be on job site if needed or requested during application of materials to offer advice, instructions, and application rates** to achieve maximum desired results for a minimum total of four (4) hours at no additional cost to the County.		
Delivery Report:		
Successful bidder shall furnish the purchaser, at the **time of delivery**, two (2) copies of a **delivery report,** which shall contain the gallons of material delivered, and the specific gravity and temperature of the material at time of packaging.		
Certifications and Additional Information:		
Bid must include Engineer's (P.E.) certified test results from an independent testing laboratory approved by the Texas State Highway Department of Texas Test Method: TEX-117-E, Part II. (Label "Attachment A" and return with bid blank.)		

Bid Questionnaire (Continued)

	Yes	No
Certifications and Additional Information:		
Bid must include certified test results based on at least a **six-month study of the stabilizing performance of bidder's product** by an Independent Engineer (P.E.) using approved Texas Department of Highways Test Method: Triaxial Test – S.D.H.P.T. (TEX-217-E; Moisture/Density Relationship – ASTM D-698; Atterberg Limits – ASTM D-4318; Total Moisture Content – ASTM D-2216 and ASTM-D1148. **(Label "Attachment B" and return with bid blank.)**		
Bid must include **certified test results based on at least an eighteen (18) month study of the stabilizing performance** of bidder's product performed by an Independent Engineer (P.E.) using approved Texas Department of Highways Test Methods: ASTM-698; ASTM D-4318; ASTM D-422-D1140, TEX-107E, and ASTM D-2487, approving bidder's product for treatment and stabilization of new construction, reconstruction under concrete pavement, asphaltic pavement of surface seal coasting. **(Label "Attachment C" and return with bid blank.)**		
Bid must include certification from independent laboratory testing, certifying **product to be less corrosive than tap water. (Label "Attachment D" and return with bid blank.)**		
Compound must be manufactured with virgin raw materials, and contain no recycled and no by-products. **Bid must include manufacturer's certifications that the stabilizer contains none of the hazardous chemicals listed in EPA Fed Req 40. (Label "Attachment E" and return with bid blank.)**		
Compound must be environmentally safe and not require any hazardous warning labels from NISH or the Department of Transportation.		
Does the product being bid contain acids or explosive materials?		
Is the container for the product being bid subject to any EPA or Texas Department of Transportation requirements for transportation, storage, or disposal of its containers?		
Bid must include test results from an independent engineer (P.E.), certifying the product reduced the plasticity index of the soil. **(Label "Attachment F" and return with bid blank.)**		
Bidder shall supply copies of all labels that will be placed on containers. **(Label "Attachment G" and return with bid blank.**		
Bidder shall state current gross annual revenue	$	

Bidder Shall Return Completed Form with Offer.

Vendor References

Please list at least three (3) companies or governmental agencies (preferably a municipality) where the same or similar products and/or services as contained in this specification package were recently provided.

THIS FORM MUST BE RETURNED WITH YOUR BID.

REFERENCE ONE

Government/Company Name: _____

Address: _____

Contact Person and Title: _____

Phone: _____ Fax: _____

Contract Period: _____ Scope of Work: _____

REFERENCE TWO

Government/Company Name: _____

Address: _____

Contact Person and Title: _____

Phone: _____ Fax: _____

Contract Period: _____ Scope of Work: _____

REFERENCE THREE

Government/Company Name: _____

Address: _____

Contact Person and Title: _____

Phone: _____ Fax: _____

Contract Period: _____ Scope of Work: _____

Bidder Shall Return Completed Form with Offer.

Signature Page

As permitted under Article 4413 (32c) V.A.C.S., other governmental entities may wish to participate under the same terms and conditions contained in this contract (i.e., piggyback). In the event any other entity participates, all purchase orders will be issued directly from and shipped directly to the entity requiring supplies/services. Jefferson County shall not be held responsible for any orders placed, deliveries made or payment for supplies/services ordered by another entity. Each entity reserves the right to determine their participation in this contract.

Would bidder be willing to allow other governmental entities to piggyback off this contract, if awarded, under the same terms and conditions? .....**Yes** ☐ **No** ☐

This bid shall remain in effect for ninety (90) days from bid opening and shall be exclusive of federal excise and state and local sales tax (exempt).

The undersigned agrees, if this bid is accepted, to furnish any and all items upon which prices are offered, at the price and upon the terms and conditions contained in the Invitation for Bid, Conditions of Bidding, Terms of Contract, and Specifications and all other items made a part of the accepted contract.

The undersigned affirms that they are duly authorized to execute the contract, that this company, corporation, firm, partnership or individual has not prepared this bid in collusion with any other bidder, and that the contents of this bid as to prices, terms or conditions of said bid have not been communicated by the undersigned nor by any employee or agent to any other bidder or to any other person(s) engaged in this type of business prior to the official opening of this bid. And further, that neither the bidder nor their employees nor agents have been for the past six (6) months directly nor indirectly concerned in any pool or agreement or combination to control the price of goods or services on, nor to influence any person to bid or not to bid thereon.

Bidder (Entity Name)	Signature
Street & Mailing Address	Print Name
City, State & Zip	Date Signed
Telephone Number	Fax Number
E-mail Address	

Bidder Shall Return Completed Form with Offer.

Conflict of Interest Questionnaire

For vendor or other person doing business with local government entity

This questionnaire is being filed in accordance with chapter 176 of the Local Government Code by a person doing business with the governmental entity.

By law this questionnaire must be filed with the records administrator of the local government not later than the 7th business day after the date the person becomes aware of facts that require the statement to be filed. See Section 176.006 Local Government Code.

A person commits an offense if the person violates Section 176.0006, Local Government Code. An offense under this section is a Class C misdemeanor.

OFFICE USE ONLY

1. Name of person doing business with local governmental entity.

2. ☐ Check this box is you are filing an update to a previously filed questionnaire.

(The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than September 1 of the year for which an activity described in Section 176.006(a), Local Government Code, is pending and not later than the 7th business day after the date the originally filed questionnaire becomes incomplete or inaccurate.)

3. Describe each affiliation or business relationship with an employee or contractor of the local government entity who makes recommendations to a local government officer of the local governmental entity with respect to expenditure of money.

4. Describe each affiliation or business relationship with a person who is a local government officer and who appoints or employs a local government officer of the local governmental entity that is the subject of this questionnaire.

Bidder Shall Return Completed Form with Offer.

CONFLICT OF INTEREST QUESTIONNAIRE

FORM CIQ
Page 2

For vendor or other person doing business with local government entity

5. Name of local government officer with whom filer has affiliation or business relationship. (Complete this section only if the answer to A, B, or C is YES.)

   This section, item 5 including subparts A, B, C & D, must be completed for each officer with whom the filer has affiliation or business relationship. Attach additional pages to this Form CIQ as necessary.

   A. Is the local government officer named in this section receiving or likely to receive taxable income from the filer of the questionnaire?

      ☐ Yes ☐ No

   B. Is the filer of the questionnaire receive or likely to receive taxable income from or at the direction of the local government officer named in this section AND the taxable income is not from the local government entity?

      ☐ Yes ☐ No

   C. Is the filer of the questionnaire affiliated with a corporation or other business entity that the local government officer serves as an officer or director, or holds an ownership of 10 percent or more?

      ☐ Yes ☐ No

   D. Describe each affiliation or business relationship:

6. Describe any other affiliation or business relationship that might cause a conflict of interest.

7.

_____ _____

Signature of person doing business with the governmental entity Date

Bidder Shall Return Completed Form with Offer.

Good Faith Effort (GFE) Determination Checklist

This information must be submitted with your bid.

Bidder intends to utilize subcontractors/subconsultants in the fulfillment of this contract (if awarded). ☐ Yes ☐ No

Instructions: In order to determine if a "Good Faith Effort" was made in soliciting HUBs for subcontracting opportunities, the following checklist and supporting documentation shall be completed by the Prime Contractor/Consultant, and returned with the Prime Contractor/ Consultant's bid. This list contains the **minimum** efforts that should be put forth by the Prime Contractor/Consultant when attempting to achieve or exceed the goals of HUB Subcontractor participation. The Prime Contractor/Consultant may extend his/her efforts in soliciting HUB Subcontractor participation beyond what is listed below.

Did the Prime Contractor/Consultant . . .

☐ Yes ☐ No 1. To the extent practical, and consistent with standard and prudent industry standards, divide the contract work into the smallest feasible portions, to allow for maximum HUB Subcontractor participation?

☐ Yes ☐ No 2. **Notify** in writing a reasonable number of HUBs, allowing sufficient time for effective participation of the planned work to be subcontracted?

☐ Yes ☐ No 3. **Provide** HUBs that were genuinely interested in bidding on a subcontractor, adequate information regarding the project (i.e., plans, specifications, scope of work, bonding and insurance requirements, and a point of contract within the Prime Contractor/Consultant's organization)?

☐ Yes ☐ No 4. **Negotiate** in good faith with interested HUBs, and not reject bids from HUBs that qualify as lowest and responsive bidders?

☐ Yes ☐ No 5. **Document** reasons HUBs were rejected? Was a written rejection notice, including the reason for rejection, provided to the rejected HUBs?

☐ Yes ☐ No 6. If Prime Contractor/Consultant has zero (0) HUB participation, **please explain the reasons why.**

If "No" was selected, please explain and include any pertinent documentation with your bid. If necessary, please use a separate sheet to answer the above questions.

Printed Name of Authorized Representative	Signature
Title	Date

Bidder Shall Return Completed Form with Offer.

Notice of Intent (NOI) to Subcontract with Historically Underutilized Business (HUB)

This information must be submitted with your bid.

Bidder intends to utilize subcontractors/subconsultants in the fulfillment of this contract (if awarded). ☐ Yes ☐ No

Instructions for Prime Contractor/Consultant: Bidder shall submit this form with the bid; however, the information below may be submitted after contract award, but prior to beginning performance on the contract. Please submit one form for each HUB Subcontractor/ Subconsultant with proper signatures, per the terms and conditions of your contract.

Contractor Name: _____ HUB: p Yes p No

Address: _____
Street City State Zip

Phone (with area code): _____ Fax (with area code): _____

Project Title & No.: _____

Prime Contract Amount: $ _____

HUB Subcontractor Name: _____

HUB Status (Gender & Ethnicity): _____

Certifying Agency: ☐ Tx. Bldg & Procurement Comm. ☐ Jefferson County ☐ Tx Unified Certification Prog.

Address: _____
Street City State Zip

Phone (with area code): _____ Fax (with area code): _____

Proposed Subcontract Amount: $ _____ Percentage of Prime Contract: _____ %

Description of Subcontract Work to be Performed: _____

Printed Name of Contractor Representative	Signature of Representative	Date
Printed Name of HUB	Signature of Representative	Date

NOTE: NOTHING ON THIS NOTICE OF INTENT FORM IS INTENDED TO CONFER ANY RIGHTS, EXPRESSED OR IMPLIED, TO ANY THIRD PARTIES.

Pre-Approval for Subcontractor Substitutions must be obtained from the Jefferson County Purchasing Agent's Representative. The "HUB Subcontractor/Subconsultant Change Form" must be completed and faxed to 409-835-8456.

Bidder Shall Return Completed Form with Offer.

Historically Underutilized Business (HUB)
Subcontracting Participation Declaration Form

PAGE 1 OF 4

This information must be submitted with your bid.

Bidder intends to utilize subcontractors/subconsultants in the fulfillment of this contract (if awarded). ☐ Yes ☐ No

Prime Contractor: _____ HUB: ☐ Yes ☐ No

HUB Status (Gender & Ethnicity): _____

Address: _____
Street City State Zip

Phone (with area code): _____ Fax (with area code): _____

Project Title & No.: _____ IFB/RFP No.: _____

Total Contract: $ _____ Total HUB Subcontract(s): $ _____

Construction HUB Goals: 12.8% MBE:: _____ % 12.6% WBE: _____ %

Sub-goals: 1.7 African-American, 9.7% Hispanic, 0.7% Native American, 0.8% Asian American.
Use these goals as a guide to diversify.

FOR HUB OFFICE USE ONLY:

Verification date HUB Program Office reviewed and verified HUB Sub information Date: _____ Initials: _____

PART I. HUB SUCONTRACTOR DISCLOSURE

HUB Subcontractor Name: _____

HUB Status (Gender & Ethnicity): _____

Certifying Agency: ☐ Texas Bldg & Procurement Comm. ☐ Texas Unified Certification Prog.

Address: _____
Street City State Zip

Contact person: _____ Title: _____

Phone (with area code): _____ Fax (with area code): _____

Proposed Subcontract Amount: $ _____ Percentage of Prime Contract: _____ %

Description of Subcontract Work to be Performed: _____

Bidder Shall Return Completed Form with Offer.

Historically Underutilized Business (HUB)
Subcontracting Participation Declaration Form

HUB SUBCONTRACTOR DISCLOSURE

PART I: Continuation Sheet **(Duplicate as Needed)**

HUB Subcontractor Name: _____

HUB Status (Gender & Ethnicity): _____

Certifying Agency: ☐ Tx. Bldg & Procurement Comm. ☐ Jefferson County ☐ Tx Unified Certification Prog.

Address: _____
Street City State Zip

Contact person: _____ Title: _____

Phone (with area code): _____ Fax (with area code): _____

Proposed Subcontract Amount: $ _____ Percentage of Prime Contract: _____ %

Description of Subcontract Work to be Performed: _____

_____

HUB Subcontractor Name: _____

HUB Status (Gender & Ethnicity): _____

Certifying Agency: ☐ Tx. Bldg & Procurement Comm. ☐ Jefferson County ☐ Tx Unified Certification Prog.

Address: _____
Street City State Zip

Contact person: _____ Title: _____

Phone (with area code): _____ Fax (with area code): _____

Proposed Subcontract Amount: $ _____ Percentage of Prime Contract: _____ %

Description of Subcontract Work to be Performed: _____

_____

All HUB Subcontractor Participation may be verified with the HUB Subcontractor(s) listed on Part I.

Bidder Shall Return Completed Form with Offer.

Historically Underutilized Business (HUB)
Subcontracting Participation Declaration Form

PART II: STATEMENT OF NON-COMPLIANCE FOR NOT MEETING HUB SUBCONTRACTING GOALS

Please complete Good Faith Effort (GFE) Checklist and attach any supporting documentation.

Our firm was unable to meet the HUB goals for this project for the following reasons:

- ☐ All subcontractors to be utilized are "Non-HUBs." *(Complete Part III)*
- ☐ HUBs were solicited but did not respond.
- ☐ HUBs solicited were not competitive.
- ☐ HUBs were unavailable for the following trade(s):
- ☐ Other: _____

Was the Jefferson County HUB Office contacted for assistance in locating HUBs? ☐ Yes ☐ No

PART III: DISCLOSURE OF OTHER "NON-HUB" SUBCONTRACTS

The bidder shall use this area to provide a listing of all "Non-HUB" Subcontractors, including suppliers, that will perform under this project. A list of those "Non-HUB" Subcontractors the bidder selects, after bid submission, shall be provided to the Purchasing Office not later than five (5) calendar days after being notified that bidder is the apparent low bidder. A list of those "Non-HUB" Subcontractors that are selected after contract award must be provided **immediately** after their selection.

Subcontractor Name: _____

Address: _____
Street City State Zip

Contact person: _____ Title: _____

Phone (with area code): _____ Fax (with area code): _____

Proposed Subcontract Amount: $ _____ Percentage of Prime Contract: _____ %

Description of Subcontract Work to be Performed: _____

Subcontractor Name: _____

Address: _____
Street City State Zip

Contact person: _____ Title: _____

Phone (with area code): _____ Fax (with area code): _____

Proposed Subcontract Amount: $ _____ Percentage of Prime Contract: _____ %

Description of Subcontract Work to be Performed: _____

Bidder Shall Return Completed Form with Offer.

Historically Underutilized Business (HUB)
Subcontracting Participation Declaration Form

PAGE 4 OF 4

Subcontractor Name: _____

Address: _____
Street City State Zip

Contact person: _____ Title: _____

Phone (with area code): _____ Fax (with area code): _____

Proposed Subcontract Amount: $ _____ Percentage of Prime Contract: _____ %

Description of Subcontract Work to be Performed: _____

Subcontractor Name: _____

Address: _____
Street City State Zip

Contact person: _____ Title: _____

Phone (with area code): _____ Fax (with area code): _____

Proposed Subcontract Amount: $ _____ Percentage of Prime Contract: _____ %

Description of Subcontract Work to be Performed: _____

I hereby certify that I have read the *HUB Program Instructions and Information*, truthfully completed all applicable parts of this form, and **attached any necessary support documentation as required**. I fully understand that intentionally falsifying information on this document may result in my not receiving a contract award or termination of any resulting contract.

Name (print or type): _____

Title: _____

Signature: _____

Date: _____

E-mail address: _____

Contact person that will be in charge of invoicing for this project:

Name (print or type): _____

Title: _____

Date: _____

E-mail address: _____

Bidder Shall Return Completed Form with Offer.

Residence Certification/Tax Form

Pursuant to Texas Government Code §2252.001 *et seq*., as amended, Jefferson County requests Resident Certification. §2252.001 *et seq*. of the Government Code provides some restrictions on the awarding of governmental contracts; pertinent provisions of §2252.001 are stated below:

(3) "Nonresident bidder" refers to a person who is not a resident.

(4) "Resident bidder" refers to a person whose principal place of business is in this state, including a contractor whose ultimate parent company or majority owner has its principal place of business in this state.

☐ I certify that _____ [company name] is a Resident Bidder of Texas as defined in Government Code §2252.001.

☐ I certify that _____ [company name] is a Nonresident Bidder as defined in Government Code §2252.001 and our principal place of business is _____ _____ (city and state).

Taxpayer Identification Number (T.I.N.):	
Company Name submitting bid/proposal:	
Mailing address:	
If you are an individual, list the names and addresses of any partnership of which you are a general partner:	

Property: List all taxable property owned by you or above partnerships in Jefferson County.

Jefferson County Tax Acct. No.*	Property address or location**

* This is the property amount identification number assigned by the Jefferson County Appraisal District.

** For real property, specify the property address or legal description. For business property, specify the address where the property is located. For example, office equipment will normally be at your office, but inventory may be stored as a warehouse or other location.

Bidder Shall Return Completed Form with Offer.

Bid Affidavit

The undersigned certifies that the bid prices contained in this bid have been carefully reviewed and are submitted as correct and final. Bidder further certifies and agrees to furnish any and/or all commodities upon which prices are extended at the price offered, and upon the conditions contained in the specifications and the Notice to Bidders.

STATE OF_____ COUNTY OF_____

BEFORE ME, the undersigned authority, a Notary Public in and for the State of _____,

on this day personally appeared _____, who
(name)
after being by me duly sworn, did depose and say:

"I, _____ am a duly authorized officer of/agent
(name)
for _____ and have been duly authorized to execute the
(name of firm)
foregoing on behalf of the said_____.
(name of firm)

I hereby certify that the foregoing bid has not been prepared in collusion with any other bidder or other person or persons engaged in the same line of business prior to the official opening of this bid. Further, I certify that the bidder is not now, nor has been for the past six (6) months, directly or indirectly concerned in any pool or agreement or combination, to control the price of services/commodities bid on, or to influence any person or persons to bid or not to bid thereon."

Name and address of bidder:_____

_____

Fax: _____ Telephone#_____

by: _____ Title:_____
(print name)

Signature:_____

SUBSCRIBED AND SWORN to before me by the above-named
_____ on

this the _____ day of_____, 2014.

_____
Notary Public in and for
the State of _____

Bidder Shall Return Completed Form with Offer.

JEFFERSON COUNTY PURCHASING DEPARTMENT
Deborah Clark, Purchasing Agent

1149 Pearl Street, Beaumont, TX 77701 409-835-8593 Fax 409-835-8456

AMENDMENT I TO CONTRACT

September 15, 2014

Tri-Con, Inc.
PO Box 20555
Beaumont, TX 77720-0555
Attn: Mr. David Oliver

This letter will serve as Amendment I (one) to contract IFB 11-013/KJS, Term Contract for Motor Fuel for Jefferson County.

Amendment I (one) will add the Jefferson County Service Center located at 7789 Viterbo Road, Beaumont, Texas 77705 as a Tankwagon Delivery Location.

There will be no changes to Current Pricing (listed below).

	Tri-Con, Inc. PO Box 20555 Beaumont, TX 77720-0555 Attn: David Oliver 409-835-2237 x116 phone 409-838-1925 fax
Item/Description	**+/- Factor**
1. Unleaded Gasoline 87 Octane – Tankwagon	**+0.1299**
2. Unleaded Gasoline Premium Grade 93 Octane -Tankwagon	**+0.1299**
3. Unleaded Gasoline Premium Grade 87 Octane - Transport	(*Petroleum Traders*)
4. Unleaded Gasoline 89 Octane – Tankwagon	**+0.1299**
5. Unleaded Gasoline 89 Octane - Transport	(*Petroleum Traders*)
6. No. 2 Diesel - Tankwagon	**+0.0169**

Please sign below, and return to Jamey West, Contract Specialist via email at: jwest@co.jefferson.tx.us

Tri-Con, Inc. — Date 9/16/2014

Jeff R. Branick
Jefferson County Judge — Date

PO# 0595476
IFB 14-011/JW

Change Order

No. 1

Date of Issuance: _____ Effective Date: _____

Project: Hangar 7 Apron Phase II	Owner: Jefferson County	Owner's Contract No.: IFB 14-011/JW
Contract:		Date of Contract: 05/12/2014
Contractor: SIMCO Enterprises, LTD.		Engineer's Project No.:

The Contract Documents are modified as follows upon execution of this Change Order:

Description:

This change order reflects actual quantities used during the project.

See attached schedule for detail of change order and final quantities.

CHANGE IN CONTRACT PRICE:

Original Contract Price:

$ 154,504.00

[Increase] [Decrease] from previously approved Change Orders No._____ to No._____:

$_____

Contract Price prior to this Change Order:

$ 154,504.00

[Increase] [Decrease] of this Change Order:

$ 5,845.00

Contract Price incorporating this Change Order:

$ 160,349.00

CHANGE IN CONTRACT TIMES:

Original Contract Times: ☐ Working days ☐ Calendar days

Substantial completion (days or date): _____

Ready for final payment (days or date): _____

[Increase] [Decrease] from previously approved Change Orders No._____ to No._____:

Substantial completion (days): _____

Ready for final payment (days): _____

Contract Times prior to this Change Order:

Substantial completion (days or date): _____

Ready for final payment (days or date): _____

[Increase] [Decrease] of this Change Order:

Substantial completion (days or date): _____

Ready for final payment (days or date): _____

Contract Times with all approved Change Orders:

Substantial completion (days or date): _____

Ready for final payment (days or date): _____

ACCEPTED:

By: Jeff R. Branick, County Judge

Date: _____

RECOMMENDED:

By: _____
Owner (Authorized Signature)

Date: 9/16/2014

ACCEPTED:

By: Mark Simcox
Contractor (Authorized Signature)

Date: 9/17/14

Approved by Funding Agency (if applicable): _____

Date: _____

ATTEST _____

DATE _____

Jefferson County
Jack Brooks Regional Airport - Hangar #7
Apron Phase II
IFB 14-011/JW

Original Contract

Iten No.	Item	Bid Qty	Unit	Price	Total Price
1	Excavation	655	CY	$ 23.00	$ 15,065.00
2	Flex Base	280	CY	$ 113.00	$ 31,640.00
3	Lime Treatment	1,680	SY	$ 11.00	$ 18,480.00
4	Concrete Pavement	1,680	SY	$ 44.50	$ 74,760.00
5	Mobilization	1	LS	$ 6,000.00	$ 6,000.00
6	Chain Link Fence (Install)	106	LF	$ 54.00	$ 5,724.00
7	Chain Link Fence (Removal)	315	LF	$ 9.00	$ 2,835.00

$ 154,504.00

Change Order 1

Iten No.	Item	Bid Qty	Unit	Price	Total Price
1	Excavation	20	CY	$ 23.00	$ 460.00
2	Flex Base	18	CY	$ 113.00	$ 2,034.00
3	Lime Treatment	50	SY	$ 11.00	$ 550.00
4	Concrete Pavement	50	SY	$ 44.50	$ 2,225.00
5	Mobilization	0	LS	$ 6,000.00	$ -
6	Chain Link Fence (Install)	9	LF	$ 54.00	$ 486.00
7	Chain Link Fence (Removal)	10	LF	$ 9.00	$ 90.00

$ 5,845.00

Revised Contract

Iten No.	Item	Bid Qty	Unit	Price	Total Price
1	Excavation	675	CY	$ 23.00	$ 15,525.00
2	Flex Base	298	CY	$ 113.00	$ 33,674.00
3	Lime Treatment	1,730	SY	$ 11.00	$ 19,030.00
4	Concrete Pavement	1,730	SY	$ 44.50	$ 76,985.00
5	Mobilization	1	LS	$ 6,000.00	$ 6,000.00
6	Chain Link Fence (Install)	115	LF	$ 54.00	$ 6,210.00
7	Chain Link Fence (Removal)	325	LF	$ 9.00	$ 2,925.00

$ 160,349.00

11111 Katy Freeway
Suite 910
Houston, TX 77079

TEL 713.491.8333
FAX 713.973.5777

www.GarverUSA.com

July 30, 2014

Mr. Alex Rupp
Jack Brooks Regional Airport
4875 Parker Dr.
Beaumont, TX 77705

Re: JACK BROOKS REGIONAL AIRPORT – TAXIWAY 'D' RECONSTRUCTION (2014)
Recommendation of Award

Dear Mr. Rupp:

Bids were received for the Jack Brooks Regional Airport Taxiway 'D' Reconstruction project at the Jefferson County Courthouse at 11:00 am on July 22, 2014. A tabulation of the bid received is enclosed with this letter.

Garver has reviewed the bid proposal for compliance with the "Instructions to Bidders". Each bid was to include the following.

- Bid Bond
- Proposal
- Acceptance of Addenda

A total of two bids were received on the project; and both bidders provided the required information. The bid has been evaluated based on the total amount bid. The apparent low bidder, APAC-Texas Inc. submitted a base bid in the amount of $1,884,587.00 with an additive alternate in the amount of $21,531.00.

In our review of the bids, we found 2 errors in the bid submitted by ALLCO. In two locations the unit price matches the extended total. We tabulated a corrected unit price that, when multiplied by the quantity, would result in the total filled in by the bidder. The corrected unit price is included in the attached tabulation. This unit price adjustment does not change the total, and does not change the bid order. All other unit price calculations were verified and appear correct. Based on these findings we feel that it is in the best interest of Jefferson County and Jack Brooks Regional Airport to award the Runway Safety Area Grading project contract to APAC-Texas, Inc., of Beaumont, Texas.

Please call me if you have any questions.

Sincerely,

Thomas D Dodson, PE
Senior Project Manager

Attachments: Bid Tabulation

n:\2013\13121730 - bpt taxiway d\correspondence\outgoing\bpt - 14-025kjs recommendation of award.doc

JACK BROOKS REGIONAL AIRPORT
TAXIWAY D RECONSTRUCTION (2014)
BID TABULATION
BID OPENING: July 22, 2014; 11:00 AM

ITEM NO.	SPEC. NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	ENGINEER'S ESTIMATE UNIT PRICE	ENGINEER'S ESTIMATE AMOUNT	APAC-Texas, Inc. UNIT PRICE	APAC-Texas, Inc. AMOUNT	ALLCO UNIT PRICE	ALLCO AMOUNT
1	SS-120-1	SITE PREPARATION	LS	100%	63,000.00	$63,000.00	$185,000.00	$185,000.00	$329,182.00	$329,182.00
2	D-701-5.1	30" CLASS III REINFORCED CONCRETE PIPE	LF	408	75.00	$30,600.00	$147.00	$59,976.00	$120.00	$48,960.00
3	D-751-5.1	SINGLE GRATE INLET (HEAVY-DUTY AIRCRAFT RATED) 4'X4'	EA	1	7,000.00	$7,000.00	$7,350.00	$7,350.00	$6,000.00	$6,000.00
4	D-751-5.2	JUNCTION BOX, 4'X4'	EA	1	6,000.00	$6,000.00	$7,700.00	$7,700.00	$7,000.00	$7,000.00
5	D-751-5.3	3:1 SLOPE-END TREATMENT AND 4" CONCRETE RIPRAP, INSTALLED	LS	100%	2,500.00	$2,500.00	$6,300.00	$6,300.00	$7,000.00	$7,000.00
6	P-101-5.1a	CONCRETE PAVEMENT REMOVAL	SY	9600	8.00	$76,800.00	$21.75	$208,800.00	$21.30	$204,480.00
7	P-101-5.1b	ASPHALTIC CONRETE PAVEMENT REMOVAL	SY	1060	8.00	$8,480.00	$16.00	$16,960.00	$17.00	$18,020.00
8	P-152-4.1	UNCLASSIFIED EXCAVATION	CY	580	10.00	$5,800.00	$18.00	$10,440.00	$40.00	$23,200.00
9	P-152-4.2	BORROW EXCAVATION	CY	2730	15.00	$40,950.00	$11.00	$30,030.00	$26.00	$70,980.00
10	P-155-8.1	16" LIME TREATED SUBGRADE	SY	8400	10.00	$84,000.00	$7.00	$58,800.00	$20.00	$168,000.00
11	P-155-8.2	LIME	TN	370	175.00	$64,750.00	$200.00	$74,000.00	$175.00	$64,750.00
12	P-156-5.1	TEMPORARY EROSION CONTROL	LS	100%	10,000.00	$10,000.00	$7,500.00	$7,500.00	$10,000.00	$10,000.00
13	P-209-5.1	6" CRUSHED AGGREGATE BASE COURSE	SY	8790	16.50	$145,035.00	$23.00	$202,170.00	$23.00	$202,170.00
14	P-401-8.1a	4" BITUMINOUS SURFACE COURSE	SY	980	30.00	$29,400.00	$46.00	$45,080.00	$38.00	$37,240.00
15	P-501-8.1a	13" PORTLAND CEMENT CONCRETE SURFACE COURSE	SY	7350	90.00	$661,500.00	$93.00	$683,550.00	$92.90	$682,815.00
16	P-620-1	RETRO-REFLECTIVE PAVEMENT MARKINGS	SF	940	1.50	$1,410.00	$6.00	$5,640.00	$6.10	$5,734.00
17	P-620-2	PREFORMED RUNWAY HOLD SIGN MARKINGS	SF	360	10.00	$3,600.00	$183.00	$65,880.00	$174.00	$62,640.00
18	P-620-3	NON-REFLECTIVE BLACK OUTLINE	SF	1700	0.50	$850.00	$3.20	$5,440.00	$3.50	$5,950.00
19	T-901-5.1	SEEDING, INCLUDING FERTILIZING AND WATERING	AC	5	1,700.00	$8,840.00	$1,100.00	$5,720.00	$3,700.00	$19,240.00
20	T-905-1	TOPSOILING (OBTAINED ON SITE OR REMOVED FROM STOCKPILE 2"	SY	14710	3.00	$44,130.00	$2.20	$32,362.00	$2.00	$29,420.00
21	T-904-5.1	SODDING	SY	600	3.00	$1,800.00	$3.60	$2,160.00	$14.50	$8,700.00
22	T-907-5.1	TILLING	SY	1450	6.00	$8,700.00	$5.50	$7,975.00	$2.00	$2,900.00
23	SS-300-5.1	LOCKOUT/TAGOUT AND CONSTANT CURRENT REGULATOR CALIBRATION PROCEDURES	LS	100%	1,000.00	$1,000.00	$1,800.00	$1,800.00	$3,000.00	$3,000.00
24	SS-310-5.1	EXISTING STAKE MOUNTED EDGE LIGHT, REMOVED	EA	21	50.00	$1,050.00	$164.00	$3,444.00	$170.00	$3,570.00
25	SS-310-5.2	EXISTING BASE MOUNTED GUIDANCE SIGN, REMOVED	EA	5	500.00	$2,500.00	$255.00	$1,275.00	$660.00	$3,300.00
26	SS-310-5.3	ABANDONED SIGN BASE, REMOVED	EA	2	300.00	$600.00	$600.00	$1,200.00	$3,000.00	$6,000.00
27	SS-310-5.4	L-858(L) BASE MOUNTED, 1-MODULE GUIDANCE SIGN, INSTALLED	EA	1	4,000.00	$4,000.00	$5,500.00	$5,500.00	$5,000.00	$5,000.00

ITEM NO.	SPEC. NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	ENGINEER'S ESTIMATE UNIT PRICE	ENGINEER'S ESTIMATE AMOUNT	APAC-Texas, Inc. UNIT PRICE	APAC-Texas, Inc. AMOUNT	ALLCO UNIT PRICE	ALLCO AMOUNT
28	SS-310-5.5	L-858(L) BASE MOUNTED, 3-MODULE GUIDANCE SIGN, INSTALLED	EA	1	6,200.00	$6,200.00	$7,500.00	$7,500.00	$7,000.00	$7,000.00
29	SS-310-5.6	L-861T(L) BASE MOUNTED TAXIWAY EDGE LIGHT, INSTALLED	EA	38	1,200.00	$45,600.00	$1,450.00	$55,100.00	$940.00	$35,720.00
30	SS-310-5.7	EXISTING L-861T STAKE MOUNTED TAXIWAY EDGE LIGHT, RELOCATED	EA	11	400.00	$4,400.00	$440.00	$4,840.00	$425.00	$4,675.00
31	SS-310-5.8	FIELD LIGHTNING ARRESTOR, INSTALLED	EA	1	500.00	$500.00	$1,460.00	$1,460.00	$1,430.00	$1,430.00
32	SS-310-5.9	TEMPORARY AIRFIELD LIGHTING	LS	100%	1,000.00	$1,000.00	$5,200.00	$5,200.00	$10,000.00	$10,000.00
33	L-108-5.1	No. 8 AWG 5kV, L-824C CABLE, INSTALLED IN TRENCH, DUCT BANK, OR CONDUIT	LF	3900	1.50	$5,850.00	$1.25	$4,875.00	$1.40	$5,460.00
34	L-108-5.2	No. 6 AWG SOLID, BARE COUNTERPOISE WIRE, INSTALLED IN TRENCH, ABOVE THE DUCT BANK OR CONDUIT, INCLUDING GROUND RODS AND GROUND CONNECTORS	LF	3400	1.15	$3,910.00	$1.25	$4,250.00	$1.40	$4,760.00
35	L-108-5.3	TRENCHING FOR DIRECT-BURIED BARE COUNTERPOISE WIRE, 8” MINIMUM DEPTH	LF	2900	4.00	$11,600.00	$2.60	$7,540.00	$2.70	$7,830.00
36	L-108-5.4	TRENCHING FOR DIRECT-BURIED CABLE, 18" MINIMUM DEPTH	LF	600	5.00	$3,000.00	$6.00	$3,600.00	$6.25	$3,750.00
37	L-110-5.1	CONCRETE ENCASED, ELECTRICAL DUCT BANK, 4-WAY 4"C	LF	100	70.00	$7,000.00	$103.00	$10,300.00	$100.00	$10,000.00
38	L-110-5.2	CONCRETE ENCASED, ELECTRICAL CONDUIT, 1-WAY 2"C	LF	85	25.00	$2,125.00	$52.00	$4,420.00	$50.00	$4,250.00
39	L-110-5.3	NON-ENCASED, ELECTRICAL CONDUIT, 1-WAY 2"C	LF	2550	9.60	$24,480.00	$9.00	$22,950.00	$8.50	$21,675.00
40	L-115-5.1	CONCRETE ENCASED, ELECTRICAL JUNCTION STRUCTURE, L-867 CLASS 1, SIZE 12" DIAMETER BY 24" DEPTH, INSTALLED	EA	1	1,000.00	$1,000.00	$700.00	$700.00	$675.00	$675.00
41	L-115-5.2	PRECAST CONCRETE ELECTRICAL HANDHOLE, INTERIOR DIMENSIONS 2’L x 3’W x 3’D, INSTALLED	EA	2	5,300.00	$10,600.00	$4,900.00	$9,800.00	$6,000.00	$12,000.00
		Total (Base Bid):				$1,441,560.00		$1,884,587.00		$2,164,476.00
		ADDITIVE ALTERNATE NO. 1 - REMOVAL OF EXISTING HOLD PADS								
A4.1	SS-310-5.1	EXISTING STAKE MOUNTED EDGE LIGHT, REMOVED	EA	7	50.00	$350	$165.00	$1,155.00	$160.00	$1,120.00
A4.2	SS-310-5.2	EXISTING BASE MOUNTED GUIDANCE SIGN, REMOVED	EA	2	500.00	$1,000	$158.00	$316.00	$500.00	$1,000.00
A4.3	SS-310-5.3	ABANDONED SIGN BASE, REMOVED	EA	1	300.00	$300	$600.00	$600.00	$1,300.00	$1,300.00
A4.4	SS-310-5.7	EXISTING L-861T STAKE MOUNTED TAXIWAY EDGE LIGHT, RELOCATED	EA	19	400.00	$7,600	$440.00	$8,360.00	$425.00	$8,075.00

ITEM NO.	SPEC. NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	ENGINEER'S ESTIMATE UNIT PRICE	ENGINEER'S ESTIMATE AMOUNT	APAC-Texas, Inc. UNIT PRICE	APAC-Texas, Inc. AMOUNT	ALLCO UNIT PRICE	ALLCO AMOUNT
A4.5	L-108-5.1	NO. 8 AWG 5KV, L-824C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	LF	1000	1.50	$1,500	$1.25	$1,250.00	$1.20	$1,200.00
A4.6	L-108-5.2	NO. 6 AWG SOLID, BARE COUNTERPOISE WIRE, INSTALLED IN TRENCH, ABOVE THE DUCT BANK OR CONDUIT, INCLUDING GROUND RODS AND GROUND CONNECTORS	LF	1000	1.15	$1,150	$1.25	$1,250.00	$1.25	$1,250.00
A4.7	L-108-5.3	TRENCHING FOR DIRECT-BURIED BARE COUNTERPOISE WIRE, 8" MINIMUM DEPTH	LF	1000	4.00	$4,000	$2.60	$2,600.00	$2.50	$2,500.00
A4.8	L-108-5.4	TRENCHING FOR DIRECT-BURIED CABLE, 18" MINIMUM DEPTH	LF	1000	5.00	$5,000	$6.00	$6,000.00	$5.75	$5,750.00
		Total (Additive Alternate No. 1):				$20,900.00		$21,531.00		$22,195.00
		Total (Base Bid + Additive Alternate No. 1):				$1,462,460.00		$1,906,118.00		$2,186,671.00

Corrected Prices

JACK BROOKS REGIONAL AIRPORT
TAXIWAY D RECONSTRUCTION (2014)

AIP NO. 3-48-0018-030-2014

JEFFERSON COUNTY COMMISSIONERS COURT
JEFFERSON COUNTY, TEXAS

Jefferson County Project 14-025/KJS

Garver Project Number 13121730

June 2014

TEXAS REGISTERED ENGINEERING FIRM F-5713

JACK BROOKS REGIONAL AIRPORT
TAXIWAY D RECONSTRUCTION (2014)
AIP NO. 3-48-0018-030-2014

JEFFERSON COUNTY COMMISSIONERS COURT
JEFFERSON COUNTY, TEXAS
Jefferson County Project 14-025/KJS

STATE OF TEXAS
THOMAS D. DODSON
83909
LICENSED PROFESSIONAL ENGINEER

DIGITALLY SIGNED
06/06/2014

STATE OF TEXAS
MATTHEW C. LEMAY
112269
LICENSED PROFESSIONAL ENGINEER

GARVER

STATE OF TEXAS
FRANKLIN STEPHENS
80206
REGISTERED PROFESSIONAL ENGINEER

Franklin Stephens, PE
June 6, 2014

Garver Project Number 13121730

In cooperation with:
Schaumburg & Polk, Inc.

June 2014

TEXAS REGISTERED ENGINEERING FIRM F-5713

TABLE OF CONTENTS

A. ADVERTISEMENT AND INVITATION TO BID

B. INSTRUCTIONS TO BIDDERS

C. BID FORM AND PROPOSAL

D. STATEMENT OF BIDDER'S QUALIFICATIONS

E. BID SURETY

F. CONTRACT

G. NOTICE OF AWARD
NOTICE TO PROCEED

H. PERFORMANCE BOND
PAYMENT BOND
CERTIFICATE OF INSURANCE

I. GENERAL PROVISIONS (FAA AC 150/5370-10F)
- Section 10 Definitions of Terms
- Section 20 Proposal Requirements and Conditions
- Section 30 Award and Execution of Contract
- Section 40 Scope of Work
- Section 50 Control of Work
- Section 60 Control of Materials
- Section 70 Legal Regulations and Responsibility to Public
- Section 80 Prosecution and Progress
- Section 90 Measurement and Payment
- Section 100 Contractor Quality Control Program
- Section 110 Method of Estimating Percentage of Material Within Specification Limits
- Section 120 Nuclear Gauges

J. SPECIAL PROVISIONS

K. ADDENDA

L. WAGE RATES

M. CHANGE ORDER FORM

N. TECHNICAL SPECIFICATIONS
- Item SS-101 Contractor Safety Plan Compliance Document
- Item SS-120 Site Preparation
- Item SS-300 Basic Electrical Requirements
- Item SS-310 Airport Lighting Systems

D-701M	Pipe for Storm Drains and Culverts (Modifications)
D-701	Pipe for Storm Drains and Culverts
D-751M	Manholes, Catch Basins, Inlets, and Inspection Holes (Modifications)
D-751	Manholes, Catch Basins, Inlets, and Inspection Holes
L-108M	Underground Power Cable for Airports (Modifications)
L-108	Underground Power Cable for Airports
L-110M	Airport Underground Electrical Duct Banks and Conduits(Modifications)
L-110	Airport Underground Electrical Duct Banks and Conduits
L-115M	Electrical Manholes and Junction Structures(Modifications)
L-115	Electrical Manholes and Junction Structures
P-101M	Surface Preparation (Modifications)
P-101	Surface Preparation
P-152M	Excavation and Embankment (Modifications)
P-152	Excavation and Embankment
P-155M	Lime-Treated Subgrade (Modifications)
P-155	Lime-Treated Subgrade
P-156M	Temporary Air Water Pollution Soil Erosion and Siltation Control (Modifications)
P-156	Temporary Air Water Pollution Soil Erosion and Siltation Control
P-209M	Crushed Aggregate Base Course (Modifications)
P-209	Crushed Aggregate Base Course
P-401M	Plant Mix Bituminous Pavements (Modifications)
P-401	Plant Mix Bituminous Pavements
P-501M	Portland Cement Concrete Pavement (Modifications)
P-501	Portland Cement Concrete Pavement
P-602M	Bituminous Prime Coat (Modifications)
P-602	Bituminous Prime Coat
P-603M	Bituminous Tack Coat (Modifications)
P-603	Bituminous Tack Coat
P-605M	Joint Sealing Filler (Modifications)
P-605	Joint Sealing Filler
P-610M	Structural Portland Cement Concrete (Modifications)
P-610	Structural Portland Cement Concrete
P-620M	Runway and Taxiway Painting (Modifications)
P-620	Runway and Taxiway Painting
T-901M	Seeding (Modifications)
T-901	Seeding
T-904M	Sodding (Modifications)
T-904	Sodding
T-905M	Topsoiling (Modifications)
T-905	Topsoiling
T-907M	Tilling (Modifications)

T-907 Tilling

SECTION A
ADVERTISEMENT AND INVITATION TO BID

JEFFERSON COUNTY PURCHASING DIVISION

Deborah L. Clark, County Purchasing Agent

1149 Pearl Street, Beaumont, TX 77701 409-835-8593 Fax 409-835-8456

June 16, 2014
Legal Notice Invitation for Bid

Dear Bidders:

You are invited to submit bids in accordance with specifications packet, Invitation for Bid (IFB) **14-025/KJS**, Taxiway D Reconstruction (2014) at Jack Brooks Regional Airport with an original and three (3) copies to the Jefferson County Purchasing Agent, 1149 Pearl Street, 1st Floor, Beaumont, Texas 77701, no later than 10:30 AM CDT, July 22, 2014. Bids will be opened at that time.

Specifications and plans are available for download at no cost. Documents can be obtained from Garver website at ftp://ftp.garverusa.com/. Username: BPT_TWD2014 Password: BPT2BIDDER

A Pre-Bid Conference will be held on Tuesday, July 8, 2014, at 11:00 AM CDT. The conference will be held in the Jack Brooks Regional Airport Commercial Terminal Media Room, 6000 Air Line Dr. Beaumont, Texas 77705. This conference will be bidder's only opportunity to view secured areas of the project.

The County shall require the bidder to furnish a bid security in the amount of five percent (5%) of the total contract cost. The bid bond must be executed with a surety company authorized to do business in the State of Texas. Within ten (10) days after the date of the signing of a contract, the bidder shall furnish a performance bond to the County for the full amount of the contract, if the contract exceeds one hundred thousand dollars ($100,000). If the contract is for one hundred thousand dollars ($100,000) or less, the County may provide that no money be paid to the contractor until completion and acceptance of the work or the fulfillment of the purchase obligation to the County.

All bidders and proposers shall make good faith efforts, as defined by Appendix A of 49 CFR Part 26, Regulations of the Office of the Secretary of Transportation, to subcontract a minimum of 15.88% of the dollar value of the prime contract to small business concerns owned and controlled by socially and economically disadvantaged individuals (DBE).

Jefferson County reserves the right to reject any or all bids, to waive irregularities in the bids and bidding deemed to be in the best interests of Jefferson County, and to reject nonconforming, nonresponsive, or conditional bids.
Bids will remain in effect for **ninety (90) calendar days** after the bid opening date.

Any questions relating to these requirements should be directed to Karen J. Smith, MBA, Assistant Purchasing Agent, at 409-835-8693.

All Bids shall be submitted to the Jefferson County Purchasing Agent in a sealed envelope marked:

BID NAME:	**Taxiway D Reconstruction (2014) at Jack Brooks Regional Airport**
BID NO:	**14-025/KJS**
DUE DATE/TIME:	**July 22, 2014/10:30 AM CDT**
MAIL OR DELIVER TO:	**Jefferson County Purchasing Division** **1149 Pearl Street, 1st Floor** **Beaumont, Texas 77701**

Sincerely,

Deborah L. Clark
Purchasing Agent

Publish: Beaumont Enterprise, & Port Arthur News – June 18 and June 25, 2014

SECTION B
INSTRUCTIONS TO BIDDERS

INSTRUCTIONS TO BIDDERS

1. PREPARATION OF BID

Each bid must be submitted on the prescribed form (Proposal) and Unit Price Schedule(s). All blank spaces must be filled in legibly with ink. All blank spaces for bid prices on the Unit Price Schedules must be filled in and the extended total for each item shall be entered in figures only. If the unit price and the extended total of any item are not in agreement, the unit price shall govern and the extended total is corrected to conform thereto. Erasures or other corrections on the Proposal form or Unit Price Schedules shall be initialed by the signer of the bid. All bids must be signed in ink by an individual authorized to bind the Bidder. All bids must be regular in every respect and no interlineations, excisions, or special conditions shall be made or included in the Proposal by the Bidder.

There is a base bid unit price schedule. Bidders must submit proposals on both schedules. Bidders must quote on all items within a specific schedule; failure to do so may disqualify the bid.

There must be a bid on all items that may appear on the Unit Price Schedule(s). No bid will be considered which covers only a part of the work. A conditional bid will not be considered.

The Proposal and Unit Price Schedule(s) shall not be detached, but shall be submitted in the original binding as furnished by the Engineer. Submission must be at the place, and at or prior to the time specified in the Advertisement for Bids.

Each bid must be submitted in a sealed envelope clearly marked on the outside that it contains a bid for **Taxiway D Reconstruction (2014)** and with the time and date of bid opening shown thereon. The name, address, and Texas Contractor's License Number of the Bidder shall appear in the upper left-hand corner of the envelope. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope.

A bid that obviously is unbalanced may be rejected.

2. INTERPRETATIONS AND ADDENDA

No oral interpretation will be made to any Bidder as to the meaning of the Contract Documents or any part thereof. Every request for such an interpretation shall be made in writing to Garver, 11111 Katy Freeway, Suite 910, Houston, Tx 77079. Any inquiry received forty-eight (48) hours prior to the opening of bids will be given consideration. Every interpretation made to a Bidder will be in the form of an Addendum to the contract Documents, and when issued, will be on file in the office of the Engineer at least twenty-four (24) hours before bids are opened. In addition, all Addenda will be faxed/mailed to each person holding Contract Documents, but it shall be the Bidder's responsibility to make inquiry as to the Addenda issued. All such Addenda shall become part of the Contract and all Bidders shall be bound by such Addenda, whether or not received by the Bidders.

3. INSPECTION OF SITE

Each Bidder shall visit the site of the proposed work and fully acquaint himself with the existing conditions there relating to construction and labor, and shall fully inform himself as the facilities involved, and the difficulties and restrictions attending the performance of the Contract. The Bidder shall thoroughly examine and familiarize himself with the Plans, Technical Specifications, and other Contract Documents. The Contractor by the execution of the Contract shall not be relieved of any obligation under it due to his failure to receive or examine any form or legal instrument or to visit the site and acquaint himself with the conditions there existing, and the Owner will be justified in rejecting any claim based on facts regarding which he should have been on notice as a result thereof.

4. BID GUARANTY

The bids must be accompanied by a Bid Guaranty, which shall not be less than five percent (5%), of the amount of the bid. At the option of the Bidder, the guaranty may be a certified check, or may be a Bid Bond substantially in the form attached. No bid will be considered unless it is accompanied by the required guaranty. Certified check must be payable to the order of Jack Brooks Regional Airport. Cash deposits will not be accepted. The Bid Guaranty shall insure the execution of the Agreement and the furnishing of the surety bond or bonds by the successful Bidder, all as required by the Contract Documents.

Certified check, or Bid Bonds, of unsuccessful Bidders, will be returned upon request as soon as feasible after the opening of the bids.

5. COLLUSION; SUBCONTRACTS

A Bidder submitting a Proposal to the Owner for the work contemplated by the Documents on which bidding is based shall not collude with any other person, firm, or corporation in regard to any bid submitted.

Before executing any subcontract, the successful Bidder shall submit the name of any proposed Subcontractor for prior approval of the Owner.

6. STATEMENT OF BIDDER'S QUALIFICATIONS

Each Bidder shall submit, on the form furnished for that purpose (a copy of which is included in the Contract Documents), a statement of the Bidder's qualifications, his experience record in construction of work similar to that which here is involved, and his organization and equipment available for the work contemplated; and when specifically requested by the Owner, a detailed financial statement. The Owner shall have the right to take such steps as it deems necessary to determine the ability of the Bidder to perform his obligations under the Contract and the Bidder shall furnish the Owner all such information and data for this purpose as it may request. The right is reserved to reject any bid where an investigation of the available evidence or information does not satisfy the Owner that the Bidder is qualified to carry out properly the terms of the Contract.

7. BALANCED BIDS; VARIATIONS IN QUANTITIES

The lump sum price and unit price for each of the several items in the Proposal of each Bidder shall be balanced and shall include its pro rata share of overhead.

The Owner shall have the right to increase or decrease the extent of the work, to change the location or gradient, or the dimensions of any part of the work, provided that the length of the improvement is not increased or decreased in excess of twenty-five percent (25%) of the length as determined by the Contract, or that the quantities of work to be done or the materials to be furnished are not increased or decreased in money value in excess of twenty-five percent (25%) of the total as determined by the Contract. Such changes shall not be considered as a waiver of any conditions of the Contract nor invalidate any of the provisions thereof. The Contractor shall perform the work as increased or decreased within the qualifying limits named and no allowance will be made for anticipated profits or increases or decreases so incurred. Change in length or in money value, within the twenty-five percent (25%) limits set out, shall not be cause for adjustment of any lump sum or unit price. Changes in items of work covered by unit prices and/or lump sum prices, within the twenty-five percent (25%) limits set out, shall not be cause for adjustment of any other (non-involved) lump sum or unit price.

Increases or decreases in items of work, and the cost thereof, shall be done in accordance with the Section entitled, SECTION 40-02 under GENERAL CONDITIONS.

8. TIME FOR RECEIVING BIDS

A bid received prior to the advertised hour of opening will be kept securely, and will remain sealed until the hour of opening. The officer whose duty it is to open them will decide when the specified time has arrived, and any bid received subsequent to that time will be returned unopened.

9. OPENING OF BIDS

At the time and place fixed for the opening of bids, the Owner will cause the bids to be opened and publicly read aloud, irrespective of any irregularities therein. Bidders and other persons properly interested may be present, in person or by representative. Bid qualification may be evaluated before and/or after the bid opening, at the Owner's discretion.

10. WITHDRAWAL OF BIDS

Bids may be withdrawn on written request if the request is received prior to the time fixed for the opening of bids.

11. AWARD OF CONTRACT; REJECTION OF BIDS

The Contract will be awarded to the responsible Bidder submitting the lowest total bid complying with the conditions of the Advertisement for Bids and other parts of these Contract Documents. Proposals will be evaluated on the basis of cost, the Bidder's financial responsibility, performance responsibility, technical feasibility, his equipment, and his past performance in completing similar work. The Bidder to whom the award is made will be notified at the earliest possible date, but not later than sixty (60) days after the opening of bids. The Owner, however, reserves the right to reject any or all bids and to waive any informality in bids received whenever such rejection or waiver is in its interests.

The Owner reserves the right to consider as unqualified to do the work any Bidder who does not habitually perform with his own forces the major portions of such work as is involved in construction of these improvements.

12. EXECUTION OF AGREEMENT; PERFORMANCE AND PAYMENT BOND

Subsequent to the award and within ten (10) days after the prescribed forms are presented for signature, the successful Bidder shall execute and deliver to the Owner an Agreement in the form included in the Contract Documents in such number of copies as the Owner may require.

Having satisfied all conditions of award as set forth elsewhere in these Documents, the successful Bidder shall, within the period specified above, furnish a surety bond in a penal sum not less than the amount of the Contract as awarded, as security for the faithful performance of the Contract, and for the payment of all persons, firms or corporations to whom the Contractor may become legally indebted for labor, materials, tools, equipment, or services of any nature, including utility and transportation services employed or used by him in performing the work. Such bond shall be as included in the Contract Documents and shall bear the same date as, or a date subsequent to, that of the Agreement. The current power of attorney for the person who signs for any surety company shall be attached to such bond.

The failure of the successful Bidder to execute such Agreement and to supply the required bond or bonds within ten (10) days after the prescribed forms are presented for signature, or within such extended period as the Owner may grant, based upon reasons determined sufficient by the Owner, shall constitute a default, and the Owner may either award the Contract to the next lowest responsible Bidder or readvertise for bids.

13. BONDS AND INSURANCE

Bids must be accompanied by a bid security made payable to Jefferson County in the amount of five percent (5%) of the maximum bid price provided, including alternatives. Bid security may be by certified check, money order, or Bid bond issued by a surety.

All companies furnishing Bid Bonds and Performance Bonds shall furnish evidence of being on the U.S. Treasury Department's most current list (Circular 570, as amended) and be authorized to transact business in the State of Texas.

14. CONTRACTOR'S LIABILITY INSURANCE REQUIREMENTS

The Bidder shall provide with the Proposal a listing of both automobile and personal liability insurance coverage currently in force, along with a copy of a Certificate of Insurance as verification of that coverage. In addition, the Bidder shall provide a statement of premium cost issued by the agent or insurance carrier for that coverage.

In the event the Owner determines that the low Bidder's coverage in force is inadequate, the Owner may require the low Bidder to procure additional coverage in amounts specified by the Owner. The cost of premiums for such additional coverage shall be paid by the Owner in the form of a reimbursement under the contract.

In the event the lower Bidder is unable, after diligent effort, to procure such additional coverage as may be required by the Owner, the Owner shall provide such additional coverage, naming the Contractor as insured or, at the option of the Owner, reduce the amount of additional coverage required or waive any requirement for additional coverage.

15. THIRD PARTY COVERAGE

The Contractor shall provide insurance coverage for the Engineer and the Owner as indicated in the Supplemental Conditions for Jefferson County, attached herein.

16. SIGNATORY AND CONTRACT SUBMITTALS

The Contract Documents call for all Bidders, and for the awarded Contractor, to complete and/or submit information concerning equal employment opportunity, quality control, labor items, etc. Following is a list of the items that each Bidder on the project must complete/submit with the sealed bid:

- Bid Bond
- Proposal (all pages including Unit Price Schedule)
- Statement of Bidder's Qualifications
- List of Proposed Subcontractors
- Current Automobile and Liability Insurance Coverage

The following is a list of completed forms/submittals that the apparent low Bidder will be required to complete before execution and award of the contract:

- Contract (all pages)
- Performance Bond
- Payment Bond
- Certificates of Insurance and Insurance Policies
- Third Party Insurance

The following is a list of completed forms/submittals that the awarded Contractor will be required to submit

before construction begins:

- Safety Plan Compliance Document
- Construction Schedule

Additional certifications and submittals will be required for construction materials and other items in the technical specifications.

17. LEGAL QUALIFICATIONS

All Bidders, in order to submit a bonafide Proposal, must comply with the applicable terms of the State of Texas and be certified to do business in the State of Texas.

18. MODIFICATION OF BID

No modification of any bid already submitted will be considered unless such modification is received prior to the hour set for opening for bids.

END OF INSTRUCTIONS TO BIDDERS

SECTION C
BID FORM AND PROPOSAL

PROPOSAL

Place Jefferson County, Texas

Date July 22, 2014

Proposal of APAC-Texas, Inc.,

a corporation organized and existing under the laws of the State of Delaware,

or

Proposal of _____,

a partnership consisting of _____,

or

Proposal of _____,

an individual doing business as _____,

To: Jack Brooks Regional Airport

This bid results from your advertisement for bids for the construction of the **Taxiway D Reconstruction (2014).**

The undersigned Bidder, having visited the site of the work, having examined the Plans, Specifications, and other Contract Documents including all Addenda, and being familiar with all of the conditions relating to the construction of the proposed project, hereby agrees to comply with all other conditions or requirements set forth in the Plans, Specifications, and other Contract Documents, and further proposes to; furnish all material, supplies, equipment, and appliances; to furnish all labor, tools, equipment and incidentals to complete the work in accordance with the Plans, Specifications, and other Contract Documents at and for the lump sum and unit prices proposed in the attached Bid Form(s).

The undersigned Bidder agrees to begin work within ten (10) calendar days after the issuance by, or on behalf of, the Owner of a "Work Order" or "Notice to Proceed" (except as modified in accordance with the GENERAL FAA PROVISIONS of these Contract Documents). Should the work fail to be completed within the time herein stated, the Contractor shall pay to the Owner, as fixed and agreed liquidated damages, and not as a penalty, the sum, for each day of delay until the work is completed and accepted, as stipulated in GENERAL FAA PROVISIONS of these Contract Documents. It is understood that additional time for the completion of the project is to be allowed only for delays as stipulated in GENERAL FAA PROVISIONS of these Contract Documents.

List of Plans

Sheet No.	Title
G-101	COVER SHEET
G-102	SHEET INDEX
G-103	SUMMARY OF QUANTITIES
G-104	GENERAL NOTES
G-201	PROJECT LAYOUT PLAN AND SURVEY CONTROL PLAN
G-301	SAFETY AND PHASING PLAN
G-302	SAFETY AND PHASING DETAILS I

Sheet No.	Title
G-303	SAFETY AND PHASING DETAILS II
G-304	PHASE I - SAFETY AND PHASING
G-401	GEOTECHNICAL INVESTIGATION PLAN
C-101	TYPICAL SECTIONS
C-102	PAVEMENT DETAILS I
C-201	SWPPP DETAILS I
C-202	SWPPP DETAILS II
C-203	SWPPP NOTES
C-204	SWPPP LAYOUT
C-301	EXISTING CONDITIONS LAYOUT I
C-401	DEMOLITION DETAILS
C-402	DEMOLITION LAYOUT I
C-501	GRADING AND DRAINAGE DETAILS
C-502	GRADING AND DRAINAGE DETAILS II
C-503	IL-H-G HORIZONTAL INLET TYPE H WITH GRATE 1 OF 2
C-504	IL-H-G HORIZONTAL INLET TYPE H WITH GRATE 2 OF 2
C-505	MH-M MANHOLE TYPE M
C-506	GRADING AND DRAINAGE PLAN I
C-601	STORM DRAIN PROFILES AND CALCULATIONS
C-701	GEOMETRIC PLAN I
C-801	PAVEMENT PROFILES
C-901	JOINTING DETAILS I
C-902	JOINT LAYOUT PLAN
C-1001	JOINT AND ASPHALT TRANSITION ELEVATION PLAN I
E-001	ELECTRICAL LEGEND AND NOTES
E-101	LIGHTING REMOVAL PLAN I
E-102	LIGHTING REMOVAL PLAN II (ADDITIVE ALTERNATE 1)
E-201	LIGHTING INSTALLATION PLAN I
E-202	LIGHTING INSTALLATION PLAN II (ADDITIVE ALTERNATE 1)
E-301	ELECTRICAL DETAILS I
E-302	ELECTRICAL DETAILS II
E-303	ELECTRICAL DETAILS III
E-304	ELECTRICAL DETAILS IV
E-305	ELECTRICAL DETAILS V
E-306	ELECTRICAL DETAILS VI
E-307	ELECTRICAL DETAILS VII
M-101	MARKING DETAILS
M-102	TAXIWAY D MARKING PLAN I
XS-101	TAXIWAY D CROSS SECTIONS STA. 156+95 TO STA. 160+00
XS-102	TAXIWAY D CROSS SECTIONS STA. 160+50 TO STA. 164+00
XS-103	TAXIWAY D CROSS SECTIONS STA. 164+50 TO STA. 168+00
XS-104	TAXIWAY D CROSS SECTIONS STA. 168+50 TO STA. 170+50

List of Technical Specifications

Specification Item No.	Description
Item SS-101	Contractor Safety Plan Compliance Document
Item SS-120	Site Preparation
Item SS-300	Basic Electrical Requirements
Item SS-310	Airport Lighting Systems
	Modification to Item D-701
Item D-701	Pipe for Storm Drains and Culverts
	Modification to Item D-751
Item D-751	Manholes, Catch Basins, Inlets and Inspection Holes
	Modification to Item L-108
Item L-108	Underground Power Cable for Airports
	Modification to Item L-110
Item L-110	Airport Underground Electrical Duct Banks and Conduits
	Modification to Item L-115
Item L-115	Electrical Manholes and Junction Structures
	Modification to Item P-101
Item P-101	Surface Preparation
	Modification to Item P-152
Item P-152	Excavation and Embankment
	Modification to Item P-155
Item P-155	Lime-Treated Subgrade
	Modification to Item P-156
Item P-156	Temporary Air and Water Pollution, Soil Erosion and Siltation Control
	Modification to Item P-209
Item P-209	Crushed Aggregate Base Course
	Modification to Item P-401
Item P-401	Plant Mix Bituminous Pavements
	Modification to Item P-501
Item P-501	Portland Cement Concrete Pavement
	Modification to Item P-602
Item P-602	Bituminous Prime Coat
	Modification to Item P-603
Item P-603	Bituminous Tack Coat
	Modification to Item P-605
Item P-605	Joint Sealing Filler
	Modification to Item P-610
Item P-610	Structural Portland Cement Concrete
	Modification to Item P-620
Item P-620	Runway and Taxiway Painting
	Modification to Item T-901
Item T-901	Seeding
	Modification to Item T-904
Item T-904	Sodding
	Modification to Item T-905
Item T-905	Topsoiling
	Modification to Item T-907
Item T-907	Tilling

Bidder acknowledges receipt of the following addendum (addenda):

Addendum No. 1 dated June 23, 2014

Addendum No. 2 dated July 10, 2014

Addendum No. 3 dated July 17, 2014

The undersigned Bidder agrees that this bid shall be good and shall not be withdrawn for a period of ninety (90) calendar days after the opening thereof. If written notice of the acceptance of this Proposal is mailed, telegraphed, or delivered to the undersigned within ninety (90) days after the opening thereof, or at any time thereafter before this Proposal is withdrawn, the undersigned agrees to execute and deliver an Agreement (Contract) in the prescribed form, and furnish the required Performance and Payment Bond, within ten (10) days after the Agreement is presented to him for signature.

It is understood by the undersigned Bidder that the Owner reserves the right to reject any or all bids.

The following provisions are also included by reference:

- Davis Bacon Act (29 CFR Part 5.5)
- EEO Compliance Reports (41 CFR Part 60-1.7)
- Trade Restriction Certification (49 CFR Part 30)
- Buy American Preferences (Title 49 United States Code, Chapter 501)
- Certification of Non-Segregated Facilities (41 CFR Part 60-1.8)
- Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion (49 CFR Part 29)

Accompanying this Proposal as bid security is a ~~certified check~~/bid bond (*strike one*)

In the amount of five percent of total bid amount Dollars

($ 5% of total bid), being not less than five percent (5%) of the total amount of the bid for the base bid plus all alternates, as applicable. If the undersigned Bidder is the successful Bidder, but fails or refuses to execute the contract and furnish the required bond within the prescribed ten (10) days of the notification of award, then this bid security is to become the property of the Owner as liquidated damages for the delay and additional expense to the Owner caused by such failure or refusal.

JACK BROOKS REGIONAL AIRPORT
TAXIWAY D RECONSTRUCTION (2014)
BID FORM

BASE BID

BID ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	BID AMOUNT
SS-120-1	SITE PREPARATION	LS	100%	$ 185,000.00	$ 185,000.00
	Unit price in words: One Hundred Eighty Five Thousand dollars and No /100				
D-701-5.1	30" CLASS III REINFORCED CONCRETE PIPE	LF	408	$ 147.00	$ 59,976.00
	Unit price in words: one Hundred forty Seven dollars and No /100				
D-751-5.1	SINGLE GRATE INLET (HEAVY-DUTY AIRCRAFT RATED) 4'X4'	EA	1	$ 7,350.00	$ 7,350.00
	Unit price in words: Seven Thousand Three Hundred Fifty dollars and No /100				
D-751-5.2	JUNCTION BOX, 4'X4'	EA	1	$ 7,700.00	$ 7,700.00
	Unit price in words: Seven Thousand Seven Hundred dollars and No /100				
D-751-5.3	3:1 SLOPE-END TREATMENT AND 4" CONCRETE RIPRAP, INSTALLED	LS	100%	$ 6,300.00	$ 6,300.00
	Unit price in words: Six Thousand Three Hundred dollars and No /100				
P-101-5.1a	CONCRETE PAVEMENT REMOVAL	SY	9,600	$ 21.75	$ 208,800.00
	Unit price in words: Twenty One dollars and Seventy Five/100				
P-101-5.1b	ASPHALTIC CONCRETE PAVEMENT REMOVAL	SY	1,060	$ 16.00	$ 16,960.00
	Unit price in words: Sixteen dollars and No /100				

JACK BROOKS REGIONAL AIRPORT
TAXIWAY D RECONSTRUCTION (2014)
BID FORM

BID ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	BID AMOUNT
P-152-4.1	UNCLASSIFIED EXCAVATION	CY	580	$ 18.00	$ 10,440.00
	Unit price in words: Eighteen dollars and NO /100				
P-152-4.2	BORROW EXCAVATION	CY	2,730	$ 11.00	$ 30,030.00
	Unit price in words: Eleven dollars and NO /100				
P-155-6.1	16" LIME-TREATED SUBGRADE	SY	8,400	$ 7.00	$ 58,800.00
	Unit price in words: Seven dollars and NO /100				
P-155-6.2	LIME	TN	370	$ 200.00	$ 74,000.00
	Unit price in words: Two Hundred dollars and NO /100				
P-156-5.1	TEMPORARY EROSION CONTROL	LS	100%	$ 7,500.00	$ 7,500.00
	Unit price in words: Seven Thousand Five Hundred dollars and NO /100				
P-209-5.1	6" CRUSHED AGGREGATE BASE COURSE	SY	8,790	$ 23.00	$ 202,170.00
	Unit price in words: Twenty Three dollars and NO /100				
P-401-6.1a	4" BITUMINOUS SURFACE COURSE	SY	980	$ 46.00	$ 45,080.00
	Unit price in words: Forty Six dollars and NO /100				

JACK BROOKS REGIONAL AIRPORT
TAXIWAY D RECONSTRUCTION (2014)
BID FORM

BID ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	BID AMOUNT
P-501-8.1a	13" PORTLAND CEMENT CONCRETE PAVEMENT	SY	7,350	$ 93.00	$ 683,550.00
	Unit price in words: Ninety Three dollars and NO /100				
P-620-1	RETRO-REFLECTIVE PAVEMENT MARKINGS	SF	940	$ 6.00	$ 5,640.00
	Unit price in words: Six dollars and NO /100				
P-620-2	PREFORMED RUNWAY HOLD SIGN MARKINGS	SF	360	$ 183.00	$ 65,880.00
	Unit price in words: One Hundred Eighty Three dollars and NO /100				
P-620-3	NON-REFLECTIVE BLACK OUTLINE	SF	1,700	$ 3.20	$ 5,440.00
	Unit price in words: Three dollars and Twenty /100				
T-901-5.1	SEEDING, INCLUDING FERTILIZING AND WATERING	AC	5.2	$ 1,100.00	$ 5,720.00
	Unit price in words: One Thousand one Hundred dollars and NO /100				
T-905-1	TOPSOILING (OBTAINED ON SITE OR REMOVED FROM STOCKPILE 2" THICKNESS)	SY	14,710	$ 2.20	$ 32,362.00
	Unit price in words: Two dollars and Twenty /100				
T-904-5.1	SODDING	SY	600	$ 3.60	$ 2,160.00
	Unit price in words: Three dollars and Sixty /100				

JACK BROOKS REGIONAL AIRPORT
TAXIWAY D RECONSTRUCTION (2014)
BID FORM

BID ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	BID AMOUNT
T-907-5.1	TILLING	SY	1,450	$ 5.50	$ 7,975.00
	Unit price in words: Five dollars and Fifty /100				
SS-300-5.1	LOCKOUT/TAGOUT AND CONSTANT CURRENT REGULATOR CALIBRATION PROCEDURES	LS	100%	$ 1,800.00	$ 1,800.00
	Unit price in words: One Thousand Eight Hundred dollars and NO /100				
SS-310-5.1	EXISTING STAKE MOUNTED EDGE LIGHT, REMOVED	EA	21	$ 164.00	$ 3,444.00
	Unit price in words: ONE Hundred Sixty Four dollars and NO /100				
SS-310-5.2	EXISTING BASE MOUNTED GUIDANCE SIGN, REMOVED	EA	5	$ 255	$ 1,275.00
	Unit price in words: Two Hundred Fifty five dollars and NO /100				
SS-310-5.3	ABANDONED SIGN BASE, REMOVED	EA	2	$ 600.00	$ 1200.00
	Unit price in words: Six Hundred dollars and NO /100				
SS-310-5.4	L-858(L) BASE MOUNTED, 1-MODULE GUIDANCE SIGN, INSTALLED	EA	1	$ 5,500.00	$ 5,500.00
	Unit price in words: Five Thousand five Hundred dollars and NO /100				
SS-310-5.5	L-858(L) BASE MOUNTED, 3-MODULE GUIDANCE SIGN, INSTALLED	EA	1	$ 7,500.00	$ 7,500.00
	Unit price in words: Seven Thousand Five Hundred dollars and NO /100				

JACK BROOKS REGIONAL AIRPORT
TAXIWAY D RECONSTRUCTION (2014)
BID FORM

BID ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	BID AMOUNT
SS-310-5.6	L-861T(L) BASE MOUNTED TAXIWAY EDGE LIGHT, INSTALLED	EA	38	$ 1,450.00	$ 55,100.00
	Unit price in words: one Thousand four Hundred fifty dollars and no /100				
SS-310-5.7	EXISTING L-861T STAKE MOUNTED TAXIWAY EDGE LIGHT, RELOCATED	EA	11	$ 440.00	$ 4,840.00
	Unit price in words: Four Hundred forty dollars and no /100				
SS-310-5.8	FIELD LIGHTNING ARRESTOR, INSTALLED	EA	1	$ 1,460.00	$ 1,460.00
	Unit price in words: one Thousand four Hundred sixty dollars and no /100				
SS-310-5.9	TEMPORARY AIRFIELD LIGHTING	LS	100%	$ 5,200.00	$ 5,200.00
	Unit price in words: Five Thousand Two Hundred dollars and no /100				
L-108-5.1	NO. 8 AWG 5KV, L-824C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	LF	3,900	$ 1.25	$ 4,875.00
	Unit price in words: One dollars and Twenty five /100				
L-108-5.2	NO. 6 AWG SOLID, BARE COUNTERPOISE WIRE, INSTALLED IN TRENCH, ABOVE THE DUCT BANK OR CONDUIT, INCLUDING GROUND RODS AND GROUND CONNECTORS	LF	3,400	$ 1.25	$ 4,250.00
	Unit price in words: One dollars and Twenty five /100				

JACK BROOKS REGIONAL AIRPORT
TAXIWAY D RECONSTRUCTION (2014)
BID FORM

BID ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	BID AMOUNT
L-108-5.3	TRENCHING FOR DIRECT-BURIED BARE COUNTERPOISE WIRE, 6" MINIMUM DEPTH	LF	2,900	$ 2.60	$ 7,540.00
	Unit price in words: Two dollars and Sixty /100				
L-108-5.4	TRENCHING FOR DIRECT-BURIED CABLE, 18" MINIMUM DEPTH	LF	600	$ 6.00	$ 3,600.00
	Unit price in words: Six dollars and NO /100				
L-110-5.1	CONCRETE ENCASED, ELECTRICAL DUCT BANK, 4W-4"C	LF	100	$ 103.00	$ 10,300.00
	Unit price in words: One Hundred Three dollars and no /100				
L-110-5.2	CONCRETE ENCASED, ELECTRICAL CONDUIT, 1W-2"C	LF	85	$ 52.00	$ 4,420.00
	Unit price in words: Fifty Two dollars and no /100				
L-110-5.3	NON-ENCASED, ELECTRICAL CONDUIT, 1W-2"C	LF	2,550	$ 9.00	$ 22,950.00
	Unit price in words: Nine dollars and NO /100				
L-115-5.1	CONCRETE ENCASED, ELECTRICAL JUNCTION STRUCTURE, L-867 CLASS 1, SIZE 12" DIAMETER BY 24" DEPTH, INSTALLED	EA	1	$ 700.00	$ 700.00
	Unit price in words: Seven Hundred dollars and no /100				

JACK BROOKS REGIONAL AIRPORT
TAXIWAY D RECONSTRUCTION (2014)
BID FORM

BID ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	BID AMOUNT
L-115-5.2	PRECAST CONCRETE ELECTRICAL HANDHOLE, INTERIOR DIMENSIONS 2'L X 3'W X 3'D, INSTALLED	EA	2	$ 4,900.00	$ 9,800.00
	Unit price in words: Four Thousand nine Hundred dollars and No /100				

Total price in words: One million Eight Hundred Eighty Four Thousand Five Hundred Eighty Seven dollars and No /100 TOTAL (BASE BID) $ 1,884,587.00

JACK BROOKS REGIONAL AIRPORT
TAXIWAY D RECONSTRUCTION (2014)
BID FORM

ADDITIVE ALTERNATE NO. 1 – REMOVAL OF EXISTING HOLD PADS

BID ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	BID AMOUNT
SS-310-5.1	EXISTING STAKE MOUNTED EDGE LIGHT, REMOVED	EA	7	$ 165.00	$ 1,155.00
	Unit price in words: one Hundred Sixty five dollars and NO /100				
SS-310-5.2	EXISTING BASE MOUNTED GUIDANCE SIGN, REMOVED	EA	2	$ 158.00	$ 316.00
	Unit price in words: One Hundred fifty Eight dollars and NO /100				
SS-310-5.3	ABANDONED SIGN BASE, REMOVED	EA	1	$ 600.00	$ 600.00
	Unit price in words: Six Hundred dollars and NO /100				
SS-310-5.7	EXISTING L-861T STAKE MOUNTED TAXIWAY EDGE LIGHT, RELOCATED	EA	19	$ 440.00	$ 8,360.00
	Unit price in words: Four Hundred Forty dollars and NO /100				
L-108-5.1	NO. 8 AWG 5KV, L-824C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT, INCLUDING GROUND RODS AND GROUND CONNECTORS	LF	1,000	$ 1.25	$ 1,250.00
	Unit price in words: One dollars and Twenty Five /100				

JACK BROOKS REGIONAL AIRPORT
TAXIWAY D RECONSTRUCTION (2014)
BID FORM

BID ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	BID AMOUNT
L-108-5.2	NO. 6 AWG SOLID, BARE COUNTERPOISE WIRE, INSTALLED IN TRENCH, ABOVE THE DUCT BANK OR CONDUIT, INCLUDING GROUND RODS AND GROUND CONNECTORS	LF	1,000	$ 1.25	$ 1,250.00
	Unit price in words: One		dollars and Twenty Five /100		
L-108-5.3	TRENCHING FOR DIRECT-BURIED BARE COUNTERPOISE WIRE, 8" MINIMUM DEPTH	LF	1,000	$ 2.60	$ 2,600.00
	Unit price in words: Two		dollars and Sixty /100		
L-108-5.4	TRENCHING FOR DIRECT-BURIED CABLE, 18" MINIMUM DEPTH	LF	1,000	$ 6.00	$ 6000.00
	Unit price in words: Six		dollars and no /100		

Total price in words: Twenty one Thousand Five Hundred Thirty one dollars and no /100 TOTAL (ADDITIVE ALTERNATE 1) $ 21,531.00

It is understood the quantities of work to be done at unit prices are approximate and are intended for bidding purposes only. Amounts are to be shown in both words and figures. In case of discrepancy the amount shown in words shall govern.

Contract Award will be based on the lowest qualified bidder, depending on the availability of funds.

Bidders understand the Owner reserves the right to reject any irregular proposal and the right to waive technicalities if such waiver is in the best interest of the Owner and conforms to State and local laws and ordinances pertaining to the letting of construction contracts. Funding availability will be considered in selecting the bid award. The bidder agrees this bid shall be honored and may not be withdrawn for a period of 90 calendar days after the scheduled closing time for receiving bids.

Bidder hereby agrees to commence work under this contract on or before a date to be specified in a written "Notice to Proceed" and to fully complete the project within:

- **150 Calendar Days** thereafter.

Bidder further agrees to pay as liquidated damages the sum of **One Thousand Dollars ($1,000.00)** for each calendar day to complete the work beyond the allotted time or as extended by an approved Change Order or Supplemental Agreement.

(Witness)

APAC-Texas, Inc.
(Name of Bidder)

By

(Address)

Scott Blanchard, Asst. Secretary
(Print Name and Title)

12907 US Hwy 90

Beaumont, TX 77713
(Office Address of Bidder)

SEAL (If Bidder is a corporation)

NOTES: Sign in Ink. Do not detach.
Items must be bid upon as specified in the Bid Form.

SECTION D
STATEMENT OF BIDDER'S QUALIFICATIONS

STATEMENT OF BIDDER'S QUALIFICATIONS

All questions must be answered and the data given must be clear and comprehensive. This statement must be notarized. If necessary, questions may be answered on separate attached sheets. The Bidder may submit any additional information he desires.

1. Name of Bidder APAC-Texas, Inc.
2. Permanent main office address
   12907 US Hwy 90
   Beaumont, TX 77720
3. When organized 1945
4. If a corporation, where incorporated 1980
5. How many years have been engaged in the contracting business under your present firm or trade name? 68
6. Contracts on hand: (Schedule these, showing amount of each contract and the appropriate anticipated dates of completion)
   Please see attached.

   General character of work performed by your company Road, highway and bridge construction
7. Have you ever failed to complete any work awarded to you? No
8. Have you ever defaulted on a Contract? No
   If so, where and why?
9. Have you ever been fined or had your license suspended by a Contractor's Licensing Board? No
   If so, where and why?
10. List the more important projects recently completed by your company, stating the approximate cost for each, and the month and year completed (attach to back of this document). Please see attached.
11. List your major equipment available for this Contract (attach to back of this document). Please see attached statement.
12. List your experience in construction work similar in scope and scale to this project (attach to back of this document). Please see attached.
13. Background and experience of the principal members of your organization, including the officers (attach to back of this document). Please see attached resumes.
14. Credit available: $ Available upon request.
15. Give Bank reference: Bank of America Lois Marshall FAX: 415-343-9310

16. Will you, upon request, fill out a detailed financial statement and furnish any other information that may be required by the Owner? Yes

The undersigned hereby authorizes and requests any person, firm, or corporation to furnish any information requested by the Owner, in verification of the recitals comprising this statement of Bidder's Qualifications.

The Bidder shall provide a brief description of any litigation or administrative proceeding of the following types, either pending or concluded within the proceeding year, to which the Bidder (and the ultimate controlling person, if different from the Bidder) or any of its directors or executive officers was a party or of which the property of any such person is or was the subject; the names of the parties and the court or agency in which such litigation or proceeding is or was pending shall be given:

(a) Administrative or judicial proceedings of any state federal agency or authority concerning environmental violations;

(b) Proceedings which may have a material effect upon the solvency of the ultimate holding company, including but not necessarily limited to, bankruptcy and receivership; and

(c) Criminal proceedings.

Dated at APAC-Texas, Inc. this 22nd day of July, 20 14.

APAC-Texas, Inc.
(Name of Bidder)
By Scott Blanchard
Title Assistant Secretary

STATE OF Texas)
) §.
COUNTY OF Jefferson)

Scott Blanchard being duly sworn deposes and says that he is
Assistant Secretary of APAC-Texas, Inc.
(Name of Organization)
and that the answers to the foregoing questions and all statements therein contained are true and correct.
SUBSCRIBED AND SWORN TO BEFORE ME this 22nd day of July, 20 14.

(Notary Public) Melissa McKague

My Commission Expires:
June 14, 2016

MELISSA MCKAGUE
Notary Public, State of Texas
My Commission Expires
June 14, 2016

SECTION E
BID SURETY

INSERT BID SURETY HERE

SECTION F
CONTRACT

CONTRACT

THIS AGREEMENT made this _____ day of _____, 2014, by and between **APAC-Texas, Inc.** a Corporation organized and existing under the laws of the State of **TEXAS** hereinafter called the "Contractor", and **JEFFERSON COUNTY, TEXAS**, hereinafter called the "Owner".

W I T N E S S E T H:

That the Contractor and the Owner for the consideration stated herein mutually agree as follows:

ARTICLE 1. Statement of Work. The Contractor shall furnish all supervision, technical personnel, labor, materials, machinery, tools, equipment, incidentals and services, including utility and transportation services and perform and complete all work required for the construction of **Taxiway D Reconstruction (2014) at Jack Brooks Regional Airport** in strict accordance with the Contract Documents.

ARTICLE 2. The Contract Price. The Owner will pay the Contractor, because of his performance of the Contract, for the total quantities of work performed at the lump sum and unit prices stipulated in the Proposal for the **Base Bid with Additive Alternate No. 1, not to exceed a total contract value of One million, nine hundred and six thousand, one hundred eighteen dollars and no /100 ($1,906,118.00)** subject to additions, and deductions as provided in the Section entitled "CHANGES IN THE WORK" under GENERAL PROVISIONS.

ARTICLE 3. Contract Time. The Contractor agrees to begin work within ten (10) calendar days after issuance by the Owner of a "Work Order" or "Notice to Proceed" and to complete the work within **ONE-HUNDRED-FIFTY (150)** consecutive calendar days thereafter (except as modified in accordance with the GENERAL PROVISIONS of these Contract Documents). If the Contractor shall fail to complete the work within the time specified, he and his Surety shall be liable for payment to the Owner, as liquidated damages ascertained and agreed, and not in the nature of a penalty, the amount specified in the PROPOSAL of these Contract Documents for each day of delay. To the extent sufficient in amount, liquidated damages shall be deducted from the payments to be made under this Contract.

ARTICLE 4. Contract. The executed Contract Documents shall consist of the following:

a. Advertisement and Invitation to Bidders
b. Instructions to Bidders
c. Bid Form and Proposal
d. Executed Contract
e. Statement of Bidder's Qualifications
f. List of Proposed Subcontractors
g. Performance and Payment Bonds
h. Certificates of Insurance and Insurance Policies
i. General Provisions (FAA AC 150/5370-10F)
j. Special Provisions
k. Addenda (if any)
l. Wage Rates
m. Technical Specifications
n. Drawings
o. Third Party Insurance

This Agreement, together with other Documents enumerated in this Article 4, which said other Documents are as fully a part of the Contract as if hereto attached or herein repeated, form the Contract between the

parties hereto. In the event that any provisions in any component part of this Contract conflicts with any provision of any other component part, the conflict shall be resolved by the Engineer whose decision shall be final.

ARTICLE 5. Surety. The Surety on the Performance-Payment Bond shall be a surety company of financial resources satisfactory to the Owner, authorized to do business in the State of Texas, and shall comply with applicable Texas laws.

IN WITNESS WHEREOF, the parties hereto have caused this AGREEMENT to be executed in four (4) counterparts, each of which shall be considered an original on the day and year first above written.

APAC-Texas, Inc.
(Contractor)

ATTEST: Melissa McGuire By

Title: Asst. Secretary

12907 US Highway 90
(Street)

Beaumont, Texas 77713
(City)

JEFFERSON COUNTY, TEXAS,
(Owner)

ATTEST: _____ By _____

_____ Title: _____
(Print the names underneath all signatures)

SECTION G
NOTICE OF AWARD AND NOTICE TO PROCEED

NOTICE OF AWARD

DATED: August 28, 2014

TO: APAC-Texas, Inc.

ADDRESS: 12907 US Hwy 90
Beaumont, TX 77713

PROJECT OWNER: JEFFERSON COUNTY

FAA AIP GRANT No. 3-48-0018-030-2014

CONTRACT FOR: TAXIWAY D RECONSTRUCTION (2014)

CONSTRUCTION OF: JACK BROOKS REGIONAL AIRPORT

****

You are notified that your Bid dated July 22, 2014 for the above Contract has been considered. You are the apparent Successful Bidder and have been awarded a contract for Base Bid with Additive Alternate No. 1.

The Contract Price of your contract is One million, nine hundred and six thousand, one hundred eighteen dollars and no /100 ($1,906,118.00).

You must comply with the following conditions precedent within FIFTEEN (15) days of the date of this *Notice of Award* that is by, September 12, 2014.

1. You must deliver to the **OWNER 4** fully executed counterparts of the Agreement including all the Contract Documents.

2. You must deliver with the executed Agreement the Contract Security (Bonds) as specified in the Advertisement for Bids, General Conditions (Article 2), and Supplementary Conditions.

3. You must deliver to the **OWNER** 4 original ***Certificates of Insurance,*** naming the Owner ***(Jefferson County)*** and Engineer ***(Garver, LLC.)*** and their respective agents and employees, to be expressly named as additional insured's, in accordance with the General Conditions.

Failure to comply with these conditions within the time specified will entitle OWNER to consider your bid in default, to annul this Notice of Award, and to declare your Bid Security forfeited.

Within ten (10) days after you comply with the above conditions, OWNER will return to you one (1) fully signed counterpart of the Agreement with the Contract Documents attached.

Sincerely,
GARVER, LLC

FOR Thomas D Dodson, PE
Senior Project Manager

ACCEPTANCE OF AWARD:
CONTRACTOR:
APAC-Texas, Inc.
BY: _____
TITLE: Asst. Secretary
DATE: 9/3/2014

NOTICE TO PROCEED
DATED:_____, 2014

TO:

ADDRESS:

PROJECT: Taxiway D Reconstruction (2014) for Jack Brooks Regional Airport
CONTRACT: 14-025/KJS

****

You are notified that the Contract Times under the above contract will commence to run on _____, 2014. By that date, you are to start performing your obligations under the Contract Documents. In accordance with Articles of the Agreement the dates of Substantial Completion and completion and readiness for final payment are _____, 2014.

Before you may start any Work at the site, Section A of the Supplemental General Conditions provides that you must deliver to the Engineer and or County Certificates of Insurance which you are required to purchase and maintain in accordance with the Supplemental General Conditions.

JEFFERSON COUNTY, TEXAS,
(OWNER)

BY: _____

_____
(TITLE)

ACCEPTANCE OF AWARD:
BY:
APAC-Texas, Inc.
(CONTRACTOR)
(AUTHORIZED SIGNATURE)
Asst. Secretary
(TITLE)
9/3/2014
(DATE)

SECTION H
PAYMENT, PERFORMANCE BONDS and CERTIFICATE of INSURANCE

PERFORMANCE BOND

Bond Number: SUR7404077

KNOW ALL MEN BY THESE PRESENTS, that we

APAC - TEXAS, INC.
12907 U.S. HIGHWAY 90, BEAUMONT, TX 77713

, as Principal (the "Principal"), and XL Specialty Insurance Company, a corporation duly organized under the laws of the State of Delaware, as Surety (the "Surety"), are held and firmly bound unto

JEFFERSON COUNTY ,
1149 PEARL STREET, 1ST FLOOR, BEAUMONT, TX 77701

, as Obligee (the "Obligee"), in the penal sum of One Million Nine Hundred And Six Thousand One Hundred And Eighteen And 00/100

Dollars ($1,906,118.00),

for the payment of which sum well and truly to be made, the Principal and the Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has by written agreement, dated_____ , entered into a contract (the "Contract") with the Obligee for TAXIWAY D RECONSTRUCTION (2014) AT JACK BROOKS REGIONAL AIRPORT - CONTRACT NO. 14-025/KJS

which Contract is by reference made a part hereof.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the Principal shall promptly and faithfully perform the Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

PROVIDED AND SUBJECT TO THE CONDITIONS PRECEDENT:

1. Whenever the Principal shall be, and be declared by the Obligee to be in default under the Contract, the Obligee having performed the Obligee's obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

   1.1 Complete the contract in accordance with its terms and conditions, or

   1.2 Obtain a bid or bids from alternative contracts to complete the Contract in accordance with its terms and conditions, and upon determination by the Surety of the lowest responsible bidder, or if the Obligee elects, upon determination by the Obligee and the Surety jointly of the lowest responsible bidder, arrange for a contract between such bidder and the Obligee, and make available as work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph of this bond. The term "balance of the contract price," as used in this paragraph, shall mean the total amount payable by the Obligee to the Principal under the Contract and any amendments thereto, less the amount properly paid by the Obligee to the Principal.

2. Notwithstanding any other provision of this bond or the Contract, or otherwise, the Surety is not responsible for and shall not be held liable to the Obligee for any hazardous waste removal and the Surety shall not be held liable to, or in any other respect be responsible to, the Obligee by way of indemnity, claims or otherwise, or to any public authority or to any other person, firm or corporation, for or on account of any fines or claims by any public authority or for bodily injuries or property damage to any person or thing, including, but not limited to, injury or damage due to the release or threat of release of hazardous substances of any kind or damage to real estate or to the environment or clean-up costs or other damages of whatever kind or nature arising out of any act of commission or omission by the Principal, the Principal's agents, servants, employees, subcontractors or suppliers or any other person in connection with the performance of the Contract. This limitation applies regardless of when any such fine is assessed, claim is made, or injury, damage, release or threat of release occurs and without regard to any term of condition of the Contract.

PAYMENT BOND

Bond Number: SUR7404077

KNOW ALL MEN BY THESE PRESENTS, that we

APAC - TEXAS, INC.
12907 U.S. HIGHWAY 90, BEAUMONT, TX 77713

, as Principal (the "Principal"), and XL Specialty Insurance Company, a corporation duly organized under the laws of the State of Delaware, as Surety (the "Surety"), are held and firmly bound unto

JEFFERSON COUNTY ,
1149 PEARL STREET, 1ST FLOOR, BEAUMONT, TX 77701

, as Obligee (the "Obligee"), in the penal sum of One Million Nine Hundred And Six Thousand One Hundred And Eighteen And 00/100

Dollars ($1,906,118.00),

for the payment of which sum well and truly to be made, the Principal and the Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has by written agreement, dated_____ , entered into a contract (the "Contract") with the Obligee for TAXIWAY D RECONSTRUCTION (2014) AT JACK BROOKS REGIONAL AIRPORT - CONTRACT NO. 14-025/KJS

which Contract is by reference made a part hereof.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the Principal shall promptly make payment to all Claimants, as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

PROVIDED AND SUBJECT TO THE CONDITIONS PRECEDENT:

1. A "Claimant" is defined as one having a direct contract with the Principal or with a subcontractor of the Principal for labor, material, or both, used or reasonably required for use in the performance of the Contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.

2. The Principal and the Surety hereby jointly and severally agree with the Obligee that every Claimant, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such Claimant's work or labor was done or performed, or materials were furnished by such Claimant, may sue on this bond for the use of such Claimant, prosecute the suit to final judgment for such sum or sums as may be justly due Claimant, and have execution thereon. The Obligee shall not be liable for the payment of any costs or expenses of any such suit.

3. No suit or action shall be commenced hereunder by any Claimant:

   (a) Unless Claimant, other than one having a direct contract with the Principal, shall have given written notice to the Principal and the Surety within ninety (90) days (or such lesser or greater time period as otherwise permitted by relevant law) after such Claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in separate envelopes addressed to the Principal and Surety.

   (b) Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the project, or any part thereof, is situated, or in the United States District Court for the district in which the project, or any part thereof, is situated, and not elsewhere.

   (c) After the expiration of one (1) year (or such lesser or greater time period as otherwise permitted by relevant law) from the date on which the Principal ceased work on the Contract. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

SURETY ACKNOWLEDGMENT

STATE OF UTAH }
COUNTY OF SALT LAKE } **SS**

On this 3RD day of SEPTEMBER, 2014, before me personally came TINA DAVIS to me known, who, being by me duly sworn, did depose and say that she is an Attorney-In-Fact of XL SPECIALTY INSURANCE COMPANY the corporation described in and which executed the within instrument; that she knows the corporate seal of said corporation, that the seal affixed to the within instrument is such corporate seal, and that she signed the said instrument and affixed the said seal as Attorney-In-Fact of the Board of Directors of said corporation and by authority of this office under the Standing Resolutions thereof.

Notary Public

LISA HALL
Notary Public, State of Utah
Commission # 605901
My Commission Expires
March 13, 2015

VOID

XL Group plc Companies

Power of Attorney
XL Specialty Insurance Company
Greenwich Insurance Company
XL Reinsurance America Inc.

THIS IS NOT A BOND NUMBER
UNLIMITED POWER OF ATTORNEY
XL1513786

KNOW ALL MEN BY THESE PRESENTS: That XL Specialty Insurance Company, and Greenwich Insurance Company, Delaware insurance companies with offices located at 505 Eagleview Blvd., Exton, PA 19341, and XL Reinsurance America Inc., a New York insurance company with offices located at 70 Seaview Avenue, Stamford, CT 06902, , do hereby nominate, constitute, and appoint:
Lindsey Plattner, Lisa Hall, Tina Davis

each its true and lawful Attorney(s)-in-fact to make, execute, attest, seal and deliver for and on its behalf, as surety, and as its act and deed, where required, any and all bonds and undertakings in the nature thereof, , for the penal sum of no one of which is in any event to exceed UNLIMITED.

Such bonds and undertakings, when duly executed by the aforesaid Attorney (s) - in - Fact shall be binding upon each said Company as fully and to the same extent as if such bonds and undertakings were signed by the President and Secretary of the Company and sealed with its corporate seal.

The Power of Attorney is granted and is signed by facsimile under and by the authority of the following Resolutions adopted by the Board of Directors of each of the Companies on the 21st day of July 2014.

RESOLVED, that Gary Kaplan, David Hewett, William Mills, Gregory Boal and Kevin Mirsch are hereby appointed by the Board as authorized to make, execute, seal and deliver for and on behalf of the Company, any and all bonds, undertakings, contracts or obligations in surety or co-surety with others and that the Secretary or any Assistant Secretary of the Company be and that each of them hereby is authorized to attest the execution of any such bonds, undertakings, contracts or obligations in surety or co-surety and attach thereto the corporate seal of the Company.

RESOLVED, FURTHER, that Gary Kaplan, David Hewett, William Mills, Gregory Boal and Kevin Mirsch each is hereby authorized to execute powers of attorney qualifying the attorney named in the given power of attorney to execute, on behalf of the Company, bonds and undertakings in surety or co-surety with others, and that the Secretary or any Assistant Secretary of the Company be, and that each of them is hereby authorized to attest the execution of any such power of attorney, and to attach thereto the corporate seal of the Company.

RESOLVED, FURTHER, that the signature of such officers named in the preceding resolutions and the corporate seal of the Company may be affixed to such powers of attorney or to any certificate relating thereto by facsimile, and any such power of attorney or certificate bearing such facsimile signatures or facsimile seal shall be thereafter valid and binding upon the Company with respect to any bond, undertaking, contract or obligation in surety or co-surety with others to which it is attached.

IN WITNESS WHEREOF, the XL SPECIALTY INSURANCE COMPANY and GREENWICH INSURANCE COMPANY has caused its corporate seal to be hereunto affixed, and these presents to be signed by its duly authorized officers this July 21st, 2014.

XL SPECIALTY INSURANCE COMPANY
GREENWICH INSURANCE COMPANY

By: David S. Hewett
SENIOR VICE PRESIDENT

Attest: Toni Ann Perkins
SECRETARY

STATE OF CONNECTICUT
COUNTY OF FAIRFIELD

On this 21st day of July, 2014, before me personally came David S. Hewett to me known, who, being duly sworn, did depose and say: that he is Executive Vice President of XL SPECIALTY INSURANCE COMPANY and Senior Vice President of GREENWICH INSURANCE COMPANY, described in and which executed the above instrument; that he knows the seals of said Companies; that the seals affixed to the aforesaid instrument are such corporate seals and were affixed thereto by order and authority of the Boards of Directors of said Companies; and that he executed the said instrument by like order.

KIM D. SLIVA
NOTARY PUBLIC
My Commission Expires
June 30, 2018
STATE OF CONNECTICUT

Kim D. Sliva
NOTARY PUBLIC

STATE OF CONNECTICUT

NOTICE TO POLICYHOLDERS

TEXAS

IMPORTANT NOTICE

To obtain information or make a complaint:

You may contact your agent.

You may call XL Insurance toll-free telephone number for information or to make a complaint at

1-800-622-7311

You may also write to XL Insurance at

Seaview House
70 Seaview Avenue
Stamford, CT 06902-6040

You may contact the Texas Department of Insurance to obtain information on companies, coverages, rights or complaints at

1-800-252-3439

You may write the Texas Department of Insurance

P.O. Box 149104
Austin, TX 78714-9104
FAX: (512) 475-1771
Web: http://www.tdi.state.tx.us
E-mail:
ConsumerProtection@tdi.state.tx.us

PREMIUM OR CLAIM DISPUTES: Should you have a dispute concerning your premium or about a claim, you should contact the agent first. If the dispute is not resolved, you may contact the Texas Department of Insurance.

ATTACH THIS NOTICE TO YOUR POLICY: This notice is for information only and does not become a part or condition of the attached document.

AVISO IMPORTANTE

Para obtener informacion o para someter una queja:

Puede comunicarse con su agente.

Usted puede llamar al numero de telefono gratis de XL Insurance para informacion o para someter una queja al

1-800-622-7311

Usted tambien puede escribir a XL Insurance

Seaview House
70 Seaview Avenue
Stamford, CT 06902-6040

Puede comunicarse con el Departamento de Seguros de Texas para obtener informacion acerca de companias, coberturas, derechos o quejas al

1-800-252-3439

Puede escribir al Departamento de Seguros de Texas

P.O. Box 149104
Austin, TX 78714-9104
FAX: (512) 475-1771
Web: http://www.tdi.state.tx.us
E-mail:
ConsumerProtection@tdi.state.tx.us

DISPUTAS SOBRE PRIMAS O RECLAMOS: Si tiene una disputa concerniente a su prima o a un reclamo, debe comunicarse con el agente primero. Si no se resuelve la disputa, puede entonces comunicarse con el departamento (TDI).

UNA ESTE AVISO A SU POLIZA: Este aviso es solo para proposito de informacion y no se convierte en parte o condicion del documento adjunto.

© 2011 X.L. America, Inc. All Rights Reserved.
May not be copied without permission.

PAYMENT BOND

PERFORMANCE BOND

Certificate of Insurance

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON YOU THE CERTIFICATE HOLDER. THIS CERTIFICATE IS NOT AN INSURANCE POLICY AND DOES NOT AMEND, EXTEND, OR ALTER THE COVERAGE AFFORDED BY THE POLICIES LISTED BELOW. POLICY LIMITS ARE NO LESS THAN THOSE LISTED, ALTHOUGH POLICIES MAY INCLUDE ADDITIONAL SUBLIMIT/LIMITS NOT LISTED BELOW.

This is to Certify that

APAC Texas, Inc.
Trotti & Thomson
12907 UW Highway 90
Beaumont TX 77713

NAME AND ADDRESS OF INSURED

Liberty Mutual. INSURANCE

is, at the issue date of this certificate, insured by the Company under the policy(ies) listed below. The insurance afforded by the listed policy(ies) is subject to all their terms, exclusions and Conditions and is not altered by any requirement, term or condition of any contract or other document with respect to which this certificate may be issued.

TYPE OF POLICY	EXP DATE ☐ CONTINUOUS ☐ EXTENDED ☑ POLICY TERM	POLICY NUMBER	LIMIT OF LIABILITY	
WORKERS COMPENSATION	9/1/2015	WA7-C8D-004095-024 WC7-C81-004095-014	COVERAGE AFFORDED UNDER WC LAW OF THE FOLLOWING STATES: -024: All States except OH, ND, WA, WY and WI -014: WI	**EMPLOYERS LIABILITY** Bodily Injury by Accident $1,000,000 Each Accident Bodily Injury By Disease $1,000,000 Policy Limit Bodily Injury By Disease $1,000,000 Each Person
COMMERCIAL GENERAL LIABILITY ☑ OCCURRENCE ☐ CLAIMS MADE	9/1/2015 RETRO DATE	TB2-C81-004095-114 -Per Project Aggregate included.	General Aggregate $2,000,000 Products / Completed Operations Aggregate $2,000,000 Each Occurrence $2,000,000 Personal & Advertising Injury $2,000,000 Per Person / Organization Other Fire Damage-$100,000 Other Medical Exp-$5,000	
AUTOMOBILE LIABILITY ☑ OWNED ☑ NON-OWNED ☑ HIRED	9/1/2015	AS2-C81-004095-124 Comp Ded $10,000 Coll Ded $10,000	$2,000,000 Each Accident—Single Limit B.I. And P.D. Combined Each Person Each Accident or Occurrence Each Accident or Occurrence	
OTHER				

ADDITIONAL COMMENTS

RE: APAC 25-3120/Jeff Co. 14-025/KJS, Jefferson Co. Jack Brooks Regional Airport Taxiway D Reconstruction (2014), Jefferson County, TX. Jefferson County and Garver, LLC, its Officers, Agents, and Employees are listed as additional insured with regards to the general liability policy, where required by written contract. Workers compensation includes a waiver of subrogation in favor of the additional insured, where required by written contract and where applicable by law.

* If the certificate expiration date is continuous or extended term, you will be notified if coverage is terminated or reduced before the certificate expiration date.

NOTICE OF CANCELLATION: (NOT APPLICABLE UNLESS A NUMBER OF DAYS IS ENTERED BELOW.) BEFORE THE STATED EXPIRATION DATE THE COMPANY WILL NOT CANCEL OR REDUCE THE INSURANCE AFFORDED UNDER THE ABOVE POLICIES UNTIL AT LEAST 30 DAYS NOTICE OF SUCH CANCELLATION HAS BEEN MAILED TO:

APAC 25-3120/Jeff Co. 14-025/KJS

Liberty Mutual Insurance Group

Certificate Holder

Jefferson County, Texas
and Garver USA
1149 Pearl Street, 1st Floor
Beaumont TX 77701

Stanley S. Esposito, Jr.

Stan Esposito
AUTHORIZED REPRESENTATIVE

Pittsburgh / 0387
12 Federal Street, Ste. 310
Pittsburgh PA 15212-5706 412-231-1331 9/9/2014
OFFICE PHONE DATE ISSUED

This certificate is executed by LIBERTY MUTUAL INSURANCE GROUP as respects such insurance as is afforded by those Companies NM 772 07-10

Liberty Mutual Group

157 Berkeley Street
Boston, MA 02116
Tel: (617) 654-4096
Fax: (857) 224-9010

September 9, 2014

Re: Oldcastle Inc.

APAC Trotti & Thomson
Policy # TB2-C81-004095-114, AS2-C81-004095-124, WA7-C8D-004095-024, WC7-C81-004095-014, EW7-68N-004095-344, EW1-68N-025031-014, EW5-68N-035719-324

To Whom It May Concern:

Please accept this letter as confirmation that this customer has renewed with Liberty Mutual Insurance and coverage continues under the attached expiring endorsements. We will release the renewal endorsements for the current policy period of 9/1/14 – 9/1/15 within 30 days at which time, we will provide you copies of the endorsements for your file.

Endorsements:
WC 00 03 13 - Waiver of Our Right to Recover from Others Endorsement

CG 20 10 04 13 – Additional Insured – Owners, Lessees or Contractors
CG 20 37 04 13 – Additional Insured – Owners, Lessees or Contractors – Completed Operations
CG 24 04 05 09 - Waiver of our Right to Recover From Others Endorsement
LD 24 10 07 13 - Primary and Non Contributory -Scheduled Additional Insured

AC 84 23 08 11 – Designated Insured – Noncontributing
CA 04 44 10 13– Waiver of Transfer of Rights of Recovery against Other to US (Waiver of Subrogation)
CA 20 48 10 13 – Designated Insured
AC 70 01 03 12 – Endorsement for Motor Carrier Policies of Insurance(MCS90)

I hope this will suffice for verification purposes. If you have any questions, please contact me at 617-654-4096.

Regards,

Natalie O'Brien
Underwriting Technical Specialist

Helping people life safe, more secure lives.

INSERT INSURANCE DOCUMENTS HERE

SECTION I
GENERAL PROVISIONS
(FAA AC 150/5370-10F)

GENERAL PROVISIONS
SECTION 10
DEFINITION OF TERMS

Whenever the following terms are used in these specifications, in the contract, or in any documents or other instruments pertaining to construction where these specifications govern, the intent and meaning shall be interpreted as follows:

10-01 AASHTO. The American Association of State Highway and Transportation Officials, the successor association to AASHO.

10-02 ACCESS ROAD. The right-of-way, the roadway and all improvements constructed thereon connecting the airport to a public highway.

10-03 ADVERTISEMENT. A public announcement, as required by local law, inviting bids for work to be performed and materials to be furnished.

10-04 AIP. The Airport Improvement Program, a grant-in-aid program, administered by the Federal Aviation Administration.

10-05 AIR OPERATIONS AREA. For the purpose of these specifications, the term air operations area shall mean any area of the airport used or intended to be used for the landing, takeoff, or surface maneuvering of aircraft. An air operation area shall include such paved or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiway, or apron.

10-06 AIRPORT. Airport means an area of land or water which is used or intended to be used for the landing and takeoff of aircraft; an appurtenant area used or intended to be used for airport buildings or other airport facilities or rights of way; and airport buildings and facilities located in any of these areas, and includes a heliport.

10-07 ASTM. The American Society for Testing and Materials.

10-08 AWARD. The acceptance, by the Owner, of the successful bidder's proposal.

10-09 BIDDER. Any individual, partnership, firm, or corporation, acting directly or through a duly authorized representative, who submits a proposal for the work contemplated.

10-10 BUILDING AREA. An area on the airport to be used, considered, or intended to be used for airport buildings or other airport facilities or rights-of-way together with all airport buildings and facilities located thereon.

10-11 CALENDAR DAY. Every day shown on the calendar.

10-12 CHANGE ORDER. A written order to the Contractor covering changes in the plans, specifications, or proposal quantities and establishing the basis of payment and contract time adjustment, if any, for the work affected by such changes. The work, covered by a change order, shall be within the scope of the contract.

10-13 CONTRACT. The written agreement covering the work to be performed. The awarded contract shall include, but is not limited to: The Advertisement; The Contract Form; The Proposal; The Performance Bond; The Payment Bond; any required insurance certificates; The Specifications; The Plans, and any addenda issued to bidders.

10-14 CONTRACT ITEM (PAY ITEM). A specific unit of work for which a price is provided in the contract.

10-15 CONTRACT TIME. The number of calendar days or working days, stated in the proposal, allowed for completion of the contract, including authorized time extensions. If a calendar date of completion is stated in the proposal, in lieu of a number of calendar or working days, the contract shall be completed by that date.

10-16 CONTRACTOR. The individual, partnership, firm, or corporation primarily liable for the acceptable performance of the work contracted and for the payment of all legal debts pertaining to the work who acts directly or through lawful agents or employees to complete the contract work.

10-17 DRAINAGE SYSTEM. The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the airport area.

10-18 ENGINEER. The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for engineering inspection of the contract work and acting directly or through an authorized representative.

10-19 EQUIPMENT. All machinery, together with the necessary supplies for upkeep and maintenance, and also all tools and apparatus necessary for the proper construction and acceptable completion of the work.

10-20 EXTRA WORK. An item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, but which is found by the Engineer to be necessary to complete the work within the intended scope of the contract as previously modified.

10-21 FAA. The Federal Aviation Administration of the U.S. Department of Transportation. When used to designate a person, FAA shall mean the Administrator or his/her duly authorized representative.

10-22 FEDERAL SPECIFICATIONS. The Federal Specifications and Standards, Commercial Item Descriptions, and supplements, amendments, and indices thereto are prepared and issued by the General Services Administration of the Federal Government.

10-23 FORCE ACCOUNT. Force account construction work is construction that is accomplished through the use of material, equipment, labor, and supervision provided by the Owner or by another public agency pursuant to an agreement with the Owner.

10-24 INSPECTOR. An authorized representative of the Engineer assigned to make all necessary inspections and/or tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.

10-25 INTENTION OF TERMS. Whenever, in these specifications or on the plans, the words "directed," "required," "permitted," "ordered," "designated," "prescribed," or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Engineer is intended; and similarly, the words "approved," "acceptable," "satisfactory," or words of like import, shall mean approved by, or acceptable to, or satisfactory to the Engineer, subject in each case to the final determination of the Owner.

Any reference to a specific requirement of a numbered paragraph of the contract specifications or a cited standard shall be interpreted to include all general requirements of the entire section, specification item, or cited standard that may be pertinent to such specific reference.

10-26 LABORATORY. The official testing laboratories of the Owner or such other laboratories as may be designated by the Engineer.

10-27 LIGHTING. A system of fixtures providing or controlling the light sources used on or near the airport or within the airport buildings. The field lighting includes all luminous signals, markers, floodlights, and illuminating devices used on or near the airport or to aid in the operation of aircraft landing at, taking off from, or taxiing on the airport surface.

10-28 MAJOR AND MINOR CONTRACT ITEMS. A major contract item shall be any item that is listed in the proposal, the total cost of which is equal to or greater than 20 percent of the total amount of the award contract. All other items shall be considered minor contract items.

10-29 MATERIALS. Any substance specified for use in the construction of the contract work.

10-30 NOTICE TO PROCEED. A written notice to the Contractor to begin the actual contract work on a previously agreed to date. If applicable, the Notice to Proceed shall state the date on which the contract time begins.

10-31 OWNER. The term "Owner" shall mean the party of the first part or the contracting agency signatory to the contract. For AIP contracts, the term "sponsor" shall have the same meaning as the term "Owner." Where the term "Owner" is capitalized in this document, it shall mean airport owner or sponsor only.

10-32 PAVEMENT. The combined surface course, base course, and subbase course, if any, considered as a single unit.

10-33 PAYMENT BOND. The approved form of security furnished by the Contractor and his/her surety as a guaranty that he will pay in full all bills and accounts for materials and labor used in the construction of the work.

10-34 PERFORMANCE BOND. The approved form of security furnished by the Contractor and his/her surety as a guaranty that the Contractor will complete the work in accordance with the terms of the contract.

10-35 PLANS. The official drawings or exact reproductions which show the location, character, dimensions and details of the airport and the work to be done and which are to be considered as a part of the contract, supplementary to the specifications.

10-36 PROJECT. The agreed scope of work for accomplishing specific airport development with respect to a particular airport.

10-37 PROPOSAL. The written offer of the bidder (when submitted on the approved proposal form) to perform the contemplated work and furnish the necessary materials in accordance with the provisions of the plans and specifications.

10-38 PROPOSAL GUARANTY. The security furnished with a proposal to guarantee that the bidder will enter into a contract if his/her proposal is accepted by the Owner.

10-39 RUNWAY. The area on the airport prepared for the landing and takeoff of aircraft.

10-40 SPECIFICATIONS. A part of the contract containing the written directions and requirements for completing the contract work. Standards for specifying materials or testing which are cited in the contract specifications by reference shall have the same force and effect as if included in the contract physically.

10-41 SPONSOR. See definition above of "Owner."

10-42 STRUCTURES. Airport facilities such as bridges; culverts; catch basins, inlets, retaining walls, cribbing; storm and sanitary sewer lines; water lines; underdrains; electrical ducts, manholes, handholes, lighting fixtures and bases; transformers; flexible and rigid pavements; navigational aids; buildings; vaults;

and, other manmade features of the airport that may be encountered in the work and not otherwise classified herein.

10-43 SUBGRADE. The soil that forms the pavement foundation.

10-44 SUPERINTENDENT. The Contractor's executive representative who is present on the work during progress, authorized to receive and fulfill instructions from the Engineer, and who shall supervise and direct the construction.

10-45 SUPPLEMENTAL AGREEMENT. A written agreement between the Contractor and the Owner covering (1) work that would increase or decrease the total amount of the awarded contract, or any major contract item, by more than 25 percent, such increased or decreased work being within the scope of the originally awarded contract; or (2) work that is not within the scope of the originally awarded contract.

10-46 SURETY. The corporation, partnership, or individual, other than the Contractor, executing payment or performance bonds that are furnished to the Owner by the Contractor.

10-47 TAXIWAY. For the purpose of this document, the term taxiway means the portion of the air operations area of an airport that has been designated by competent airport authority for movement of aircraft to and from the airport's runways or aircraft parking areas.

10-48 WORK. The furnishing of all labor, materials, tools, equipment, and incidentals necessary or convenient to the Contractor's performance of all duties and obligations imposed by the contract, plans, and specifications.

10-49 WORKING DAY. A working day shall be any day other than a legal holiday, Saturday, or Sunday on which the normal working forces of the Contractor may proceed with regular work for at least 6 hours toward completion of the contract. When work is suspended for causes beyond the Contractor's control, Saturdays, Sundays and holidays on which the Contractor's forces engage in regular work, requiring the presence of an inspector, will be considered as working days.

END OF SECTION 10

SECTION 20
PROPOSAL REQUIREMENTS AND CONDITIONS

20-01 ADVERTISEMENT (Notice to Bidders). ***Included in Section A of this Project Manual***

20-02 PREQUALIFICATION OF BIDDERS. Each bidder shall furnish the owner satisfactory evidence of his/her competency to perform the proposed work. Such evidence of competency, unless otherwise specified, shall consist of statements covering the bidder's past experience on similar work, a list of equipment that would be available for the work, and a list of key personnel that would be available. In addition, each bidder shall furnish the owner satisfactory evidence of his/her financial responsibility. Such evidence of financial responsibility, unless otherwise specified, shall consist of a confidential statement or report of the bidder's financial resources and liabilities as of the last calendar year or the Contractor's last fiscal year. Such statements or reports shall be certified by a public accountant. At the time of submitting such financial statements or reports, the bidder shall further certify whether his/her financial responsibility is approximately the same as stated or reported by the public accountant. If the bidder's financial responsibility has changed, the bidder shall qualify the public accountant's statement or report to reflect his/her (bidder's) true financial condition at the time such qualified statement or report is submitted to the Owner.

Unless otherwise specified, a bidder may submit evidence that he is prequalified with the State Highway Division and is on the current "bidder's list" of the state in which the proposed work is located. Such evidence of State Highway Division prequalification may be submitted as evidence of financial responsibility in lieu of the certified statements or reports hereinbefore specified.

Each bidder shall submit "evidence of competency" and "evidence of financial responsibility" to the Owner at the time of bid opening.

20-03 CONTENTS OF PROPOSAL FORMS. The Owner shall furnish bidders with proposal forms. All papers bound with or attached to the proposal forms are necessary parts and must not be detached.

The plans specifications, and other documents designated in the proposal form shall be considered a part of the proposal whether attached or not.

20-04 ISSUANCE OF PROPOSAL FORMS. The Owner reserves the right to refuse to issue a proposal form to a prospective bidder should such bidder be in default for any of the following reasons:

a. Failure to comply with any prequalification regulations of the Owner, if such regulations are cited, or otherwise included, in the proposal as a requirement for bidding.

b. Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts in force (with the Owner) at the time the Owner issues the proposal to a prospective bidder.

c. Contractor default under previous contracts with the Owner.

d. Unsatisfactory work on previous contracts with the Owner.

20-05 INTERPRETATION OF ESTIMATED PROPOSAL QUANTITIES. An estimate of quantities of work to be done and materials to be furnished under these specifications is given in the proposal. It is the result of careful calculations and is believed to be correct. It is given only as a basis for comparison of proposals and the award of the contract. The Owner does not expressly or by implication agree that the actual quantities involved will correspond exactly therewith; nor shall the bidder plead misunderstanding or deception because of such estimates of quantities, or of the character, location, or other conditions pertaining to the work. Payment to the Contractor will be made only for the actual quantities of work performed or materials furnished in accordance with the plans and specifications. It is understood that the quantities may be increased or decreased as hereinafter provided in the subsection titled

ALTERATION OF WORK AND QUANTITIES of Section 40 without in any way invalidating the unit bid prices.

20-06 EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE. The bidder is expected to carefully examine the site of the proposed work, the proposal, plans specifications, and contract forms. He shall satisfy himself as to the character, quality, and quantities of work to be performed, materials to be furnished, and as to the requirements of the proposed contract. The submission of a proposal shall be prima facie evidence that the bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirements of the proposed contract, plans, and specifications.

Boring logs and other records of subsurface investigations and tests are available for inspection of bidders. It is understood and agreed that such subsurface information, whether included in the plans, specifications, or otherwise made available to the bidder, was obtained and is intended for the Owner's design and estimating purposes only. Such information has been made available for the convenience of all bidders. It is further understood and agreed that each bidder is solely responsible for all assumptions, deductions, or conclusions which he may make or obtain from his/her examination of the boring logs and other records of subsurface investigations and tests that are furnished by the Owner.

20-07 PREPARATION OF PROPOSAL. The bidder shall submit his/her proposal on the forms furnished by the Owner. All blank spaces in the proposal forms must be correctly filled in where indicated for each and every item for which a quantity is given. ***If so requested,*** the bidder shall state the price (written in ink or typed) both in words and numerals for which he proposes to do each pay item furnished in the proposal. In case of conflict between words and numerals, the words, unless obviously incorrect, shall govern.

The bidder shall sign his/her proposal correctly and in ink. If the proposal is made by an individual, his/her name and post office address must be shown. If made by a partnership, the name and post office address of each member of the partnership must be shown. If made by a corporation, the person signing the proposal shall give the name of the state under the laws of which the corporation was chartered and the name, titles, and business address of the president, secretary, and the treasurer. Anyone signing a proposal as an agent shall file evidence of his/her authority to do so and that the signature is binding upon the firm or corporation.

20-08 IRREGULAR PROPOSALS. Proposals shall be considered irregular for the following reasons:

a. If the proposal is on a form other than that furnished by the Owner, or if the Owner's form is altered, or if any part of the proposal form is detached.

b. If there are unauthorized additions, conditional or alternate pay items, or irregularities of any kind that make the proposal incomplete, indefinite, or otherwise ambiguous.

c. If the proposal does not contain a unit price for each pay item listed in the proposal, except in the case of authorized alternate pay items, for which the bidder is not required to furnish a unit price.

d. If the proposal contains unit prices that are obviously unbalanced.

e. If the proposal is not accompanied by the proposal guaranty specified by the Owner.

The Owner reserves the right to reject any irregular proposal and the right to waive technicalities if such waiver is in the best interest of the Owner and conforms to local laws and ordinances pertaining to the letting of construction contracts.

20-09 BID GUARANTEE. Each separate proposal shall be accompanied by a certified check, or other specified acceptable collateral, in the amount specified in the proposal form. Such check, or collateral, shall be made payable to the Owner.

20-10 DELIVERY OF PROPOSAL. Each proposal submitted shall be placed in a sealed envelope plainly marked with the project number, location of airport, and name and business address of the bidder on the outside. When sent by mail, preferably registered, the sealed proposal, marked as indicated above, should be enclosed in an additional envelope. No proposal will be considered unless received at the place specified in the advertisement before the time specified for opening all bids. Proposals received after the bid opening time shall be returned to the bidder unopened.

20-11 WITHDRAWAL OR REVISION OF PROPOSALS. A bidder may withdraw or revise (by withdrawal of one proposal and submission of another) a proposal provided that the bidder's request for withdrawal is received by the Owner in writing or by telegram before the time specified for opening bids. Revised proposals must be received at the place specified in the advertisement before the time specified for opening all bids.

20-12 PUBLIC OPENING OF PROPOSALS. Proposals shall be opened, and read, publicly at the time and place specified in the advertisement. Bidders, their authorized agents, and other interested persons are invited to attend. Proposals that have been withdrawn (by written or telegraphic request) or received after the time specified for opening bids shall be returned to the bidder unopened.

20-13 DISQUALIFICATION OF BIDDERS. A bidder shall be considered disqualified for any of the following reasons:

a. Submitting more than one proposal from the same partnership, firm, or corporation under the same or different name.

b. Evidence of collusion among bidders. Bidders participating in such collusion shall be disqualified as bidders for any future work of the Owner until any such participating bidder has been reinstated by the Owner as a qualified bidder.

c. If the bidder is considered to be in "default" for any reason specified in the subsection titled ISSUANCE OF PROPOSAL FORMS of this section.

END OF SECTION 20

SECTION 30
AWARD AND EXECUTION OF CONTRACT

30-01 CONSIDERATION OF PROPOSALS. After the proposals are publicly opened and read, they will be compared on the basis of the summation of the products obtained by multiplying the estimated quantities shown in the proposal by the unit bid prices. If a bidder's proposal contains a discrepancy between unit bid prices written in words and unit bid prices written in numbers, the unit price written in words shall govern.

Until the award of a contract is made, the Owner reserves the right to reject a bidder's proposal for any of the following reasons:

a. If the proposal is irregular as specified in the subsection titled IRREGULAR PROPOSALS of Section 20.

b. If the bidder is disqualified for any of the reasons specified in the subsection titled DISQUALIFICATION OF BIDDERS of Section 20.

In addition, until the award of a contract is made, the Owner reserves the right to reject any or all proposals, waive technicalities, if such waiver is in the best interest of the Owner and is in conformance with applicable state and local laws or regulations pertaining to the letting of construction contracts; advertise for new proposals; or proceed with the work otherwise. All such actions shall promote the Owner's best interests.

30-02 AWARD OF CONTRACT. The award of a contract, if it is to be awarded, shall be made within **90 calendar days** of the date specified for publicly opening proposals, unless otherwise specified herein.

Award of the contract shall be made by the Owner to the lowest, qualified bidder whose proposal conforms to the cited requirements of the Owner.

30-03 CANCELLATION OF AWARD. The Owner reserves the right to cancel the award without liability to the bidder, except return of proposal guaranty, at any time before a contract has been fully executed by all parties and is approved by the Owner in accordance with the subsection titled APPROVAL OF CONTRACT of this section.

30-04 RETURN OF PROPOSAL GUARANTY. All proposal guaranties, except those of the two lowest bidders, will be returned immediately after the Owner has made a comparison of bids as hereinbefore specified in the subsection titled CONSIDERATION OF PROPOSALS of this section. Proposal guaranties of the two lowest bidders will be retained by the Owner until such time as an award is made, at which time, the unsuccessful bidder's proposal guaranty will be returned. The successful bidder's proposal guaranty will be returned as soon as the Owner receives the contracts bonds as specified in the subsection titled REQUIREMENTS OF CONTRACT BONDS of this section.

30-05 REQUIREMENTS OF CONTRACT BONDS. At the time of the execution of the contract, the successful bidder shall furnish the Owner a surety bond or bonds that have been fully executed by the bidder and the surety guaranteeing the performance of the work and the payment of all legal debts that may be incurred by reason of the Contractor's performance of the work. The surety and the form of the bond or bonds shall be acceptable to the Owner. Unless otherwise specified in this subsection, the surety bond or bonds shall be in a sum equal to the full amount of the contract.

30-06 EXECUTION OF CONTRACT. The successful bidder shall sign (execute) the necessary agreements for entering into the contract and return such signed contract to the owner, along with the fully executed surety bond or bonds specified in the subsection titled REQUIREMENTS OF CONTRACT BONDS of this section, within ***the time specified in the proposal.*** ~~15 calendar days from the date mailed or otherwise delivered to the successful bidder~~. If the contract is mailed, special handling is recommended.

30-07 APPROVAL OF CONTRACT. Upon receipt of the contract and contract bond or bonds that have been executed by the successful bidder, the Owner shall complete the execution of the contract in accordance with local laws or ordinances, and return the fully executed contract to the Contractor. Delivery of the fully executed contract to the Contractor shall constitute the Owner's approval to be bound by the successful bidder's proposal and the terms of the contract.

30-08 FAILURE TO EXECUTE CONTRACT. Failure of the successful bidder to execute the contract and furnish an acceptable surety bond or bonds within the ***time specified in the proposal*** ~~15 calendar day period specified in the subsection titled REQUIREMENTS OF CONTRACT BONDS of this section~~ shall be just cause for cancellation of the award and forfeiture of the proposal guaranty, not as a penalty, but as liquidation of damages to the Owner.

END OF SECTION 30

SECTION 40
SCOPE OF WORK

40-01 INTENT OF CONTRACT. The intent of the contract is to provide for construction and completion, in every detail, of the work described. It is further intended that the Contractor shall furnish all labor, materials, equipment, tools, transportation, and supplies required to complete the work in accordance with the plans, specifications, and terms of the contract.

40-02 ALTERATION OF WORK AND QUANTITIES. The owner reserves and shall have the right to make such alterations in the work as may be necessary or desirable to complete the work originally intended in an acceptable manner. Unless otherwise specified herein, the Engineer shall be and is hereby authorized to make such alterations in the work as may increase or decrease the originally awarded contract quantities, provided that the aggregate of such alterations does not change the total contract cost or the total cost of any major contract item by more than 25 percent (total cost being based on the unit prices and estimated quantities in the awarded contract). Alterations that do not exceed the 25 percent limitation shall not invalidate the contract nor release the surety, and the Contractor agrees to accept payment for such alterations as if the altered work had been a part of the original contract. These alterations that are for work within the general scope of the contract shall be covered by "Change Orders" issued by the Engineer. Change orders for altered work shall include extensions of contract time where, in the Engineer's opinion, such extensions are commensurate with the amount and difficulty of added work.

Should the aggregate amount of altered work exceed the 25 percent limitation hereinbefore specified, such excess altered work shall be covered by supplemental agreement. If the owner and the Contractor are unable to agree on a unit adjustment for any contract item that requires a supplemental agreement, the owner reserves the right to terminate the contract with respect to the item and make other arrangements for its completion.

40-03 OMITTED ITEMS. The Engineer may, in the Owner's best interest, omit from the work any contract item, except major contract items. Major contract items may be omitted by a supplemental agreement. Such omission of contract items shall not invalidate any other contract provision or requirement.

Should a contract item be omitted or otherwise ordered to be nonperformed, the Contractor shall be paid for all work performed toward completion of such item prior to the date of the order to omit such item. Payment for work performed shall be in accordance with the subsection titled PAYMENT FOR OMITTED ITEMS of Section 90.

40-04 EXTRA WORK. Should acceptable completion of the contract require the Contractor to perform an item of work for which no basis of payment has been provided in the original contract or previously issued change orders or supplemental agreements, the same shall be called "Extra Work." Extra Work that is within the general scope of the contract shall be covered by written change order. Change orders for such Extra Work shall contain agreed unit prices for performing the change order work in accordance with the requirements specified in the order, and shall contain any adjustment to the contract time that, in the Engineer's opinion, is necessary for completion of such Extra Work.

When determined by the Engineer to be in the Owner's best interest, he may order the Contractor to proceed with Extra Work by force account as provided in the subsection titled PAYMENT FOR EXTRA AND FORCE ACCOUNT WORK of Section 90.

Extra Work that is necessary for acceptable completion of the project, but is not within the general scope of the work covered by the original contract shall be covered by a Supplemental Agreement as hereinbefore defined in the subsection titled SUPPLEMENTAL AGREEMENT of Section 10.

Any claim for payment of Extra Work that is not covered by written agreement (change order or supplemental agreement) shall be rejected by the Owner.

40-05 MAINTENANCE OF TRAFFIC. It is the explicit intention of the contract that the safety of aircraft, as well as the Contractor's equipment and personnel, is the most important consideration. It is understood and agreed that the Contractor shall provide for the free and unobstructed movement of aircraft in the air operations areas of the airport with respect to his/her own operations and the operations of all his/her subcontractors as specified in the subsection titled LIMITATION OF OPERATIONS of Section 80. It is further understood and agreed that the Contractor shall provide for the uninterrupted operation of visual and electronic signals (including power supplies thereto) used in the guidance of aircraft while operating to, from, and upon the airport as specified in the subsection titled CONTRACTOR'S RESPONSIBILITY FOR UTILITY SERVICE AND FACILITIES OF OTHERS in Section 70.

With respect to his/her own operations and the operations of all his/her subcontractors, the Contractor shall provide marking, lighting, and other acceptable means of identifying: personnel; equipment; vehicles; storage areas; and any work area or condition that may be hazardous to the operation of aircraft, fire-rescue equipment, or maintenance vehicles at the airport.

When the contract requires the maintenance of vehicular traffic on an existing road, street, or highway during the Contractor's performance of work that is otherwise provided for in the contract, plans, and specifications, the Contractor shall keep such road, street, or highway open to all traffic and shall provide such maintenance as may be required to accommodate traffic. The Contractor shall furnish erect, and maintain barricades, warning signs, flagperson, and other traffic control devices in reasonable conformity with the manual of Uniform Traffic Control Devices for Streets and Highways (published by the United States Government Printing Office), unless otherwise specified herein. The Contractor shall also construct and maintain in a safe condition any temporary connections necessary for ingress to and egress from abutting property or intersecting roads, streets or highways. Unless otherwise specified herein, the Contractor will not be required to furnish snow removal for such existing road, street, or highway.

The Contractor shall make his/her own estimate of all labor, materials, equipment, and incidentals necessary for providing the maintenance of aircraft and vehicular traffic as specified in this subsection.

The cost of maintaining the aircraft and vehicular traffic specified in this subsection shall not be measured or paid for directly, but shall be included in the various contract items.

40-06 REMOVAL OF EXISTING STRUCTURES. All existing structures encountered within the established lines, grades, or grading sections shall be removed by the Contractor, unless such existing structures are otherwise specified to be relocated, adjusted up or down, salvaged, abandoned in place, reused in the work or to remain in place. The cost of removing such existing structures shall not be measured or paid for directly, but shall be included in the various contract items.

Should the Contractor encounter an existing structure (above or below ground) in the work for which the disposition is not indicated on the plans, the Engineer shall be notified prior to disturbing such structure. The disposition of existing structures so encountered shall be immediately determined by the Engineer in accordance with the provisions of the contract.

Except as provided in the subsection titled RIGHTS IN AND USE OF MATERIALS FOUND IN THE WORK of this section, it is intended that all existing materials or structures that may be encountered (within the lines, grades, or grading sections established for completion of the work) shall be utilized in the work as otherwise provided for in the contract and shall remain the property of the Owner when so utilized in the work.

40-07 RIGHTS IN AND USE OF MATERIALS FOUND IN THE WORK. Should the Contractor encounter any material such as (but not restricted to) sand, stone, gravel, slag, or concrete slabs within the established lines, grades, or grading sections, the use of which is intended by the terms of the contract to be either embankment or waste, he may at his/her option either:

a. Use such material in another contract item, providing such use is approved by the Engineer and is in conformance with the contract specifications applicable to such use; or,

b. Remove such material from the site, upon written approval of the Engineer; or

c. Use such material for his/her own temporary construction on site; or,

d. Use such material as intended by the terms of the contract.

Should the Contractor wish to exercise option a., b., or c., he shall request the Engineer's approval in advance of such use.

Should the Engineer approve the Contractor's request to exercise option a., b., or c., the Contractor shall be paid for the excavation or removal of such material at the applicable contract price. The Contractor shall replace, at his/her own expense, such removed or excavated material with an agreed equal volume of material that is acceptable for use in constructing embankment, backfills, or otherwise to the extent that such replacement material is needed to complete the contract work. The Contractor shall not be charged for his/her use of such material so used in the work or removed from the site.

Should the Engineer approve the Contractor's exercise of option a., the Contractor shall be paid, at the applicable contract price, for furnishing and installing such material in accordance with requirements of the contract item in which the material is used.

It is understood and agreed that the Contractor shall make no claim for delays by reason of his/her exercise of option a., b., or c.

The Contractor shall not excavate, remove, or otherwise disturb any material, structure, or part of a structure which is located outside the lines, grades, or grading sections established for the work, except where such excavation or removal is provided for in the contract, plans, or specifications.

40-08 FINAL CLEANING UP. Upon completion of the work and before acceptance and final payment will be made, the Contractor shall remove from the site all machinery, equipment, surplus and discarded materials, rubbish, temporary structures, and stumps or portions of trees. He shall cut all brush and woods within the limits indicated and shall leave the site in a neat and presentable condition. Material cleared from the site and deposited on adjacent property will not be considered as having been disposed of satisfactorily, unless the Contractor has obtained the written permission of such property owner.

END OF SECTION 40

SECTION 50
CONTROL OF WORK

50-01 AUTHORITY OF THE ENGINEER. The Engineer shall decide any and all questions which may arise as to the quality and acceptability of materials furnished, work performed, and as to the manner of performance and rate of progress of the work. The Engineer shall decide all questions that may arise as to the interpretation of the specifications or plans relating to the work. The Engineer shall determine the amount and quality of the several kinds of work performed and materials furnished which are to be paid for the under contract.

The Engineer does not have the authority to accept pavements that do not conform to FAA specification requirements.

50-02 CONFORMITY WITH PLANS AND SPECIFICATIONS. All work and all materials furnished shall be in reasonably close conformity with the lines, grades, grading sections, cross sections, dimensions, material requirements, and testing requirements that are specified (including specified tolerances) in the contract, plans or specifications.

If the Engineer finds the materials furnished, work performed, or the finished product not within reasonably close conformity with the plans and specifications but that the portion of the work affected will, in his/her opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable to the Owner, he will advise the Owner of his/her determination that the affected work be accepted and remain in place. In this event, the Engineer will document his/her determination and recommend to the Owner a basis of acceptance that will provide for an adjustment in the contract price for the affected portion of the work. The Engineer's determination and recommended contract price adjustments will be based on good engineering judgment and such tests or retests of the affected work as are, in his/her opinion, needed. Changes in the contract price shall be covered by contract modifications (change order or supplemental agreement) as applicable.

If the Engineer finds the materials furnished, work performed, or the finished product are not in reasonably close conformity with the plans and specifications and have resulted in an unacceptable finished product, the affected work or materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor in accordance with the Engineer's written orders.

For the purpose of this subsection, the term "reasonably close conformity" shall not be construed as waiving the Contractor's responsibility to complete the work in accordance with the contract, plans, and specifications. The term shall not be construed as waiving the Engineer's responsibility to insist on strict compliance with the requirements of the contract, plans, and specifications during the Contractor's prosecution of the work, when, in the Engineer's opinion, such compliance is essential to provide an acceptable finished portion of the work.

For the purpose of this subsection, the term "reasonably close conformity" is also intended to provide the Engineer with the authority, after consultation with the FAA, to use good engineering judgment in his/her determinations as to acceptance of work that is not in strict conformity but will provide a finished product equal to or better than that intended by the requirements of the contract, plans and specifications.

The Engineer will not be responsible for the Contractor's means, methods, techniques, sequences, or procedures of construction or the safety precautions incident thereto.

50-03 COORDINATION OF CONTRACT, PLANS, AND SPECIFICATIONS. The contract, plans, specifications, and all referenced standards cited are essential parts of the contract requirements. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy, calculated dimensions will govern over scaled dimensions; contract technical specifications shall govern over contract general provisions, plans, cited standards for materials or testing, and cited FAA advisory circulars; contract general provisions shall govern over plans, cited standards for materials or testing, and

cited FAA advisory circulars; plans shall govern over cited standards for materials or testing and cited FAA advisory circulars. If any paragraphs contained in the Special Provisions conflict with General Provisions or Technical Specifications, the Special Provisions shall govern.

From time to time, discrepancies within cited standards for testing occur due to the timing and changing, editing, and replacing of standards. In the event the Contractor discovers any apparent discrepancy within standard test methods, he shall immediately call upon the Engineer for his/her interpretation and decision, and such decision shall be final.

The Contractor shall not take advantage of any apparent error or omission on the plans or specifications. In the event the Contractor discovers any apparent error or discrepancy, he shall immediately call upon the Engineer for his/her interpretation and decision, and such decision shall be final.

50-04 COOPERATION OF CONTRACTOR. The Contractor will be supplied with ***three*** copies each of the plans and specifications. He shall have available on the work at all times one copy each of the plans and specifications. Additional copies of plans and specifications may be obtained by the Contractor for the cost of reproduction.

The Contractor shall give constant attention to the work to facilitate the progress thereof, and he shall cooperate with the Engineer and his/her inspectors and with other contractors in every way possible. The Contractor shall have a competent superintendent on the work at all times who is fully authorized as his/her agent on the work. The superintendent shall be capable of reading and thoroughly understanding the plans and specifications and shall receive and fulfill instructions from the Engineer or his/her authorized representative.

50-05 COOPERATION BETWEEN CONTRACTORS. The Owner reserves the right to contract for and perform other or additional work on or near the work covered by this contract.

When separate contracts are let within the limits of any one project, each Contractor shall conduct his/her work so as not to interfere with or hinder the progress of completion of the work being performed by other Contractors. Contractors working on the same project shall cooperate with each other as directed.

Each Contractor involved shall assume all liability, financial or otherwise, in connection with his/her contract and shall protect and save harmless the Owner from any and all damages or claims that may arise because of inconvenience, delays, or loss experienced by him because of the presence and operations of other Contractors working within the limits of the same project.

The Contractor shall arrange his/her work and shall place and dispose of the materials being used so as not to interfere with the operations of the other Contractors within the limits of the same project. He shall join his/her work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others.

50-06 CONSTRUCTION LAYOUT AND STAKES. The Engineer shall establish horizontal and vertical control only. The Contractor must establish all layout required for the construction of the work. Such stakes and markings as the Engineer may set for either his/her own or the Contractor's guidance shall be preserved by the Contractor. In case of negligence on the part of the Contractor, or his/her employees, resulting in the destruction of such stakes or markings, an amount equal to the cost of replacing the same may be deducted from subsequent estimates due the Contractor at the discretion of the Engineer.

The Contractor will be required to furnish all lines, grades and measurements from the control points necessary for the proper prosecution and control of the work contracted for under these specifications.

The Contractor must give weekly copies of the survey notes to the Engineer so that the Engineer may check them as to accuracy and method of staking. All areas that are staked by the Contractor must be checked by the Engineer prior to beginning any work in the area. The Engineer will make periodic checks

of the grades and alignment set by the Contractor. In case of error on the part of the Contractor, or his/her employees, resulting in establishing grades and/or alignment that are not in accordance with the plans or established by the Engineer, all construction not in accordance with the established grades and/or alignment shall be replaced without additional cost to the Owner.

No direct payment will be made, unless otherwise specified in contract documents, for this labor, materials, or other expenses therewith. The cost thereof shall be included in the price of the bid for the various items of the Contract.

Construction Staking and Layout includes but is not limited to:

Clearing and Grubbing perimeter staking.
Rough Grade slope stakes at 100-foot stations.
Drainage Swales slope stakes and flow line blue tops at 50-foot stations.
Subgrade blue tops at 25 foot stations and 25 foot offset distance (max.) for the following section locations:

a. Runway – minimum 5 per station
b. Taxiways – minimum 3 per station
c. Holding apron areas – minimum 3 per station
d. Roadways – minimum 3 per station

Base Course blue tops at 25 foot stations and 25 foot offset distance (max.) for the following section locations:

a. Runway – minimum 5 per station
b. Taxiways – minimum 3 per station
c. Holding apron areas – minimum 3 per station

Pavement areas:

a. Edge of Pavement hubs and tacks (for stringline by Contractor) at 100 foot stations
b. Between Lifts at 25 foot stations for the following section locations:
   (1). Runways – each paving lane width
   (2). Taxiways – each paving lane width
   (3). Holding areas – each paving lane width
c. After finish paving operations at 50 foot stations
   (1). All paved areas – Edge of each paving lane prior to next paving lot
d. Shoulder and safety area blue tops at 50 foot stations and at all break points with maximum of 50 foot offsets

Fence lines at 100 foot stations
Electrical and Communications System locations, lines and grades including but not limited to duct runs, connections, fixtures, signs, lights, VASI's, PAPI's, REIL's, Wind Cones, Distance Markers (signs), pull boxes and manholes.
Drain lines, cut stakes and alignment on 25-foot stations, inlet and manholes.
Painting and Striping layout (pinned with 1.5 inch PK nails) marked for paint Contractor. (All nails shall be removed after painting)
Laser, or other automatic control devices, shall be checked with temporary control point or grade hub at a minimum of once per 400 feet per pass (i.e. paving lane).

NOTE: Controls and stakes disturbed or suspect of having been disturbed shall be checked and/or reset as directed by the Engineer without additional cost to the Owner.

50-07 AUTOMATICALLY CONTROLLED EQUIPMENT. Whenever batching or mixing plant equipment is required to be operated automatically under the contract and a breakdown or malfunction of the automatic controls occurs, the equipment may be operated manually or by other methods for a period 48 hours following the breakdown or malfunction, provided this method of operations will produce results which conform to all other requirements of the contract.

50-08 AUTHORITY AND DUTIES OF INSPECTORS. Inspectors employed by the Owner shall be authorized to inspect all work done and all material furnished. Such inspection may extend to all or any

part of the work and to the preparation, fabrication, or manufacture of the materials to be used. Inspectors are not authorized to revoke, alter, or waive any provision of the contract. Inspectors are not authorized to issue instructions contrary to the plans and specifications or to act as foreman for the Contractor.

Inspectors employed by the Owner are authorized to notify the Contractor or his/her representatives of any failure of the work or materials to conform to the requirements of the contract, plans, or specifications and to reject such nonconforming materials in question until such issues can be referred to the Engineer for his/her decision.

50-09 INSPECTION OF THE WORK. All materials and each part or detail of the work shall be subject to inspection by the Engineer. The Engineer shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection.

If the Engineer requests it, the Contractor, at any time before acceptance of the work, shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standard required by the specifications. Should the work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as extra work; but should the work so exposed or examined prove unacceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be at the Contractor's expense.

Any work done or materials used without supervision or inspection by an authorized representative of the Owner may be ordered removed and replaced at the Contractor's expense unless the Owner's representative failed to inspect after having been given reasonable notice in writing that the work was to be performed.

Should the contract work include relocation, adjustment, or any other modification to existing facilities, not the property of the (contract) Owner, authorized representatives of the owners of such facilities shall have the right to inspect such work. Such inspection shall in no sense make any facility owner a party to the contract, and shall in no way interfere with the rights of the parties to this contract.

50-10 REMOVAL OF UNACCEPTABLE AND UNAUTHORIZED WORK. All work that does not conform to the requirements of the contract, plans, and specifications will be considered unacceptable, unless otherwise determined acceptable by the Engineer as provided in the subsection titled CONFORMITY WITH PLANS AND SPECIFICATIONS of this section.

Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the final acceptance of the work, shall be removed immediately and replaced in an acceptable manner in accordance with the provisions of the subsection titled CONTRACTOR'S RESPONSIBILITY FOR WORK of Section 70.

No removal work made under provision of this subsection shall be done without lines and grades having been given by the Engineer. Work done contrary to the instructions of the Engineer, work done beyond the lines shown on the plans or as given, except as herein specified, or any extra work done without authority, will be considered as unauthorized and will not be paid for under the provisions of the contract. Work so done may be ordered removed or replaced at the Contractor's expense.

Upon failure on the part of the Contractor to comply forthwith with any order of the Engineer made under the provisions of this subsection, the Engineer will have authority to cause unacceptable work to be remedied or removed and replaced and unauthorized work to be removed and to deduct the costs (incurred by the Owner) from any monies due or to become due the Contractor.

50-11 LOAD RESTRICTIONS. The Contractor shall comply with all legal load restrictions in the hauling of materials on public roads beyond the limits of the work. A special permit will not relieve the Contractor of liability for damage that may result from the moving of material or equipment.

The operation of equipment of such weight or so loaded as to cause damage to structures or to any other type of construction will not be permitted. Hauling of materials over the base course or surface course under construction shall be limited as directed. No loads will be permitted on a concrete pavement, base, or structure before the expiration of the curing period. The Contractor shall be responsible for all damage done by his/her hauling equipment and shall correct such damage at his/her own expense.

50-12 MAINTENANCE DURING CONSTRUCTION. The Contractor shall maintain the work during construction and until the work is accepted. This maintenance shall constitute continuous and effective work prosecuted day by day, with adequate equipment and forces so that the work is maintained in satisfactory condition at all times.

In the case of a contract for the placing of a course upon a course or subgrade previously constructed, the Contractor shall maintain the previous course or subgrade during all construction operations.

All costs of maintenance work during construction and before the project is accepted shall be included in the unit prices bid on the various contract items, and the Contractor will not be paid an additional amount for such work.

50-13 FAILURE TO MAINTAIN THE WORK. Should the Contractor at any time fail to maintain the work as provided in the subsection titled MAINTENANCE DURING CONSTRUCTION of this section, the Engineer shall immediately notify the Contractor of such noncompliance. Such notification shall specify a reasonable time within which the Contractor shall be required to remedy such unsatisfactory maintenance condition. The time specified will give due consideration to the exigency that exists.

Should the Contractor fail to respond to the Engineer's notification, the Owner may suspend any work necessary for the Owner to correct such unsatisfactory maintenance condition, depending on the exigency that exists. Any maintenance cost incurred by the Owner, shall be deducted from monies due or to become due the Contractor.

50-14 PARTIAL ACCEPTANCE. If at any time during the prosecution of the project the Contractor substantially completes a usable unit or portion of the work, the occupancy of which will benefit the Owner, he may request the Engineer to make final inspection of that unit. If the Engineer finds upon inspection that the unit has been satisfactorily completed in compliance with the contract, he may accept it as being completed, and the Contractor may be relieved of further responsibility for that unit. Such partial acceptance and beneficial occupancy by the Owner shall not void or alter any provision of the contract.

50-15 FINAL ACCEPTANCE. Upon due notice from the Contractor of presumptive completion of the entire project, the Engineer and Owner will make an inspection. If all construction provided for and contemplated by the contract is found to be completed in accordance with the contract, plans, and specifications, such inspection shall constitute the final inspection. The Engineer shall notify the Contractor in writing of final acceptance as of the date of the final inspection.

If, however, the inspection discloses any work, in whole or in part, as being unsatisfactory, the Engineer will give the Contractor the necessary instructions for correction of same and the Contractor shall immediately comply with and execute such instructions. Upon correction of the work, another inspection will be made which shall constitute the final inspection, provided the work has been satisfactorily completed. In such event, the Engineer will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of final inspection.

50-16 CLAIMS FOR ADJUSTMENT AND DISPUTES. If for any reason the Contractor deems that additional compensation is due him for work or materials not clearly provided for in the contract, plans, or

specifications or previously authorized as extra work, he shall notify the Engineer in writing of his/her intention to claim such additional compensation before he begins the work on which he bases the claim. If such notification is not given or the Engineer is not afforded proper opportunity by the Contractor for keeping strict account of actual cost as required, then the Contractor hereby agrees to waive any claim for such additional compensation. Such notice by the Contractor and the fact that the Engineer has kept account of the cost of the work shall not in any way be construed as proving or substantiating the validity of the claim. When the work on which the claim for additional compensation is based has been completed, the Contractor shall, within 10 calendar days, submit his/her written claim to the Engineer who will present it to the Owner for consideration in accordance with local laws or ordinances.

Nothing in this subsection shall be construed as a waiver of the Contractor's right to dispute final payment based on differences in measurements or computations.

50-17 COST REDUCTION INCENTIVE. The provisions of this subsection will apply only to contracts awarded to the lowest bidder pursuant to competitive bidding.

On projects with original contract amounts in excess of $100,000, the Contractor may submit to the Engineer, in writing, proposals for modifying the plans, specifications or other requirements of the contract for the sole purpose of reducing the cost of construction. The cost reduction proposal shall not impair, in any manner, the essential functions or characteristics of the project, including but not limited to service life, economy of operation, ease of maintenance, desired appearance, design and safety standards. This provision shall not apply unless the proposal submitted is specifically identified by the Contractor as being presented for consideration as a value engineering proposal.

Not eligible for cost reduction proposals are changes in the basic design of a pavement type, runway and taxiway lighting, visual aids, hydraulic capacity of drainage facilities, or changes in grade or alignment that reduce the geometric standards of the project.

As a minimum, the following information shall be submitted by the Contractor with each proposal:

a. A description of both existing contract requirements for performing the work and the proposed changes, with a discussion of the comparative advantages and disadvantages of each;

b. An itemization of the contract requirements that must be changed if the proposal is adopted;

c. A detailed estimate of the cost of performing the work under the existing contract and under the proposed changes;

d. A statement of the time by which a change order adopting the proposal must be issued;

e. A statement of the effect adoption of the proposal will have on the time for completion of the contract; and

f. The contract items of work affected by the proposed changes, including any quantity variation attributable to them.

The Contractor may withdraw, in whole or in part, any cost reduction proposal not accepted by the Engineer, within the period specified in the proposal. The provisions of this subsection shall not be construed to require the Engineer to consider any cost reduction proposal that may be submitted.

The Contractor shall continue to perform the work in accordance with the requirements of the contract until a change order incorporating the cost reduction proposal has been issued. If a change order has not been issued by the date upon which the Contractor's cost reduction proposal specifies that a decision should be made, or such other date as the Contractor may subsequently have requested in writing, such cost reduction proposal shall be deemed rejected.

The Engineer shall be the sole judge of the acceptability of a cost reduction proposal and of the estimated net savings from the adoption of all or any part of such proposal. In determining the estimated net savings, the Engineer may disregard the contract bid prices if, in the Engineer's judgment such prices do not represent a fair measure of the value of the work to be performed or deleted.

The Owner may require the Contractor to share in the Owner's costs of investigating a cost reduction proposal submitted by the Contractor as a condition of considering such proposal. Where such a condition is imposed, the Contractor shall acknowledge acceptance of it in writing. Such acceptance shall constitute full authority for the Owner to deduct the cost of investigating a cost reduction proposal from amounts payable to the Contractor under the contract.

If the Contractor's cost reduction proposal is accepted in whole or in part, such acceptance will be by a contract change order that shall specifically state that it is executed pursuant to this subsection. Such change order shall incorporate the changes in the plans and specifications which are necessary to permit the cost reduction proposal or such part of it as has been accepted and shall include any conditions upon which the Engineer's approval is based. The change order shall also set forth the estimated net savings attributable to the cost reduction proposal. The net savings shall be determined as the difference in costs between the original contract costs for the involved work items and the costs occurring as a result of the proposed change. The change order shall also establish the net savings agreed upon and shall provide for adjustment in the contract price that will divide the net savings equally between the Contractor and the Owner.

The Contractor's 50 percent share of the net savings shall constitute full compensation to the Contractor for the cost reduction proposal and the performance of the work.

Acceptance of the cost-reduction proposal and performance of the cost-reduction work shall not extend the time of completion of the contract unless specifically provided for in the contract change order.

END OF SECTION 50

SECTION 60
CONTROL OF MATERIALS

60-01 SOURCE OF SUPPLY AND QUALITY REQUIREMENTS. The materials used on the work shall conform to the requirements of the contract, plans, and specifications. Unless otherwise specified, such materials that are manufactured or processed shall be new (as compared to used or reprocessed).

In order to expedite the inspection and testing of materials, the Contractor shall furnish complete statements to the Engineer as to the origin, composition, and manufacture of all materials to be used in the work. Such statements shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials.

At the Engineer's option, materials may be approved at the source of supply before delivery is stated. If it is found after trial that sources of supply for previously approved materials do not produce specified products, the Contractor shall furnish materials from other sources.

The Contractor shall furnish airport lighting equipment that conforms to the requirements of cited materials specifications. In addition, where an FAA specification for airport lighting equipment is cited in the plans or specifications, the Contractor shall furnish such equipment that is:

a. Listed in FAA Advisory Circular (AC) 150/5345-53, Airport Lighting Equipment Certification Program, and Addendum that is in effect on the date of advertisement; and,

b. Produced by the manufacturer as listed in the Addendum cited above for the certified equipment part number.

60-02 SAMPLES, TESTS, AND CITED SPECIFICATIONS. Unless otherwise designated, all materials used in the work shall be inspected, tested, and approved by the Engineer before incorporation in the work. Any work in which untested materials are used without approval or written permission of the Engineer shall be performed at the Contractor's risk. Materials found to be unacceptable and unauthorized will not be paid for and, if directed by the Engineer, shall be removed at the Contractor's expense. Unless otherwise designated, tests in accordance with the cited standard methods of ASTM, AASHTO, Federal Specifications, Commercial Item Descriptions, and all other cited methods, which are current on the date of advertisement for bids, will be made by and at the expense of the Engineer. The testing organizations performing on site field tests shall have copies of all referenced standards on the construction site for use by all technicians and other personnel, including the Contractor's representative at his/her request. Unless otherwise designated, samples will be taken by a qualified representative of the Engineer. All materials being used are subject to inspection, test, or rejection at any time prior to or during incorporation into the work. Copies of all tests will be furnished to the Contractor's representative at his/her request.

The Contractor shall employ a testing organization to perform all Contractor required tests. The Contractor shall submit to the Engineer resumes on all testing organizations and individual persons who will be performing the tests. The Engineer will determine if such persons are qualified. All the test data shall be reported to the Engineer after the results are known. A legible, handwritten copy of all test data shall be given to the Engineer daily, along with printed reports, in an approved format, on a weekly basis. After completion of the project, and prior to final payment, the Contractor shall submit a final report to the Engineer showing all test data reports, plus an analysis of all results showing ranges, averages, and corrective action taken on all failing tests.

60-03 CERTIFICATION OF COMPLIANCE. The Engineer may permit the use, prior to sampling and testing, of certain materials or assemblies when accompanied by manufacturer's certificates of compliance stating that such materials or assemblies fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer. Each lot of such materials or assemblies delivered to the work must be accompanied by a certificate of compliance in which the lot is clearly identified.

Materials or assemblies used on the basis of certificates of compliance may be sampled and tested at any time and if found not to be in conformity with contract requirements will be subject to rejection whether in place or not.

The form and distribution of certificates of compliance shall be as approved by the Engineer.

When a material or assembly is specified by "brand name or equal" and the Contractor elects to furnish the specified "brand name," the Contractor shall be required to furnish the manufacturer's certificate of compliance for each lot of such material or assembly delivered to the work. Such certificate of compliance shall clearly identify each lot delivered and shall certify as to:

a. Conformance to the specified performance, testing, quality or dimensional requirements; and,

b. Suitability of the material or assembly for the use intended in the contract work.

Should the Contractor propose to furnish an "or equal" material or assembly, he shall furnish the manufacturer's certificates of compliance as hereinbefore described for the specified brand name material or assembly. However, the Engineer shall be the sole judge as to whether the proposed "or equal" is suitable for use in the work.

The Engineer reserves the right to refuse permission for use of materials or assemblies on the basis of certificates of compliance.

60-04 PLANT INSPECTION. The Engineer or his/her authorized representative may inspect, at its source, any specified material or assembly to be used in the work. Manufacturing plants may be inspected from time to time for the purpose of determining compliance with specified manufacturing methods or materials to be used in the work and to obtain samples required for his/her acceptance of the material or assembly.

Should the Engineer conduct plant inspections, the following conditions shall exist:

a. The Engineer shall have the cooperation and assistance of the Contractor and the producer with whom he has contracted for materials.

b. The Engineer shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of the materials being furnished.

c. If required by the Engineer, the Contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Office or working space should be conveniently located with respect to the plant.

It is understood and agreed that the Owner shall have the right to retest any material that has been tested and approved at the source of supply after it has been delivered to the site. The Engineer shall have the right to reject only material which, when retested, does not meet the requirements of the contract, plans, or specifications.

60-05 ENGINEER'S FIELD OFFICE. The Contractor shall furnish for the duration of the project one building for the use of the field engineers and inspectors, as a field office ***as required within these specifications.*** This facility shall be an approved weatherproof building meeting the current State Highway Specifications (for example, Class I Field Office or Type C Structure). This building shall be located conveniently near to the construction and shall be separate from any building used by the Contractor. A land line telephone and answering machine shall be provided. The Contractor shall be responsible for payment of the basic monthly charge and local calls only. Any Long Distance Tolls shall be the responsibility of the caller. The Contractor shall furnish ~~[FAX machine,~~ photocopy machine, water, sanitary facilities, heat, air conditioning, and electricity ~~]~~. No direct payment will be made for this building or labor, materials, ground rental, or other expense in connection therewith. The cost hereof shall be

included in the price bid for the various items of the contract. The Contractor and his/her superintendent shall provide all reasonable facilities to enable to the Engineer to inspect the workmanship and materials entering into the work.

60-06 STORAGE OF MATERIALS. Materials shall be so stored as to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may again be inspected prior to their use in the work. Stored materials shall be located so as to facilitate their prompt inspection. The Contractor shall coordinate the storage of all materials with the Engineer. Materials to be stored on airport property shall not create an obstruction to air navigation nor shall they interfere with the free and unobstructed movement of aircraft. Unless otherwise shown on the plans, the storage of materials and the location of the Contractor's plant and parked equipment or vehicles shall be as directed by the Engineer. Private property shall not be used for storage purposes without written permission of the owner or lessee of such property. The Contractor shall make all arrangements and bear all expenses for the storage of materials on private property. Upon request, the Contractor shall furnish the Engineer a copy of the property owner's permission.

All storage sites on private or airport property shall be restored to their original condition by the Contractor at his/her entire expense, except as otherwise agreed to (in writing) by the owner or lessee of the property.

60-07 UNACCEPTABLE MATERIALS. Any material or assembly that does not conform to the requirements of the contract, plans, or specifications shall be considered unacceptable and shall be rejected. The Contractor shall remove any rejected material or assembly from the site of the work, unless otherwise instructed by the Engineer.

Rejected material or assembly, the defects of which have been corrected by the Contractor, shall not be returned to the site of the work until such time as the Engineer has approved its used in the work.

60-08 OWNER FURNISHED MATERIALS. The Contractor shall furnish all materials required to complete the work, except those specified herein (if any) to be furnished by the Owner. Owner-furnished materials shall be made available to the Contractor at the location specified herein.

All costs of handling, transportation from the specified location to the site of work, storage, and installing Owner-furnished materials shall be included in the unit price bid for the contract item in which such Owner-furnished material is used.

After any Owner-furnished material has been delivered to the location specified, the Contractor shall be responsible for any demurrage, damage, loss, or other deficiencies that may occur during the Contractor's handling, storage, or use of such Owner-furnished material. The Owner will deduct from any monies due or to become due the Contractor any cost incurred by the Owner in making good such loss due to the Contractor's handling, storage, or use of Owner-furnished materials.

END OF SECTION 60

SECTION 70
LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC

70-01 LAWS TO BE OBSERVED. The Contractor shall keep fully informed of all Federal and state laws, all local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of the work. He shall at all times observe and comply with all such laws, ordinances, regulations, orders, and decrees; and shall protect and indemnify the Owner and all his/her officers, agents, or servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by himself or his/her employees.

70-02 PERMITS, LICENSES, AND TAXES. The Contractor shall procure all permits and licenses, pay all charges, fees, and taxes, and give all notices necessary and incidental to the due and lawful prosecution of the work.

70-03 PATENTED DEVICES, MATERIALS, AND PROCESSES. If the Contractor is required or desires to use any design, device, material, or process covered by letters of patent or copyright, he shall provide for such use by suitable legal agreement with the patentee or owner. The Contractor and the surety shall indemnify and save harmless the Owner, any third party, or political subdivision from any and all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright, and shall indemnify the Owner for any costs, expenses, and damages which it may be obliged to pay by reason of an infringement, at any time during the prosecution or after the completion of the work.

70-04 RESTORATION OF SURFACES DISTURBED BY OTHERS. The Owner reserves the right to authorize the construction, reconstruction, or maintenance of any public or private utility service, FAA or National Oceanic and Atmospheric Administration (NOAA) facility, or a utility service of another government agency at any time during the progress of the work. To the extent that such construction, reconstruction, or maintenance has been coordinated with the Owner, such authorized work (by others) is indicated as follows:

Owner	*Person to Contact (Phone Number)*
Jefferson County (Jack Brooks Regional Airport	*Duke Youmans (409) 719-4900*
Federal Aviation Administration	*James Terrel*

Except as listed above, the Contractor shall not permit any individual, firm, or corporation to excavate or otherwise disturb such utility services or facilities located within the limits of the work without the written permission of the Engineer.

Should the owner of public or private utility service, FAA, or NOAA facility, or a utility service of another government agency be authorized to construct, reconstruct, or maintain such utility service or facility during the progress of the work, the Contractor shall cooperate with such owners by arranging and performing the work in this contract so as to facilitate such construction, reconstruction or maintenance by others whether or not such work by others is listed above. When ordered as extra work by the Engineer, the Contractor shall make all necessary repairs to the work which are due to such authorized work by others, unless otherwise provided for in the contract, plans, or specifications. It is understood and agreed that the Contractor shall not be entitled to make any claim for damages due to such authorized work by others or for any delay to the work resulting from such authorized work.

70-05 FEDERAL AID PARTICIPATION. For AIP contracts, the United States Government has agreed to reimburse the Owner for some portion of the contract costs. Such reimbursement is made from time to time upon the Owner's request to the FAA. In consideration of the United States Government's (FAA's) agreement with the Owner, the Owner has included provisions in this contract pursuant to the requirements of Title 49 of the United States Code (USC) and the Rules and Regulations of the FAA that pertain to the work.

As required by the USC, the contract work is subject to the inspection and approval of duly authorized representatives of the Administrator, FAA, and is further subject to those provisions of the rules and regulations that are cited in the contract, plans, or specifications.

No requirement of the USC, the rules and regulations implementing the USC, or this contract shall be construed as making the Federal Government a party to the contract nor will any such requirement interfere, in any way, with the rights of either party to the contract.

70-06 SANITARY, HEALTH, AND SAFETY PROVISIONS. The Contractor shall provide and maintain in a neat, sanitary condition such accommodations for the use of his/her employees as may be necessary to comply with the requirements of the state and local Board of Health, or of other bodies or tribunals having jurisdiction.

Attention is directed to Federal, state, and local laws, rules and regulations concerning construction safety and health standards. The Contractor shall not require any worker to work in surroundings or under conditions that are unsanitary, hazardous, or dangerous to his/her health or safety.

70-07 PUBLIC CONVENIENCE AND SAFETY. The Contractor shall control his/her operations and those of his/her subcontractors and all suppliers, to assure the least inconvenience to the traveling public. Under all circumstances, safety shall be the most important consideration.

The Contractor shall maintain the free and unobstructed movement of aircraft and vehicular traffic with respect to his/her own operations and those of his/her subcontractors and all suppliers in accordance with the subsection titled MAINTENANCE OF TRAFFIC of Section 40 hereinbefore specified and shall limit such operations for the convenience and safety of the traveling public as specified in the subsection titled LIMITATION OF OPERATIONS of Section 80 hereinafter.

70-08 BARRICADES, WARNING SIGNS, AND HAZARD MARKINGS. The Contractor shall furnish, erect, and maintain all barricades, warning signs, and markings for hazards necessary to protect the public and the work. When used during periods of darkness, such barricades, warning signs, and hazard markings shall be suitably illuminated. Unless otherwise specified, barricades, warning signs, and markings for hazards that are in the air operations area shall be a maximum of 18 inches high. Unless otherwise specified, barricades shall be spaced not more than ***that specified in the Construction Safety and Phasing Plan*** ~~25 feet apart~~. Barricades, warning signs, and markings shall be paid for under Section 40-06.

For vehicular and pedestrian traffic, the Contractor shall furnish, erect, and maintain barricades, warning signs, lights and other traffic control devices in reasonable conformity with the Manual of Uniform Traffic Control Devices for Streets and Highways (published by the United States Government Printing Office).

When the work requires closing an air operations area of the airport or portion of such area, the Contractor shall furnish, erect, and maintain temporary markings and associated lighting conforming to the requirements of AC 150/5340-1, Standards for Airport Markings.

The Contractor shall furnish, erect, and maintain markings and associated lighting of open trenches, excavations, temporary stock piles, and his/her parked construction equipment that may be hazardous to the operation of emergency fire-rescue or maintenance vehicles on the airport in reasonable conformance to AC 150/5370-2, Operational Safety on Airports During Construction.

The Contractor shall identify each motorized vehicle or piece of construction equipment in reasonable conformance to AC 150/5370-2.

The Contractor shall furnish and erect all barricades, warning signs, and markings for hazards prior to commencing work that requires such erection and shall maintain the barricades, warning signs, and markings for hazards until their dismantling is directed by the Engineer.

Open-flame type lights shall not be permitted within the air operations areas of the airport.

70-09 USE OF EXPLOSIVES. When the use of explosives is necessary for the prosecution of the work, the Contractor shall exercise the utmost care not to endanger life or property, including new work. The Contractor shall be responsible for all damage resulting from the use of explosives.

All explosives shall be stored in a secure manner in compliance with all laws and ordinances, and all such storage places shall be clearly marked. Where no local laws or ordinances apply, storage shall be provided satisfactory to the Engineer and, in general, not closer than 1,000 feet (300 m) from the work or from any building, road, or other place of human occupancy.

The Contractor shall notify each property owner and public utility company having structures or facilities in proximity to the site of the work of his/her intention to use explosives. Such notice shall be given sufficiently in advance to enable them to take such steps as they may deem necessary to protect their property from injury.

The use of electrical blasting caps shall not be permitted on or within 1,000 feet (300 m) of the airport property.

70-10 PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE. The Contractor shall be responsible for the preservation of all public and private property, and shall protect carefully from disturbance or damage all land monuments and property markers until the Engineer has witnessed or otherwise referenced their location and shall not move them until directed.

The Contractor shall be responsible for all damage or injury to property of any character, during the prosecution of the work, resulting from any act, omission, neglect, or misconduct in his/her manner or method of executing the work, or at any time due to defective work or materials, and said responsibility will not be released until the project shall have been completed and accepted.

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or in consequence of the nonexecution thereof by the Contractor, he shall restore, at his/her own expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, or otherwise restoring as may be directed, or he shall make good such damage or injury in an acceptable manner.

70-11 RESPONSIBILITY FOR DAMAGE CLAIMS. The Contractor shall indemnify and save harmless the Engineer and the Owner and their officers, and employees from all suits actions, or claims of any character brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of the Contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act or omission, neglect, or misconduct of said Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the "Workmen's Compensation Act," or any other law, ordinance, order, or decree. Money due the Contractor under and by virtue of his/her contract as may be considered necessary by the Owner for such purpose may be retained for the use of the Owner or, in case no money is due, his/her surety may be held until such suit(s), action(s), or claim(s) for injuries or damages as aforesaid shall have been settled and suitable evidence to that effect furnished to the Owner, except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he is adequately protected by public liability and property damage insurance.

70-12 THIRD PARTY BENEFICIARY CLAUSE. It is specifically agreed between the parties executing the contract that it is not intended by any of the provisions of any part of the contract to create the public or any member thereof a third party beneficiary or to authorize anyone not a party to the contract to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of the contract.

70-13 OPENING SECTIONS OF THE WORK TO TRAFFIC. Should it be necessary for the Contractor to complete portions of the contract work for the beneficial occupancy of the Owner prior to completion of the entire contract, such "phasing" of the work shall be specified herein and indicated on the plans. When so specified, the Contractor shall complete such portions of the work on or before the date specified or as otherwise specified. The Contractor shall make his/her own estimate of the difficulties involved in arranging his/her work to permit such beneficial occupancy by the Owner. ~~as described below:~~

~~Phase or Description~~
~~Required Date or Sequence of Owner's Beneficial Occupancy~~
~~Work Shown on Plan Sheet~~

Upon completion of any portion of the work listed above, such portion shall be accepted by the Owner in accordance with the subsection titled PARTIAL ACCEPTANCE of Section 50.

No portion of the work may be opened by the Contractor for public use until ordered by the Engineer in writing. Should it become necessary to open a portion of the work to public traffic on a temporary or intermittent basis, such openings shall be made when, in the opinion of the Engineer, such portion of the work is in an acceptable condition to support the intended traffic. Temporary or intermittent openings are considered to be inherent in the work and shall not constitute either acceptance of the portion of the work so opened or a waiver of any provision of the contract. Any damage to the portion of the work so opened that is not attributable to traffic which is permitted by the Owner shall be repaired by the Contractor at his/her expense.

The Contractor shall make his/her own estimate of the inherent difficulties involved in completing the work under the conditions herein described and shall not claim any added compensation by reason of delay or increased cost due to opening a portion of the contract work.

Contractor shall be required to conform to safety standards contained AC 150/5370-2, Operational Safety on Airports During Construction (See Special Provisions.)

Contractor shall refer to the approved safety plan to identify barricade requirements and other safety requirements prior to opening up sections of work to traffic.

70-14 CONTRACTOR'S RESPONSIBILITY FOR WORK. Until the Engineer's final written acceptance of the entire completed work, excepting only those portions of the work accepted in accordance with the subsection titled PARTIAL ACCEPTANCE of Section 50, the Contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part due to the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except damage to the work due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God such as earthquake, tidal wave, tornado, hurricane or other cataclysmic phenomenon of nature, or acts of the public enemy or of government authorities.

If the work is suspended for any cause whatever, the Contractor shall be responsible for the work and shall take such precautions necessary to prevent damage to the work. The Contractor shall provide for normal drainage and shall erect necessary temporary structures, signs, or other facilities at his/her expense. During such period of suspension of work, the Contractor shall properly and continuously maintain in an acceptable growing condition all living material in newly established planting, seedings, and soddings furnished under his/her contract, and shall take adequate precautions to protect new tree growth and other important vegetative growth against injury.

70-15 CONTRACTOR'S RESPONSIBILITY FOR UTILITY SERVICE AND FACILITIES OF OTHERS. As provided in the subsection titled RESTORATION OF SURFACES DISTURBED BY OTHERS of this

section, the Contractor shall cooperate with the owner of any public or private utility service, FAA or NOAA, or a utility service of another government agency that may be authorized by the owner to construct, reconstruct or maintain such utility services or facilities during the progress of the work. In addition, the Contractor shall control his/her operations to prevent the unscheduled interruption of such utility services and facilities.

To the extent that such public or private utility services, FAA, or NOAA facilities, or utility services of another governmental agency are known to exist within the limits of the contract work, the approximate locations have been indicated on the plans and the owners are indicated as ~~follows:~~ ***as shown in Section 70-04.***

It is understood and agreed that the Owner does not guarantee the accuracy or the completeness of the location information relating to existing utility services, facilities, or structures that may be shown on the plans or encountered in the work. Any inaccuracy or omission in such information shall not relieve the Contractor of his/her responsibility to protect such existing features from damage or unscheduled interruption of service.

It is further understood and agreed that the Contractor shall, upon execution of the contract, notify the owners of all utility services or other facilities of his/her plan of operations. Such notification shall be in writing addressed to THE PERSON TO CONTACT as provided hereinbefore in this subsection and the subsection titled RESTORATION OF SURFACES DISTURBED BY OTHERS of this section. A copy of each notification shall be given to the Engineer.

In addition to the general written notification hereinbefore provided, it shall be the responsibility of the Contractor to keep such individual owners advised of changes in his/her plan of operations that would affect such owners.

Prior to commencing the work in the general vicinity of an existing utility service or facility, the Contractor shall again notify each such owner of his/her plan of operation. If, in the Contractor's opinion, the owner's assistance is needed to locate the utility service or facility or the presence of a representative of the owner is desirable to observe the work, such advice should be included in the notification. Such notification shall be given by the most expeditious means to reach the utility owner's PERSON TO CONTACT no later than two normal business days prior to the Contractor's commencement of operations in such general vicinity. The Contractor shall furnish a written summary of the notification to the Engineer.

The Contractor's failure to give the two day's notice hereinabove provided shall be cause for the Owner to suspend the Contractor's operations in the general vicinity of a utility service or facility.

Where the outside limits of an underground utility service have been located and staked on the ground, the Contractor shall be required to use excavation methods acceptable to the Engineer within 3 feet (90 cm) of such outside limits at such points as may be required to ensure protection from damage due to the Contractor's operations.

Should the Contractor damage or interrupt the operation of a utility service or facility by accident or otherwise, he shall immediately notify the proper authority and the Engineer and shall take all reasonable measures to prevent further damage or interruption of service. The Contractor, in such events, shall cooperate with the utility service or facility owner and the Engineer continuously until such damage has been repaired and service restored to the satisfaction of the utility or facility owner.

The Contractor shall bear all costs of damage and restoration of service to any utility service or facility due to his/her operations whether or not due to negligence or accident. The Owner reserves the right to deduct such costs from any monies due or which may become due the Contractor, or his/her surety.

70-15.1 FAA FACILITIES AND CABLE RUNS. The Contractor is hereby advised that the construction limits of the project include existing facilities and buried cable runs that are owned, operated and

maintained by the FAA. The Contractor, during the prosecution of the project work, shall comply with the following:

a. The Contractor shall permit FAA maintenance personnel the right of access to the project work site for purposes of inspecting and maintaining all existing FAA owned facilities.

b. The Contractor shall notify the above named FAA Airway Facilities Point-of-Contact seven (7) calendar days prior to commencement of construction activities in order to permit sufficient time to locate and mark existing buried cables and to schedule any required facility outages.

c. If prosecution of the project work requires a facility outage, the Contractor shall contact the above named FAA Point-of-Contact a minimum of 48 hours prior to the time of the required outage.

d. If prosecution of the project work results in damages to existing FAA equipment or cables, the Contractor shall repair the damaged item in conformance with FAA Airway Facilities' standards to the satisfaction of the above named FAA Point-of-Contact.

e. If the project work requires the cutting or splicing of FAA owned cables, the above named FAA Point-of-Contact shall be contacted a minimum of 48 hours prior to the time the cable work commences. The FAA reserves the right to have a FAA Airway Facilities representative on site to observe the splicing of the cables as a condition of acceptance. All cable splices are to be accomplished in accordance with FAA Airway Facilities' specifications and require approval by the above named FAA Point-of-Contact as a condition of acceptance by the Owner. The Contractor is hereby advised that FAA Airway Facilities restricts the location of where splices may be installed. If a cable splice is required in a location that is not permitted by FAA Airway Facilities, the Contractor shall furnish and install a sufficient length of new cable that eliminates the need for any splice.

70-16 FURNISHING RIGHTS-OF-WAY. The Owner will be responsible for furnishing all rights-of-way upon which the work is to be constructed in advance of the Contractor's operations.

70-17 PERSONAL LIABILITY OF PUBLIC OFFICIALS. In carrying out any of the contract provisions or in exercising any power or authority granted to him by this contract, there shall be no liability upon the Engineer, his/her authorized representatives, or any officials of the Owner either personally or as an official of the Owner. It is understood that in such matters they act solely as agents and representatives of the Owner.

70-18 NO WAIVER OF LEGAL RIGHTS. Upon completion of the work, the Owner will expeditiously make final inspection and notify the Contractor of final acceptance. Such final acceptance, however, shall not preclude or stop the Owner from correcting any measurement, estimate, or certificate made before or after completion of the work, nor shall the Owner be precluded or stopped from recovering from the Contractor or his/her surety, or both, such overpayment as may be sustained, or by failure on the part of the Contractor to fulfill his/her obligations under the contract. A waiver on the part of the Owner of any breach of any part of the contract shall not be held to be a waiver of any other or subsequent breach.

The Contractor, without prejudice to the terms of the contract, shall be liable to the Owner for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the owner's rights under any warranty or guaranty.

70-19 ENVIRONMENTAL PROTECTION. The Contractor shall comply with all Federal, state, and local laws and regulations controlling pollution of the environment. He shall take necessary precautions to prevent pollution of streams, lakes, ponds, and reservoirs with fuels, oils, bitumens, chemicals, or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter.

70-20 ARCHAEOLOGICAL AND HISTORICAL FINDINGS. Unless otherwise specified in this subsection, the Contractor is advised that the site of the work is not within any property, district, or site,

and does not contain any building, structure, or object listed in the current National Register of Historic Places published by the United States Department of Interior.

Should the Contractor encounter, during his/her operations, any building, part of a building, structure, or object that is incongruous with its surroundings, he shall immediately cease operations in that location and notify the Engineer. The Engineer will immediately investigate the Contractor's finding and the Owner will direct the Contractor to either resume his/her operations or to suspend operations as directed.

Should the Owner order suspension of the Contractor's operations in order to protect an archaeological or historical finding, or order the Contractor to perform extra work, such shall be covered by an appropriate contract modification (change order or supplemental agreement) as provided in the subsection titled EXTRA WORK of Section 40 and the subsection titled PAYMENT FOR EXTRA WORK AND FORCE ACCOUNT WORK of Section 90. If appropriate, the contract modification shall include an extension of contract time in accordance with the subsection titled DETERMINATION AND EXTENSION OF CONTRACT TIME of Section 80.

END OF SECTION 70

SECTION 80
PROSECUTION AND PROGRESS

80-01 SUBLETTING OF CONTRACT. The Owner will not recognize any subcontractor on the work. The Contractor shall at all times when work is in progress be represented either in person, by a qualified superintendent, or by other designated, qualified representative who is duly authorized to receive and execute orders of the Engineer.

Should the Contractor elect to assign his/her contract, said assignment shall be concurred in by the surety, shall be presented for the consideration and approval of the Owner, and shall be consummated only on the written approval of the Owner. In case of approval, the Contractor shall file copies of all subcontracts with the Engineer.

The Contractor shall perform, with his organization, an amount of work equal to at least **25** percent of the total contract cost.

80-02 NOTICE TO PROCEED. The notice to proceed shall state the date on which it is expected the Contractor will begin the construction and from which date contract time will be charged. The Contractor shall begin the work to be performed under the contract ***within the timeframe set forth in the proposal,*** ~~10 days of the date set by the Engineer in the written notice to proceed~~, but in any event, the Contractor shall notify the Engineer at least 24 hours in advance of the time actual construction operations will begin.

80-03 PROSECUTION AND PROGRESS. Unless otherwise specified, the Contractor shall submit his/her progress schedule for the Engineer's approval ***at the preconstruction meeting*** ~~within 10 days after the effective date of the notice to proceed~~. The Contractor's progress schedule, when approved by the Engineer, may be used to establish major construction operations and to check on the progress of the work. The Contractor shall provide sufficient materials, equipment, and labor to guarantee the completion of the project in accordance with the plans and specifications within the time set forth in the proposal.

If the Contractor falls significantly behind the submitted schedule, the Contractor shall, upon the Engineer's request, submit a revised schedule for completion of the work within the contract time and modify his/her operations to provide such additional materials, equipment, and labor necessary to meet the revised schedule. Should the prosecution of the work be discontinued for any reason, the Contractor shall notify the Engineer at least 24 hours in advance of resuming operations.

For AIP contracts, the Contractor shall not commence any actual construction prior to the date on which the notice to proceed is issued by the Owner.

80-04 LIMITATION OF OPERATIONS. The Contractor shall control his/her operations and the operations of his/her subcontractors and all suppliers so as to provide for the free and unobstructed movement of aircraft in the AIR OPERATIONS AREAS of the airport.

When the work requires the Contractor to conduct his/her operations within an AIR OPERATIONS AREA of the airport, the work shall be coordinated with airport operations (through the Engineer) at least 48 hours prior to commencement of such work. The Contractor shall not close an AIR OPERATIONS AREA until so authorized by the Engineer and until the necessary temporary marking and associated lighting is in place as provided in the subsection titled BARRICADES, WARNING SIGNS, AND HAZARD MARKINGS of Section 70.

When the contract work requires the Contractor to work within an AIR OPERATIONS AREA (AOA) of the airport on an intermittent basis (intermittent opening and closing of the AIR OPERATIONS AREA), the Contractor shall maintain constant communications as hereinafter specified; immediately obey all instructions to vacate the AIR OPERATIONS AREA; immediately obey all instructions to resume work in such AIR OPERATIONS AREA. Failure to maintain the specified communications or to obey instructions shall be cause for suspension of the Contractor's operations in the AIR OPERATIONS AREA until the satisfactory conditions are provided. ~~The following AIR OPERATIONS AREA cannot be closed to~~

~~operating aircraft to permit the Contractor's operations on a continuous basis and will therefore be closed to aircraft operations intermittently as follows:~~

~~AOA~~
~~TIME PERIODS AOA CAN BE CLOSED~~
~~TYPE OF COMMUNICATIONS REQUIRED WHEN WORKING IN AN AOA~~
~~CONTROL AUTHORITY~~

Contractor shall be required to conform to safety standards contained in AC 150/5370-2, Operational Safety on Airports During Construction (See Special Provisions).

80-04.1 OPERATIONAL SAFETY ON AIRPORT DURING CONSTRUCTION. All Contractors' operations shall be conducted in accordance with the project safety plan and the provisions set forth within the current version of Advisory Circular 150/5370-2. The safety plan included within the contract documents conveys minimum requirements for operational safety on the airport during construction activities. The Contractor shall prepare and submit a plan that details how it proposes to comply with the requirements presented within the safety plan.

The Contractor shall implement all necessary safety plan measures prior to commencement of any work activity. The Contractor shall conduct routine checks of the safety plan measures to assure compliance with the safety plan measures.

The Contractor is responsible to the Owner for the conduct of all subcontractors it employs on the project. The Contractor shall assure that all subcontractors are made aware of the requirements of the safety plan and that they implement and maintain all necessary measures.

No deviation or modifications may be made to the approved safety plan unless approved in writing by the Owner or Engineer.

80-05 CHARACTER OF WORKERS, METHODS, AND EQUIPMENT. The Contractor shall, at all times, employ sufficient labor and equipment for prosecuting the work to full completion in the manner and time required by the contract, plans, and specifications.

All workers shall have sufficient skill and experience to perform properly the work assigned to them. Workers engaged in special work or skilled work shall have sufficient experience in such work and in the operation of the equipment required to perform the work satisfactorily.

Any person employed by the Contractor or by any subcontractor who violates any operational regulations and, in the opinion of the Engineer, does not perform his work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the Engineer, be removed forthwith by the Contractor or subcontractor employing such person, and shall not be employed again in any portion of the work without approval of the Engineer.

Should the Contractor fail to remove such persons or person, or fail to furnish suitable and sufficient personnel for the proper prosecution of the work, the Engineer may suspend the work by written notice until compliance with such orders.

All equipment that is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to met requirements of the work and to produce a satisfactory quality of work. Equipment used on any portion of the work shall be such that no injury to previously completed work, adjacent property, or existing airport facilities will result from its use.

When the methods and equipment to be used by the Contractor in accomplishing the work are not prescribed in the contract, the Contractor is free to use any methods or equipment that will accomplish the work in conformity with the requirements of the contract, plans, and specifications.

When the contract specifies the use of certain methods and equipment, such methods and equipment shall be used unless others are authorized by the Engineer. If the Contractor desires to use a method or type of equipment other than specified in the contract, he may request authority from the Engineer to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed and of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing work in conformity with contract requirements. If, after trial use of the substituted methods or equipment, the Engineer determines that the work produced does not meet contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining work with the specified methods and equipment. The Contractor shall remove any deficient work and replace it with work of specified quality, or take such other corrective action as the Engineer may direct. No change will be made in basis of payment for the contract items involved nor in contract time as a result of authorizing a change in methods or equipment under this subsection.

80-06 TEMPORARY SUSPENSION OF THE WORK. The Owner shall have the authority to suspend the work wholly, or in part, for such period or periods as he may deem necessary, due to unsuitable weather, or such other conditions as are considered unfavorable for the prosecution of the work, or for such time as is necessary due to the failure on the part of the Contractor to carry out orders given or perform any or all provisions of the contract.

In the event that the Contractor is ordered by the Owner, in writing, to suspend work for some unforeseen cause not otherwise provided for in the contract and over which the Contractor has no control, the Contractor may be reimbursed for actual money expended on the work during the period of shutdown. No allowance will be made for anticipated profits. The period of shutdown shall be computed from the effective date of the Engineer's order to suspend work to the effective date of the Engineer's order to resume the work. Claims for such compensation shall be filed with the Engineer within the time period stated in the Engineer's order to resume work. The Contractor shall submit with his/her claim information substantiating the amount shown on the claim. The Engineer will forward the Contractor's claim to the Owner for consideration in accordance with local laws or ordinances. No provision of this article shall be construed as entitling the Contractor to compensation for delays due to inclement weather, for suspensions made at the request of the Owner, or for any other delay provided for in the contract, plans, or specifications.

If it should become necessary to suspend work for an indefinite period, the Contractor shall store all materials in such manner that they will not become an obstruction nor become damaged in any way. He shall take every precaution to prevent damage or deterioration of the work performed and provide for normal drainage of the work. The Contractor shall erect temporary structures where necessary to provide for traffic on, to, or from the airport.

80-07 DETERMINATION AND EXTENSION OF CONTRACT TIME. The number of calendar or working days allowed for completion of the work shall be stated in the proposal and contract and shall be known as the CONTRACT TIME.

Should the contract time require extension for reasons beyond the Contractor's control, it shall be adjusted as follows:

a. CONTRACT TIME based on WORKING DAYS shall be calculated weekly by the Engineer. The Engineer will furnish the Contractor a copy of his/her weekly statement of the number of working days charged against the contract time during the week and the number of working days currently specified for completion of the contract (the original contract time plus the number of working days, if any, that have been included in approved CHANGE ORDERS or SUPPLEMENTAL AGREEMENTS covering EXTRA WORK).

The Engineer shall base his/her weekly statement of contract time charged on the following considerations:

(1) No time shall be charged for days on which the Contractor is unable to proceed with the principal item of work under construction at the time for at least 6 hours with the normal work force employed on such principal item. Should the normal work force be on a double-shift, 12 hours shall be used. Should the normal work force be on a triple-shift, 18 hours shall apply. Conditions beyond the Contractor's control such as strikes, lockouts, unusual delays in transportation, temporary suspension of the principal item of work under construction or temporary suspension of the entire work which have been ordered by the Owner for reasons not the fault of the Contractor, shall not be charged against the contract time.

(2) The Engineer will not make charges against the contract time prior to the effective date of the notice to proceed.

(3) The Engineer will begin charges against the contract time on the first working day after the effective date of the notice to proceed.

(4) The Engineer will not make charges against the contract time after the date of final acceptance as defined in the subsection titled FINAL ACCEPTANCE of Section 50.

(5) The Contractor will be allowed 1 week in which to file a written protest setting forth his/her objections to the Engineer's weekly statement. If no objection is filed within such specified time, the weekly statement shall be considered as acceptable to the Contractor.

The contract time (stated in the proposal) is based on the originally estimated quantities as described in the subsection titled INTERPRETATION OF ESTIMATED PROPOSAL QUANTITIES of Section 20. Should the satisfactory completion of the contract require performance of work in greater quantities than those estimated in the proposal, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in contract time shall not consider either the cost of work or the extension of contract time that has been covered by change order or supplemental agreement and shall be made at the time of final payment.

b. CONTRACT TIME based on CALENDAR DAYS shall consist of the number of calendar days stated in the contract counting from the effective date of the notice to proceed and including all Saturdays, Sundays, holidays, and nonwork days. All calendar days elapsing between the effective dates of the Owner's orders to suspend and resume all work, due to causes not the fault of the Contractor, shall be excluded.

At the time of final payment, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in the contract time shall not consider either cost of work or the extension of contract time that has been covered by a change order or supplemental agreement. Charges against the contract time will cease as of the date of final acceptance.

c. When the contract time is a specified completion date, it shall be the date on which all contract work shall be substantially completed.

If the Contractor finds it impossible for reasons beyond his/her control to complete the work within the contract time as specified, or as extended in accordance with the provisions of this subsection, he may, at any time prior to the expiration of the contract time as extended, make a written request to the Engineer for an extension of time setting forth the reasons which he believes will justify the granting of his/her request. Requests for extension of time on calendar day projects, caused by inclement weather, shall be supported with National Weather Bureau data showing the actual amount of inclement weather exceeded which could normally be expected during the contract period***, as detailed in the Special Provisions.*** The Contractor's plea that insufficient time was specified is not a valid reason for extension of time. If the Engineer finds that the work was delayed because of conditions beyond the control and without the fault of the Contractor, he may extend the time for completion in such amount as the conditions justify. The

extended time for completion shall then be in full force and effect, the same as though it were the original time for completion.

80-08 FAILURE TO COMPLETE ON TIME. For each calendar day or working day, as specified in the contract, that any work remains uncompleted after the contract time (including all extensions and adjustments as provided in the subsection titled DETERMINATION AND EXTENSION OF CONTRACT TIME of this Section) the sum specified in the contract and proposal as liquidated damages will be deducted from any money due or to become due the Contractor or his/her surety. Such deducted sums shall not be deducted as a penalty but shall be considered as liquidation of a reasonable portion of damages including but not limited to additional engineering services that will be incurred by the Owner should the Contractor fail to complete the work in the time provided in his/her contract.

~~The maximum construction time allowed for Schedules [ ] will be the sum of the time allowed for individual schedules but not more than [ ] days. (Note: this paragraph will be modified for each project.)~~ ***Construction time shall be as included in the Proposal and Contract.***

Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a wavier on the part of the Owner of any of its rights under the contract.

80-09 DEFAULT AND TERMINATION OF CONTRACT. The Contractor shall be considered in default of his/her contract and such default will be considered as cause for the Owner to terminate the contract for any of the following reasons if the Contractor:

a. Fails to begin the work under the contract within the time specified in the "Notice to Proceed," or

b. Fails to perform the work or fails to provide sufficient workers, equipment or materials to assure completion of work in accordance with the terms of the contract, or

c. Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, or

d. Discontinues the prosecution of the work, or

e. Fails to resume work which has been discontinued within a reasonable time after notice to do so, or

f. Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or

g. Allows any final judgment to stand against him unsatisfied for a period of 10 days, or

h. Makes an assignment for the benefit of creditors, or

i. For any other cause whatsoever, fails to carry on the work in an acceptable manner.

Should the Engineer consider the Contractor in default of the contract for any reason hereinbefore, he shall immediately give written notice to the Contractor and the Contractor's surety as to the reasons for considering the Contractor in default and the Owner's intentions to terminate the contract.

If the Contractor or surety, within a period of 10 days after such notice, does not proceed in accordance therewith, then the Owner will, upon written notification from the Engineer of the facts of such delay, neglect, or default and the Contractor's failure to comply with such notice, have full power and authority without violating the contract, to take the prosecution of the work out of the hands of the Contractor. The Owner may appropriate or use any or all materials and equipment that have been mobilized for use in the work and are acceptable and may enter into an agreement for the completion of said contract according

to the terms and provisions thereof, or use such other methods as in the opinion of the Engineer will be required for the completion of said contract in an acceptable manner.

All costs and charges incurred by the Owner, together with the cost of completing the work under contract, will be deducted from any monies due or which may become due the Contractor. If such expense exceeds the sum which would have been payable under the contract, then the Contractor and the surety shall be liable and shall pay to the Owner the amount of such excess.

80-10 TERMINATION FOR NATIONAL EMERGENCIES. The Owner shall terminate the contract or portion thereof by written notice when the Contractor is prevented from proceeding with the construction contract as a direct result of an Executive Order of the President with respect to the prosecution of war or in the interest of national defense.

When the contract, or any portion thereof, is terminated before completion of all items of work in the contract, payment will be made for the actual number of units or items of work completed at the contract price or as mutually agreed for items of work partially completed or not started. No claims or loss of anticipated profits shall be considered.

Reimbursement for organization of the work, and other overhead expenses, (when not otherwise included in the contract) and moving equipment and materials to and from the job will be considered, the intent being that an equitable settlement will be made with the Contractor.

Acceptable materials, obtained or ordered by the Contractor for the work and that are not incorporated in the work shall, at the option of the Contractor, be purchased from the Contractor at actual cost as shown by receipted bills and actual cost records at such points of delivery as may be designated by the Engineer.

Termination of the contract or a portion thereof shall neither relieve the Contractor of his/her responsibilities for the completed work nor shall it relieve his/her surety of its obligation for and concerning any just claim arising out of the work performed.

80-11 WORK AREA, STORAGE AREA AND SEQUENCE OF OPERATIONS. The Contractor shall obtain approval from the Engineer prior to beginning any work in all areas of the airport. No operating runway, taxiway, or Air Operations Area (AOA) shall be crossed, entered, or obstructed while it is operational. The Contractor shall plan and coordinate his/her work in such a manner as to insure safety and a minimum of hindrance to flight operations. ~~All Contractor equipment and material stockpiles shall be stored a minimum of [ ] feet from the centerline of an active runway.~~ No equipment will be allowed to park within the approach area of an active runway at any time. ~~No equipment shall be within [ ] feet of an active runway at any time.~~

END OF SECTION 80

SECTION 90
MEASUREMENT AND PAYMENT

90-01 MEASUREMENT OF QUANTITIES. All work completed under the contract will be measured by the Engineer, or his/her authorized representatives, using United States Customary Units of Measurement or the International System of Units.

The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the contract will be those methods generally recognized as conforming to good engineering practice.

Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures (or leave-outs) having an area of 9 square feet (0.8 square meter) or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the plans or ordered in writing by the Engineer.

Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.

Unless otherwise specified, all contract items which are measured by the linear foot such as electrical ducts, conduits, pipe culverts, underdrains, and similar items shall be measured parallel to the base or foundation upon which such items are placed.

In computing volumes of excavation the average end area method or other acceptable methods will be used.

The thickness of plates and galvanized sheet used in the manufacture of corrugated metal pipe, metal plate pipe culverts and arches, and metal cribbing will be specified and measured in decimal fraction of inches.

The term "ton" will mean the short ton consisting of 2,000 pounds (907 kilograms) avoirdupois. All materials that are measured or proportioned by weights shall be weighed on accurate, approved scales by competent, qualified personnel at locations designed by the Engineer. If material is shipped by rail, the car weight may be accepted provided that only the actual weight of material is paid for. However, car weights will not be acceptable for material to be passed through mixing plants. Trucks used to haul material being paid for by weight shall be weighed empty daily at such times as the Engineer directs, and each truck shall bear a plainly legible identification mark.

Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this purpose may be of any size or type acceptable to the Engineer, provided that the body is of such shape that the actual contents may be readily and accurately determined. All vehicles shall be loaded to at least their water level capacity, and all loads shall be leveled when the vehicles arrive at the point of delivery.

When requested by the Contractor and approved by the Engineer in writing, material specified to be measured by the cubic yard (cubic meter) may be weighed, and such weights will be converted to cubic yards (cubic meters) for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the Engineer and shall be agreed to by the Contractor before such method of measurement of pay quantities is used.

Bituminous materials will be measured by the gallon (liter) or ton (kilogram). When measured by volume, such volumes will be measured at 60 F (15 C) or will be corrected to the volume at 60 F (15 C) using ASTM D 1250 for asphalts or ASTM D 633 for tars.

Net certified scale weights or weights based on certified volumes in the case of rail shipments will be used as a basis of measurement, subject to correction when bituminous material has been lost from the car or the distributor, wasted, or otherwise not incorporated in the work.

When bituminous materials are shipped by truck or transport, net certified weights by volume, subject to correction for loss or foaming, may be used for computing quantities.

Cement will be measured by the ton (kilogram) or hundredweight (kilogram).

Timber will be measured by the thousand feet board measure (M.F.B.M.) actually incorporated in the structure. Measurement will be based on nominal widths and thicknesses and the extreme length of each piece.

The term "lump sum" when used as an item of payment will mean complete payment for the work described in the contract.

When a complete structure or structural unit (in effect, "lump sum" work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories.

Rental of equipment will be measured by time in hours of actual working time and necessary traveling time of the equipment within the limits of the work. Special equipment ordered by the Engineer in connection with force account work will be measured as agreed in the change order or supplemental agreement authorizing such force account work as provided in the subsection titled PAYMENT FOR EXTRA AND FORCE ACCOUNT WORK of this section.

When standard manufactured items are specified such as fence, wire, plates, rolled shapes, pipe conduit, etc., and these items are identified by gage, unit weight, section dimensions, etc., such identification will be considered to be nominal weights or dimensions. Unless more stringently controlled by tolerances in cited specifications, manufacturing tolerances established by the industries involved will be accepted.

Scales for weighing materials which are required to be proportioned or measured and paid for by weight shall be furnished, erected, and maintained by the Contractor, or be certified permanently installed commercial scales.

Scales shall be accurate within one-half percent of the correct weight throughout the range of use. The Contractor shall have the scales checked under the observation of the inspector before beginning work and at such other times as requested. The intervals shall be uniform in spacing throughout the graduated or marked length of the beam or dial and shall not exceed one-tenth of 1 percent of the nominal rated capacity of the scale, but not less than 1 pound (454 grams). The use of spring balances will not be permitted.

Beams, dials, platforms, and other scale equipment shall be so arranged that the operator and the inspector can safely and conveniently view them.

Scale installations shall have available ten standard 50-pound (2.3 kilogram) weights for testing the weighing equipment or suitable weights and devices for other approved equipment.

Scales must be tested for accuracy and serviced before use at a new site. Platform scales shall be installed and maintained with the platform level and rigid bulkheads at each end.

Scales "overweighing" (indicating more than correct weight) will not be permitted to operate, and all materials received subsequent to the last previous correct weighting-accuracy test will be reduced by the percentage of error in excess of one-half of 1 percent.

In the event inspection reveals the scales have been "underweighing" (indicating less than correct weight), they shall be adjusted, and no additional payment to the Contractor will be allowed for materials previously weighed and recorded.

All costs in connection with furnishing, installing, certifying, testing, and maintaining scales; for furnishing check weights and scale house; and for all other items specified in this subsection, for the weighing of materials for proportioning or payment, shall be included in the unit contract prices for the various items of the project.

When the estimated quantities for a specific portion of the work are designated as the pay quantities in the contract, they shall be the final quantities for which payment for such specific portion of the work will be made, unless the dimensions of said portions of the work shown on the plans are revised by the Engineer. If revised dimensions result in an increase or decrease in the quantities of such work, the final quantities for payment will be revised in the amount represented by the authorized changes in the dimensions.

90-02 SCOPE OF PAYMENT. The Contractor shall receive and accept compensation provided for in the contract as full payment for furnishing all materials, for performing all work under the contract in a complete and acceptable manner, and for all risk, loss, damage, or expense of whatever character arising out of the nature of the work or the prosecution thereof, subject to the provisions of the subsection titled NO WAIVER OF LEGAL RIGHTS of Section 70.

When the "basis of payment" subsection of a technical specification requires that the contract price (price bid) include compensation for certain work or material essential to the item, this same work or material will not also be measured for payment under any other contract item which may appear elsewhere in the contract, plans, or specifications.

90-03 COMPENSATION FOR ALTERED QUANTITIES. When the accepted quantities of work vary from the quantities in the proposal, the Contractor shall accept as payment in full, so far as contract items are concerned, payment at the original contract price for the accepted quantities of work actually completed and accepted. No allowance, except as provided for in the subsection titled ALTERATION OF WORK AND QUANTITIES of Section 40 will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor which results directly from such alterations or indirectly from his/her unbalanced allocation of overhead and profit among the contract items, or from any other cause.

90-04 PAYMENT FOR OMITTED ITEMS. As specified in the subsection titled OMITTED ITEMS of Section 40, the Engineer shall have the right to omit from the work (order nonperformance) any contract item, except major contract items, in the best interest of the Owner.

Should the Engineer omit or order nonperformance of a contract item or portion of such item from the work, the Contractor shall accept payment in full at the contract prices for any work actually completed and acceptable prior to the Engineer's order to omit or nonperform such contract item.

Acceptable materials ordered by the Contractor or delivered on the work prior to the date of the Engineer's order will be paid for at the actual cost to the Contractor and shall thereupon become the property of the Owner.

In addition to the reimbursement hereinbefore provided, the Contractor shall be reimbursed for all actual costs incurred for the purpose of performing the omitted contract item prior to the date of the Engineer's order. Such additional costs incurred by the Contractor must be directly related to the deleted contract item and shall be supported by certified statements by the Contractor as to the nature the amount of such costs.

90-05 PAYMENT FOR EXTRA AND FORCE ACCOUNT WORK. Extra work, performed in accordance with the subsection titled EXTRA WORK of Section 40, will be paid for at the contract prices or agreed prices specified in the change order or supplemental agreement authorizing the extra work. When the change order or supplemental agreement authorizing the extra work requires that it be done by force account, such force account shall be measured and paid for based on expended labor, equipment, and materials plus a negotiated and agreed upon allowance for overhead and profit.

a. Miscellaneous. No additional allowance will be made for general superintendence, the use of small tools, or other costs for which no specific allowance is herein provided.

b. Comparison of Record. The Contractor and the Engineer shall compare records of the cost of force account work at the end of each day. Agreement shall be indicated by signature of the Contractor and the Engineer or their duly authorized representatives.

c. Statement. No payment will be made for work performed on a force account basis until the Contractor has furnished the Engineer with duplicate itemized statements of the cost of such force account work detailed as follows:

(1) Name, classification, date, daily hours, total hours, rate and extension for each laborer and foreman.

(2) Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment.

(3) Quantities of materials, prices, and extensions.

(4) Transportation of materials.

(5) Cost of property damage, liability and workman's compensation insurance premiums, unemployment insurance contributions, and social security tax.

Statements shall be accompanied and supported by a receipted invoice for all materials used and transportation charges. However, if materials used on the force account work are not specifically purchased for such work but are taken from the Contractor's stock, then in lieu of the invoices the Contractor shall furnish an affidavit certifying that such materials were taken from his/her stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the actual cost to the Contractor.

90-06 PARTIAL PAYMENTS. Partial payments will be made to the Contractor at least once each month as the work progresses. Said payments will be based upon estimates, prepared by the Engineer, of the value of the work performed and materials complete and in place in accordance with the contract, plans, and specifications. Such partial payments may also include the delivered actual cost of those materials stockpiled and stored in accordance with the subsection titled PAYMENT FOR MATERIALS ON HAND of this section. No partial payment will be made when the amount due to the Contractor since the last estimate amounts to less than five hundred dollars.
The Contractor is required to pay all subcontractors for satisfactory performance of their contracts no later than 30 days after the Contractor has received a partial payment. The Owner must ensure prompt and full payment of retainage from the prime contractor to the subcontractor within 30 days after the subcontractor's work is satisfactorily completed. A subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished and documented as required by the Owner. When the Owner has made an incremental acceptance of a portion of a prime contract, the work of a subcontractor covered by that acceptance is deemed to be satisfactorily completed.

From the total of the amount determined to be payable on a partial payment, **5 percent** of such total amount will be deducted and retained by the Owner until the final payment is made, except as may be provided (at the Contractor's option) in the subsection titled PAYMENT OF WITHHELD FUNDS of this section. The balance (**95 percent**) of the amount payable, less all previous payments, shall be certified for payment. Should the Contractor exercise his/her option, as provided in the subsection titled PAYMENT OF WITHHELD FUNDS of this section, no such percent retainage shall be deducted.

When at least 95 percent of the work has been completed, the Engineer shall, at the Owner's discretion and with the consent of the surety, prepare estimates of both the contract value and the cost of the remaining work to be done.

The Owner may retain an amount not less than twice the contract value or estimated cost, whichever is greater, of the work remaining to be done. The remainder, less all previous payments and deductions, will then be certified for payment to the Contractor.

It is understood and agreed that the Contractor shall not be entitled to demand or receive partial payment based on quantities of work in excess of those provided in the proposal or covered by approved change orders or supplemental agreements, except when such excess quantities have been determined by the Engineer to be a part of the final quantity for the item of work in question.

No partial payment shall bind the Owner to the acceptance of any materials or work in place as to quality or quantity. All partial payments are subject to correction at the time of final payment as provided in the subsection titled ACCEPTANCE AND FINAL PAYMENT of this section.

The Contractor shall deliver to the Owner a complete release of all claims for labor and material arising out of this contract before the final payment is made. If any subcontractor or supplier fails to furnish such a release in full, the Contractor may furnish a bond or other collateral satisfactory to the Owner to indemnify the Owner against any potential lien or other such claim. The bond or collateral shall include all costs, expenses, and attorney fees the Owner may be compelled to pay in discharging any such lien or claim.

90-07 PAYMENT FOR MATERIALS ON HAND. Partial payments may be made to the extent of the delivered cost of materials to be incorporated in the work, provided that such materials meet the requirements of the contract, plans, and specifications and are delivered to acceptable sites on the airport property or at other sites in the vicinity that are acceptable to the Owner. Such delivered costs of stored or stockpiled materials may be included in the next partial payment after the following conditions are met:

a. The material has been stored or stockpiled in a manner acceptable to the Engineer at or on an approved site.

b. The Contractor has furnished the Engineer with acceptable evidence of the quantity and quality of such stored or stockpiled materials.

c. The Contractor has furnished the Engineer with satisfactory evidence that the material and transportation costs have been paid.

d. The Contractor has furnished the Owner legal title (free of liens or encumbrances of any kind) to the material so stored or stockpiled.

e. The Contractor has furnished the Owner evidence that the material so stored or stockpiled is insured against loss by damage to or disappearance of such materials at anytime prior to use in the work.

It is understood and agreed that the transfer of title and the Owner's payment for such stored or stockpiled materials shall in no way relieve the Contractor of his/her responsibility for furnishing and placing such materials in accordance with the requirements of the contract, plans, and specifications.

In no case will the amount of partial payments for materials on hand exceed the contract price for such materials or the contract price for the contract item in which the material is intended to be used.

No partial payment will be made for stored or stockpiled living or perishable plant materials.

The Contractor shall bear all costs associated with the partial payment of stored or stockpiled materials in accordance with the provisions of this subsection.

90-08 PAYMENT OF WITHHELD FUNDS. At the Contractor's option, if an Owner withholds retainage in accordance with the methods described in subsection 90-06 PARTIAL PAYMENTS, the Contractor may request that the Owner deposit the retainage into an escrow account. The Owner's deposit of retainage into an escrow account is subject to the following conditions:

a. The Contractor shall bear all expenses of establishing and maintaining an escrow account and escrow agreement acceptable to the Owner.

b. The Contractor shall deposit to and maintain in such escrow only those securities or bank certificates of deposit as are acceptable to the Owner and having a value not less than the retainage that would otherwise be withheld from partial payment.

c. The Contractor shall enter into an escrow agreement satisfactory to the Owner.

d. The Contractor shall obtain the written consent of the surety to such agreement.

90-09 ACCEPTANCE AND FINAL PAYMENT. When the contract work has been accepted in accordance with the requirements of the subsection titled FINAL ACCEPTANCE of Section 50, the Engineer will prepare the final estimate of the items of work actually performed. The Contractor shall approve the Engineer's final estimate or advise the Engineer of his/her objections to the final estimate which are based on disputes in measurements or computations of the final quantities to be paid under the contract as amended by change order or supplemental agreement. The Contractor and the Engineer shall resolve all disputes (if any) in the measurement and computation of final quantities to be paid within 30 calendar days of the Contractor's receipt of the Engineer's final estimate. If, after such 30-day period, a dispute still exists, the Contractor may approve the Engineer's estimate under protest of the quantities in dispute, and such disputed quantities shall be considered by the Owner as a claim in accordance with the subsection titled CLAIMS FOR ADJUSTMENT AND DISPUTES of Section 50.

After the Contractor has approved, or approved under protest, the Engineer's final estimate, final payment will be processed based on the entire sum, or the undisputed sum in case of approval under protest, determined to be due the Contractor less all previous payments and all amounts to be deducted under the provisions of the contract. All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

If the Contractor has filed a claim for additional compensation under the provisions of the subsection titled CLAIMS FOR ADJUSTMENTS AND DISPUTES of Section 50 or under the provisions of this subsection, such claims will be considered by the Owner in accordance with local laws or ordinances. Upon final adjudication of such claims, any additional payment determined to be due the Contractor will be paid pursuant to a supplemental final estimate.

END OF SECTION 90

SECTION 100
CONTRACTOR QUALITY CONTROL PROGRAM

100-01 GENERAL. When the specification requires a Contractor Quality Control Program, the Contractor shall establish, provide, and maintain an effective Quality Control Program that details the methods and procedures that will be taken to assure that all materials and completed construction required by this contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors. Although guidelines are established and certain minimum requirements are specified herein and elsewhere in the contract technical specifications, the Contractor shall assume full responsibility for accomplishing the stated purpose.

The intent of this section is to enable the Contractor to establish a necessary level of control that will:

a. Adequately provide for the production of acceptable quality materials.

b. Provide sufficient information to assure both the Contractor and the Engineer that the specification requirements can be met.

c. Allow the Contractor as much latitude as possible to develop his or her own standard of control.

The Contractor shall be prepared to discuss and present, at the preconstruction conference, his/her understanding of the quality control requirements. The Contractor shall not begin any construction or production of materials to be incorporated into the completed work until the Quality Control Program has been reviewed by the Engineer. No partial payment will be made for materials subject to specific quality control requirements until the Quality Control Program has been reviewed.

The quality control requirements contained in this section and elsewhere in the contract technical specifications are in addition to and separate from the acceptance testing requirements. Acceptance testing requirements are the responsibility of the Engineer.

100-02 DESCRIPTION OF PROGRAM.

a. General Description. The Contractor shall establish a Quality Control Program to perform inspection and testing of all items of work required by the technical specifications, including those performed by subcontractors. This Quality Control Program shall ensure conformance to applicable specifications and plans with respect to materials, workmanship, construction, finish, and functional performance. The Quality Control Program shall be effective for control of all construction work performed under this Contract and shall specifically include surveillance and tests required by the technical specifications, in addition to other requirements of this section and any other activities deemed necessary by the Contractor to establish an effective level of quality control.

b. Quality Control Program. The Contractor shall describe the Quality Control Program in a written document that shall be reviewed by the Engineer prior to the start of any production, construction, or off-site fabrication. The written Quality Control Program shall be submitted to the Engineer for review at least 10 calendar days before the ***associated work begins***.

The Quality Control Program shall be organized to address, as a minimum, the following items:

a. Quality control organization;

b. Project progress schedule;

c. Submittals schedule;

d. Inspection requirements;

e. Quality control testing plan;

f. Documentation of quality control activities; and

g. Requirements for corrective action when quality control and/or acceptance criteria are not met.

The Contractor is encouraged to add any additional elements to the Quality Control Program that he/she deems necessary to adequately control all production and/or construction processes required by this contract.

100-03 QUALITY CONTROL ORGANIZATION. The Contractor Quality Control Program shall be implemented by the establishment of a separate quality control organization. An organizational chart shall be developed to show all quality control personnel and how these personnel integrate with other management/production and construction functions and personnel.

The organizational chart shall identify all quality control staff by name and function, and shall indicate the total staff required to implement all elements of the Quality Control Program, including inspection and testing for each item of work. If necessary, different technicians can be utilized for specific inspection and testing functions for different items of work. If an outside organization or independent testing laboratory is used for implementation of all or part of the Quality Control Program, the personnel assigned shall be subject to the qualification requirements of paragraph 100-03a and 100-03b. The organizational chart shall indicate which personnel are Contractor employees and which are provided by an outside organization.

The quality control organization shall consist of the following minimum personnel:

a. Program Administrator. The Program Administrator shall be a full-time employee of the Contractor, or a consultant engaged by the Contractor. The Program Administrator shall have a minimum of 5 years of experience in airport and/or highway construction and shall have had prior quality control experience on a project of comparable size and scope as the contract.

Additional qualifications for the Program Administrator shall include at least 1 of the following requirements:

(1) Professional engineer with 1 year of airport paving experience acceptable to the Engineer.

(2) Engineer-in-training with 2 years of airport paving experience acceptable to the Engineer.

(3) An individual with 3 years of highway and/or airport paving experience acceptable to the Engineer, with a Bachelor of Science Degree in Civil Engineering, Civil Engineering Technology or Construction.

(4) Construction materials technician certified at Level III by the National Institute for Certification in Engineering Technologies (NICET).

(5) Highway materials technician certified at Level III by NICET.

(6) Highway construction technician certified at Level III by NICET.

(7) A NICET certified engineering technician in Civil Engineering Technology with 5 years of highway and/or airport paving experience acceptable to the Engineer.

The Program Administrator shall have full authority to institute any and all actions necessary for the successful implementation of the Quality Control Program to ensure compliance with the contract plans and technical specifications. The Program Administrator shall report directly to a responsible officer of the construction firm. The Program Administrator may supervise the Quality Control Program on more than one project provided that person can be at the job site within 2 hours after being notified of a problem.

b. Quality Control Technicians. A sufficient number of quality control technicians necessary to adequately implement the Quality Control Program shall be provided. These personnel shall be either engineers, engineering technicians, or experienced craftsman with qualifications in the appropriate field equivalent to NICET Level II or higher construction materials technician or highway construction technician and shall have a minimum of 2 years of experience in their area of expertise.

The quality control technicians shall report directly to the Program Administrator and shall perform the following functions:

(1) Inspection of all materials, construction, plant, and equipment for conformance to the technical specifications, and as required by Section 100-06.

(2) Performance of all quality control tests as required by the technical specifications and Section 100-07.

Certification at an equivalent level, by a state or nationally recognized organization will be acceptable in lieu of NICET certification.

c. Staffing Levels. The Contractor shall provide sufficient qualified quality control personnel to monitor each work activity at all times. Where material is being produced in a plant for incorporation into the work, separate plant and field technicians shall be provided at each plant and field placement location. The scheduling and coordinating of all inspection and testing must match the type and pace of work activity. The Quality Control Program shall state where different technicians will be required for different work elements.

100-04 PROJECT PROGRESS SCHEDULE. The Contractor shall submit a coordinated construction schedule for all work activities. The schedule shall be prepared as a network diagram in Critical Path Method (CPM), PERT, or other format, or as otherwise specified in the contract. As a minimum, it shall provide information on the sequence of work activities, milestone dates, and activity duration.

The Contractor shall maintain the work schedule and provide an update and analysis of the progress schedule on a twice monthly basis, or as otherwise specified in the contract. Submission of the work schedule shall not relieve the Contractor of overall responsibility for scheduling, sequencing, and coordinating all work to comply with the requirements of the contract.

100-05 SUBMITTALS SCHEDULE. The Contractor shall submit a detailed listing of all submittals (e.g., mix designs, material certifications) and shop drawings required by the technical specifications. The listing can be developed in a spreadsheet format and shall include:

a. Specification item number;
b. Item description;
c. Description of submittal;
d. Specification paragraph requiring submittal; and
e. Scheduled date of submittal.

100-06 INSPECTION REQUIREMENTS. Quality control inspection functions shall be organized to provide inspections for all definable features of work, as detailed below. All inspections shall be documented by the Contractor as specified by Section 100-07.

Inspections shall be performed daily to ensure continuing compliance with contract requirements until completion of the particular feature of work. These shall include the following minimum requirements:

a. During plant operation for material production, quality control test results and periodic inspections shall be utilized to ensure the quality of aggregates and other mix components, and to adjust and control mix proportioning to meet the approved mix design and other requirements of the technical specifications. All equipment utilized in proportioning and mixing shall be inspected to ensure its proper operating condition. The Quality Control Program shall detail how these and other quality control functions will be accomplished and utilized.

b. During field operations, quality control test results and periodic inspections shall be utilized to ensure the quality of all materials and workmanship. All equipment utilized in placing, finishing, and compacting shall be inspected to ensure its proper operating condition and to ensure that all such operations are in conformance to the technical specifications and are within the plan dimensions, lines, grades, and tolerances specified. The Program shall document how these and other quality control functions will be accomplished and utilized.

100-07 QUALITY CONTROL TESTING PLAN. As a part of the overall Quality Control Program, the Contractor shall implement a quality control testing plan, as required by the technical specifications. The testing plan shall include the minimum tests and test frequencies required by each technical specification item, as well as any additional quality control tests that the Contractor deems necessary to adequately control production and/or construction processes.

The testing plan can be developed in a spreadsheet fashion and shall, as a minimum, include the following:

a. Specification item number (e.g., P-401);
b. Item description (e.g., Plant Mix Bituminous Pavements);
c. Test type (e.g., gradation, grade, asphalt content);
d. Test standard (e.g., ASTM or AASHTO test number, as applicable);
e. Test frequency (e.g., as required by technical specifications or minimum frequency when requirements are not stated);
f. Responsibility (e.g., plant technician); and
g. Control requirements (e.g., target, permissible deviations).

The testing plan shall contain a statistically-based procedure of random sampling for acquiring test samples in accordance with ASTM D 3665. The Engineer shall be provided the opportunity to witness quality control sampling and testing.

All quality control test results shall be documented by the Contractor as required by Section 100-08.

100-08 DOCUMENTATION. The Contractor shall maintain current quality control records of all inspections and tests performed. These records shall include factual evidence that the required inspections or tests have been performed, including type and number of inspections or tests involved; results of inspections or tests; nature of defects, deviations, causes for rejection, etc.; proposed remedial action; and corrective actions taken.

These records must cover both conforming and defective or deficient features, and must include a statement that all supplies and materials incorporated in the work are in full compliance with the terms of the contract. Legible copies of these records shall be furnished to the Engineer daily. The records shall cover all work placed subsequent to the previously furnished records and shall be verified and signed by the Contractor's Program Administrator.

Specific Contractor quality control records required for the contract shall include, but are not necessarily limited to, the following records:

a. Daily Inspection Reports. Each Contractor quality control technician shall maintain a daily log of all inspections performed for both Contractor and subcontractor operations on a form acceptable to the Engineer. These technician's daily reports shall provide factual evidence that continuous quality control inspections have been performed and shall, as a minimum, include the following:

(1) Technical specification item number and description;
(2) Compliance with approved submittals;
(3) Proper storage of materials and equipment;
(4) Proper operation of all equipment;
(5) Adherence to plans and technical specifications;
(6) Review of quality control tests; and
(7) Safety inspection.

The daily inspection reports shall identify inspections conducted, results of inspections, location and nature of defects found, causes for rejection, and remedial or corrective actions taken or proposed.

The daily inspection reports shall be signed by the responsible quality control technician and the Program Administrator. The Engineer shall be provided at least one copy of each daily inspection report on the work day following the day of record.

b. Daily Test Reports. The Contractor shall be responsible for establishing a system that will record all quality control test results. Daily test reports shall document the following information:

(1) Technical specification item number and description;
(2) Test designation;
(3) Location;
(4) Date of test;
(5) Control requirements;
(6) Test results;
(7) Causes for rejection;
(8) Recommended remedial actions; and
(9) Retests.

Test results from each day's work period shall be submitted to the Engineer prior to the start of the next day's work period. When required by the technical specifications, the Contractor shall maintain statistical quality control charts. The daily test reports shall be signed by the responsible quality control technician and the Program Administrator.

100-09 CORRECTIVE ACTION REQUIREMENTS. The Quality Control Program shall indicate the appropriate action to be taken when a process is deemed, or believed, to be out of control (out of tolerance) and detail what action will be taken to bring the process into control. The requirements for corrective action shall include both general requirements for operation of the Quality Control Program as a whole, and for individual items of work contained in the technical specifications.

The Quality Control Program shall detail how the results of quality control inspections and tests will be used for determining the need for corrective action and shall contain clear sets of rules to gauge when a process is out of control and the type of correction to be taken to regain process control.

When applicable or required by the technical specifications, the Contractor shall establish and utilize statistical quality control charts for individual quality control tests. The requirements for corrective action shall be linked to the control charts.

100-10 SURVEILLANCE BY THE ENGINEER. All items of material and equipment shall be subject to surveillance by the Engineer at the point of production, manufacture or shipment to determine if the Contractor, producer, manufacturer or shipper maintains an adequate quality control system in conformance with the requirements detailed herein and the applicable technical specifications and plans.

In addition, all items of materials, equipment and work in place shall be subject to surveillance by the Engineer at the site for the same purpose.

Surveillance by the Engineer does not relieve the Contractor of performing quality control inspections of either on-site or off-site Contractor's or subcontractor's work.

100-11 NONCOMPLIANCE.

a. The Engineer will notify the Contractor of any noncompliance with any of the foregoing requirements. The Contractor shall, after receipt of such notice, immediately take corrective action. Any notice, when delivered by the Engineer or his/her authorized representative to the Contractor or his/her authorized representative at the site of the work, shall be considered sufficient notice.

b. In cases where quality control activities do not comply with either the Contractor Quality Control Program or the contract provisions, or where the Contractor fails to properly operate and maintain an effective Quality Control Program, as determined by the Engineer, the Engineer may:

(1) Order the Contractor to replace ineffective or unqualified quality control personnel or subcontractors.

(2) Order the Contractor to stop operations until appropriate corrective actions are taken.

END OF SECTION 100

SECTION 110
METHOD OF ESTIMATING PERCENTAGE OF MATERIAL WITHIN SPECIFICATION LIMITS (PWL)

110-01 GENERAL. When the specifications provide for acceptance of material based on the method of estimating percentage of material within specification limits (PWL), the PWL will be determined in accordance with this section. All test results for a lot will be analyzed statistically to determine the total estimated percent of the lot that is within specification limits. The PWL is computed using the sample average (X) and sample standard deviation (S_n) of the specified number (n) of sublots for the lot and the specification tolerance limits, L for lower and U for upper, for the particular acceptance parameter. From these values, the respective Quality index(s), Q_L for Lower Quality Index and/or Q_U for Upper Quality Index, is computed and the PWL for the lot for the specified n is determined from Table 1. All specification limits specified in the technical sections shall be absolute values. Test results used in the calculations shall be to the significant figure given in the test procedure.

There is some degree of uncertainty (risk) in the measurement for acceptance because only a small fraction of production material (the population) is sampled and tested. This uncertainty exists because all portions of the production material have the same probability to be randomly sampled. The Contractor's risk is the probability that material produced at the acceptable quality level is rejected or subjected to a pay adjustment. The Owner's risk is the probability that material produced at the rejectable quality level is accepted.

IT IS THE INTENT OF THIS SECTION TO INFORM THE CONTRACTOR THAT, IN ORDER TO CONSISTENTLY OFFSET THE CONTRACTOR'S RISK FOR MATERIAL EVALUATED, PRODUCTION QUALITY (USING POPULATION AVERAGE AND POPULATION STANDARD DEVIATION) MUST BE MAINTAINED AT THE ACCEPTABLE QUALITY SPECIFIED OR HIGHER. IN ALL CASES, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PRODUCE AT QUALITY LEVELS THAT WILL MEET THE SPECIFIED ACCEPTANCE CRITERIA WHEN SAMPLED AND TESTED AT THE FREQUENCIES SPECIFIED.

110-02 METHOD FOR COMPUTING PWL. The computational sequence for computing PWL is as follows:

a. Divide the lot into n sublots in accordance with the acceptance requirements of the specification.

b. Locate the random sampling position within the sublot in accordance with the requirements of the specification.

c. Make a measurement at each location, or take a test portion and make the measurement on the test portion in accordance with the testing requirements of the specification.

d. Find the sample average (X) for all sublot values within the lot by using the following formula:

$$X = (x_1 + x_2 + x_3 + \ldots x_n) / n$$

Where: X = Sample average of all sublot values within a lot
x_1, x_2 = Individual sublot values
n = Number of sublots

e. Find the sample standard deviation (S_n) by use of the following formula:

$$S_n = [(d_1^2 + d_2^2 + d_3^2 + \ldots d_n^2)/(n-1)]^{1/2}$$

Where: S_n = Sample standard deviation of the number of sublot values in the set
$d_1, d_2,$ = Deviations of the individual sublot values $x_1, x_2, \ldots$ from the average value X

that is: $d_1 = (x_1 - X)$, $d_2 = (x_2 - X)$ ... $d_n = (x_n - X)$

n = Number of sublots

f. For single sided specification limits (i.e., L only), compute the Lower Quality Index Q_L by use of the following formula:

$$Q_L = (X - L) / S_n$$

Where: L = specification lower tolerance limit

Estimate the percentage of material within limits (PWL) by entering Table 1 with Q_L, using the column appropriate to the total number (n) of measurements. If the value of Q_L falls between values shown on the table, use the next higher value of PWL.

g. For double-sided specification limits (i.e. L and U), compute the Quality Indexes Q_L and Q_U by use of the following formulas:

$$Q_L = (X - L) / Sn \text{ and } \quad Q_U = (U - X) / Sn$$

Where: L and U = specification lower and upper tolerance limits

Estimate the percentage of material between the lower (L) and upper (U) tolerance limits (PWL) by entering Table 1 separately with Q_L and Q_U, using the column appropriate to the total number (n) of measurements, and determining the percent of material above P_L and percent of material below P_U for each tolerance limit. If the values of Q_L fall between values shown on the table, use the next higher value of P_L or P_U. Determine the PWL by use of the following formula:

$$PWL = (P_U + P_L) - 100$$

Where: P_L = percent within lower specification limit
P_U = percent within upper specification limit

EXAMPLE OF PWL CALCULATION

Project: Example Project
Test Item: Item P-401, Lot A.

A. PWL Determination for Mat Density.

1. Density of four random cores taken from Lot A.

A-1 96.60
A-2 97.55
A-3 99.30
A-4 98.35
n = 4

2. Calculate average density for the lot.

$X = (x1 + x2 + x3 + . . .xn) / n$
$X = (96.60 + 97.55 + 99.30 + 98.35) / 4$
$X = 97.95$ percent density

3. Calculate the standard deviation for the lot.

$$Sn = [((96.60 - 97.95)^2 + (97.55 - 97.95)^2 + (99.30 - 97.95)^2 + (98.35 - 97.95)^2)) / (4 - 1)]^{1/2}$$

$Sn = [(1.82 + 0.16 + 1.82 + 0.16) / 3]^{1/2}$
$Sn = 1.15$

4. Calculate the Lower Quality Index Q_L for the lot. (L=96.3)

$Q_L = (X - L) / Sn$
$Q_L = (97.95 - 96.30) / 1.15$
$Q_L = 1.4348$

5. Determine PWL by entering Table 1 with Q_L= 1.44 and n= 4.

PWL = 98

B. PWL Determination for Air Voids.

1. Air Voids of four random samples taken from Lot A.

A-1 5.00
A-2 3.74
A-3 2.30
A-4 3.25

2. Calculate the average air voids for the lot.

$X = (x1 + x + x3 \ldots n) / n$

$X = (5.00 + 3.74 + 2.30 + 3.25) / 4$

X = 3.57 percent

3. Calculate the standard deviation Sn for the lot.

$Sn = [((3.57 - 5.00)^2 + (3.57 - 3.74)^2 + (3.57 - 2.30)^2 + (3.57 - 3.25)^2) / (4 - 1)]^{1/2}$

$Sn = [(2.04 + 0.03 + 1.62 + 0.10) / 3]^{1/2}$

Sn = 1.12

4. Calculate the Lower Quality Index Q_L for the lot. (L= 2.0)

$Q_L = (X - L) / Sn$

$Q_L = (3.57 - 2.00) / 1.12$

$Q_L = 1.3992$

5. Determine P_L by entering Table 1 with Q_L = 1.41 and n = 4.

PL = 97

6. Calculate the Upper Quality Index Q_U for the lot. (U= 5.0)

$Q_U = (U - X) / Sn$

$Q_U = (5.00 - 3.57) / 1.12$

$Q_U = 1.2702$

7. Determine P_U by entering Table 1 with $Q_U = 1.29$ and n = 4.

$P_U = 93$

8. Calculate Air Voids PWL

$PWL = (P_L + P_U) - 100$

$PWL = (97 + 93) - 100 = 90$

EXAMPLE OF OUTLIER CALCULATION (Reference ASTM E 178)

Project: Example Project
Test Item: Item P-401, Lot A.

A. Outlier Determination for Mat Density.

1. Density of four random cores taken from Lot A. arranged in descending order.

A-3 99.30
A-4 98.35
A-2 97.55
A-1 96.60

2. Use n=4 and upper 5 percent significance level of to find the critical value for test criterion = 1.463.

3. Use average density, standard deviation, and test criterion value to evaluate density measurements.

a. For measurements greater than the average:
If: (measurement - average)/(standard deviation) is less than test criterion,
Then: the measurement is not considered an outlier

for A-3 Check if (99.30 - 97.95) / 1.15 greater than 1.463
1.174 is less than 1.463, the value is not an outlier

b. For measurements less than the average:
If (average - measurement)/(standard deviation) is less than test criterion, the measurement is not considered an outlier

for A-1 Check if (97.95 - 96.60) / 1.15 greater than 1.463
1.0 is less than 1.463, the value is not an outlier

NOTE: In this example, a measurement would be considered an outlier if the density was:
greater than (97.95+1.463x1.15) = 99.63 percent or,
less than (97.95-1.463x1.15) = 96.27 percent

TABLE 1. TABLE FOR ESTIMATING PERCENT OF LOT WITHIN LIMITS (PWL)

Percent Within Limits (P_L and P_U)	Positive Values of Q (Q_L and Q_U)							
	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
99	1.1541	1.4700	1.6714	1.8008	1.8888	1.9520	1.9994	2.0362
98	1.1524	1.4400	1.6016	1.6982	1.7612	1.8053	1.8379	1.8630
97	1.1496	1.4100	1.5427	1.6181	1.6661	1.6993	1.7235	1.7420
96	1.1456	1.3800	1.4897	1.5497	1.5871	1.6127	1.6313	1.6454
95	1.1405	1.3500	1.4407	1.4887	1.5181	1.5381	1.5525	1.5635
94	1.1342	1.3200	1.3946	1.4329	1.4561	1.4717	1.4829	1.4914
93	1.1269	1.2900	1.3508	1.3810	1.3991	1.4112	1.4199	1.4265
92	1.1184	1.2600	1.3088	1.3323	1.3461	1.3554	1.3620	1.3670
91	1.1089	1.2300	1.2683	1.2860	1.2964	1.3032	1.3081	1.3118
90	1.0982	1.2000	1.2290	1.2419	1.2492	1.2541	1.2576	1.2602
89	1.0864	1.1700	1.1909	1.1995	1.2043	1.2075	1.2098	1.2115
88	1.0736	1.1400	1.1537	1.1587	1.1613	1.1630	1.1643	1.1653
87	1.0597	1.1100	1.1173	1.1192	1.1199	1.1204	1.1208	1.1212
86	1.0448	1.0800	1.0817	1.0808	1.0800	1.0794	1.0791	1.0789
85	1.0288	1.0500	1.0467	1.0435	1.0413	1.0399	1.0389	1.0382
84	1.0119	1.0200	1.0124	1.0071	1.0037	1.0015	1.0000	0.9990
83	0.9939	0.9900	0.9785	0.9715	0.9671	0.9643	0.9624	0.9610
82	0.9749	0.9600	0.9452	0.9367	0.9315	0.9281	0.9258	0.9241
81	0.9550	0.9300	0.9123	0.9025	0.8966	0.8928	0.8901	0.8882
80	0.9342	0.9000	0.8799	0.8690	0.8625	0.8583	0.8554	0.8533
79	0.9124	0.8700	0.8478	0.8360	0.8291	0.8245	0.8214	0.8192
78	0.8897	0.8400	0.8160	0.8036	0.7962	0.7915	0.7882	0.7858
77	0.8662	0.8100	0.7846	0.7716	0.7640	0.7590	0.7556	0.7531
76	0.8417	0.7800	0.7535	0.7401	0.7322	0.7271	0.7236	0.7211
75	0.8165	0.7500	0.7226	0.7089	0.7009	0.6958	0.6922	0.6896
74	0.7904	0.7200	0.6921	0.6781	0.6701	0.6649	0.6613	0.6587
73	0.7636	0.6900	0.6617	0.6477	0.6396	0.6344	0.6308	0.6282
72	0.7360	0.6600	0.6316	0.6176	0.6095	0.6044	0.6008	0.5982
71	0.7077	0.6300	0.6016	0.5878	0.5798	0.5747	0.5712	0.5686
70	0.6787	0.6000	0.5719	0.5582	0.5504	0.5454	0.5419	0.5394
69	0.6490	0.5700	0.5423	0.5290	0.5213	0.5164	0.5130	0.5105
68	0.6187	0.5400	0.5129	0.4999	0.4924	0.4877	0.4844	0.4820
67	0.5878	0.5100	0.4836	0.4710	0.4638	0.4592	0.4560	0.4537
66	0.5563	0.4800	0.4545	0.4424	0.4355	0.4310	0.4280	0.4257
65	0.5242	0.4500	0.4255	0.4139	0.4073	0.4030	0.4001	0.3980
64	0.4916	0.4200	0.3967	0.3856	0.3793	0.3753	0.3725	0.3705
63	0.4586	0.3900	0.3679	0.3575	0.3515	0.3477	0.3451	0.3432
62	0.4251	0.3600	0.3392	0.3295	0.3239	0.3203	0.3179	0.3161
61	0.3911	0.3300	0.3107	0.3016	0.2964	0.2931	0.2908	0.2892
60	0.3568	0.3000	0.2822	0.2738	0.2691	0.2660	0.2639	0.2624
59	0.3222	0.2700	0.2537	0.2461	0.2418	0.2391	0.2372	0.2358
58	0.2872	0.2400	0.2254	0.2186	0.2147	0.2122	0.2105	0.2093
57	0.2519	0.2100	0.1971	0.1911	0.1877	0.1855	0.1840	0.1829
56	0.2164	0.1800	0.1688	0.1636	0.1607	0.1588	0.1575	0.1566
55	0.1806	0.1500	0.1406	0.1363	0.1338	0.1322	0.1312	0.1304
54	0.1447	0.1200	0.1125	0.1090	0.1070	0.1057	0.1049	0.1042
53	0.1087	0.0900	0.0843	0.0817	0.0802	0.0793	0.0786	0.0781
52	0.0725	0.0600	0.0562	0.0544	0.0534	0.0528	0.0524	0.0521
51	0.0363	0.0300	0.0281	0.0272	0.0267	0.0264	0.0262	0.0260
50	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

TABLE 1. TABLE FOR ESTIMATING PERCENT OF LOT WITHIN LIMITS (PWL)

Percent Within Limits (P_L and P_U)	Negative Values of Q (Q_L and Q_U)							
	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
49	-0.0363	-0.0300	-0.0281	-0.0272	-0.0267	-0.0264	-0.0262	-0.0260
48	-0.0725	-0.0600	-0.0562	-0.0544	-0.0534	-0.0528	-0.0524	-0.0521
47	-0.1087	-0.0900	-0.0843	-0.0817	-0.0802	-0.0793	-0.0786	-0.0781
46	-0.1447	-0.1200	-0.1125	-0.1090	-0.1070	-0.1057	-0.1049	-0.1042
45	-0.1806	-0.1500	-0.1406	-0.1363	-0.1338	-0.1322	-0.1312	-0.1304
44	-0.2164	-0.1800	-0.1688	-0.1636	-0.1607	-0.1588	-0.1575	-0.1566
43	-0.2519	-0.2100	-0.1971	-0.1911	-0.1877	-0.1855	-0.1840	-0.1829
42	-0.2872	-0.2400	-0.2254	-0.2186	-0.2147	-0.2122	-0.2105	-0.2093
41	-0.3222	-0.2700	-0.2537	-0.2461	-0.2418	-0.2391	-0.2372	-0.2358
40	-0.3568	-0.3000	-0.2822	-0.2738	-0.2691	-0.2660	-0.2639	-0.2624
39	-0.3911	-0.3300	-0.3107	-0.3016	-0.2964	-0.2931	-0.2908	-0.2892
38	-0.4251	-0.3600	-0.3392	-0.3295	-0.3239	-0.3203	-0.3179	-0.3161
37	-0.4586	-0.3900	-0.3679	-0.3575	-0.3515	-0.3477	-0.3451	-0.3432
36	-0.4916	-0.4200	-0.3967	-0.3856	-0.3793	-0.3753	-0.3725	-0.3705
35	-0.5242	-0.4500	-0.4255	-0.4139	-0.4073	-0.4030	-0.4001	-0.3980
34	-0.5563	-0.4800	-0.4545	-0.4424	-0.4355	-0.4310	-0.4280	-0.4257
33	-0.5878	-0.5100	-0.4836	-0.4710	-0.4638	-0.4592	-0.4560	-0.4537
32	-0.6187	-0.5400	-0.5129	-0.4999	-0.4924	-0.4877	-0.4844	-0.4820
31	-0.6490	-0.5700	-0.5423	-0.5290	-0.5213	-0.5164	-0.5130	-0.5105
30	-0.6787	-0.6000	-0.5719	-0.5582	-0.5504	-0.5454	-0.5419	-0.5394
29	-0.7077	-0.6300	-0.6016	-0.5878	-0.5798	-0.5747	-0.5712	-0.5686
28	-0.7360	-0.6600	-0.6316	-0.6176	-0.6095	-0.6044	-0.6008	-0.5982
27	-0.7636	-0.6900	-0.6617	-0.6477	-0.6396	-0.6344	-0.6308	-0.6282
26	-0.7904	-0.7200	-0.6921	-0.6781	-0.6701	-0.6649	-0.6613	-0.6587
25	-0.8165	-0.7500	-0.7226	-0.7089	-0.7009	-0.6958	-0.6922	-0.6896
24	-0.8417	-0.7800	-0.7535	-0.7401	-0.7322	-0.7271	-0.7236	-0.7211
23	-0.8662	-0.8100	-0.7846	-0.7716	-0.7640	-0.7590	-0.7556	-0.7531
22	-0.8897	-0.8400	-0.8160	-0.8036	-0.7962	-0.7915	-0.7882	-0.7858
21	-0.9124	-0.8700	-0.8478	-0.8360	-0.8291	-0.8245	-0.8214	-0.8192
20	-0.9342	-0.9000	-0.8799	-0.8690	-0.8625	-0.8583	-0.8554	-0.8533
19	-0.9550	-0.9300	-0.9123	-0.9025	-0.8966	-0.8928	-0.8901	-0.8882
18	-0.9749	-0.9600	-0.9452	-0.9367	-0.9315	-0.9281	-0.9258	-0.9241
17	-0.9939	-0.9900	-0.9785	-0.9715	-0.9671	-0.9643	-0.9624	-0.9610
16	-1.0119	-1.0200	-1.0124	-1.0071	-1.0037	-1.0015	-1.0000	-0.9990
15	-1.0288	-1.0500	-1.0467	-1.0435	-1.0413	-1.0399	-1.0389	-1.0382
14	-1.0448	-1.0800	-1.0817	-1.0808	-1.0800	-1.0794	-1.0791	-1.0789
13	-1.0597	-1.1100	-1.1173	-1.1192	-1.1199	-1.1204	-1.1208	-1.1212
12	-1.0736	-1.1400	-1.1537	-1.1587	-1.1613	-1.1630	-1.1643	-1.1653
11	-1.0864	-1.1700	-1.1909	-1.1995	-1.2043	-1.2075	-1.2098	-1.2115
10	-1.0982	-1.2000	-1.2290	-1.2419	-1.2492	-1.2541	-1.2576	-1.2602
9	-1.1089	-1.2300	-1.2683	-1.2860	-1.2964	-1.3032	-1.3081	-1.3118
8	-1.1184	-1.2600	-1.3088	-1.3323	-1.3461	-1.3554	-1.3620	-1.3670
7	-1.1269	-1.2900	-1.3508	-1.3810	-1.3991	-1.4112	-1.4199	-1.4265
6	-1.1342	-1.3200	-1.3946	-1.4329	-1.4561	-1.4717	-1.4829	-1.4914
5	-1.1405	-1.3500	-1.4407	-1.4887	-1.5181	-1.5381	-1.5525	-1.5635
4	-1.1456	-1.3800	-1.4897	-1.5497	-1.5871	-1.6127	-1.6313	-1.6454
3	-1.1496	-1.4100	-1.5427	-1.6181	-1.6661	-1.6993	-1.7235	-1.7420
2	-1.1524	-1.4400	-1.6016	-1.6982	-1.7612	-1.8053	-1.8379	-1.8630
1	-1.1541	-1.4700	-1.6714	-1.8008	-1.8888	-1.9520	-1.9994	-2.0362

END OF SECTION 110

SECTION 120
NUCLEAR GAGES

120-01 TESTING. When the specifications provide for nuclear gauge acceptance testing of material for Items P-152, P-154, P-208, and P-209, the testing shall be performed in accordance with this section. At each sampling location, the field density shall be determined in accordance with ASTM D 6938 using the Direct Transmission Method. The nuclear gauge shall be calibrated in accordance with ASTM D 6938. Calibration and operation of the gauge shall be in accordance with the requirements of the manufacturer. The operator of the nuclear gauge must show evidence of training and experience in the use of the instrument. The gauge shall be standardized daily in accordance with ASTM standards.

When using the nuclear method, ASTM D 6938 shall be used to determine the moisture content of the material. The calibration curve furnished with the nuclear gauges shall be checked in accordance with ASTM standards. The calibration checks shall be made at the beginning of a job and at regular daily intervals.

The material shall be accepted on a lot basis. Each Lot shall be divided into eight (8) sublots when ASTM D 6938 is used.

120-02. When PWL concepts are incorporated, compaction shall continue until a PWL of 90 percent or more is achieved using the lower specification tolerance limits (L) below.

The percentage of material within specification limits (PWL) shall be determined in accordance with the procedures specified in Section 110 of the General Provisions.

The lower specification tolerance limit (L) for density shall be:

Specification Item Number	Specification Tolerance (L) for Density (percent of laboratory maximum)
Item P-152	90.5 for cohesive material; 95.5 for non-cohesive material
Item P-154	95.5
Item P-208	97.0
Item P-209	97.0

If the PWL is less than 90 percent, the lot shall be reworked and recompacted by the Contractor at the Contractor's expense. After reworking and recompaction, the lot shall be resampled and retested. Retest results for the lot shall be reevaluated for acceptance. This procedure shall continue until the PWL is 90 percent or greater.

120-03 VERIFICATION TESTING. (For Items P-152 and P-154 only.) The Engineer will verify the maximum laboratory density of material placed in the field for each lot. A minimum of one test will be made for each lot of material at the site. The verification process will consist of; (1) compacting the material and determining the dry density and moisture-density in accordance with **ASTM D 1557 for aircraft gross weights 60,000 pounds or more**, and (2) comparing the result with the laboratory moisture-density curves for the material being placed. This verification process is commonly referred to as a "one-point Proctor".

If the material does not conform to the existing moisture-density curves, the Engineer will establish the laboratory maximum density and optimum moisture content for the material in accordance with **ASTM D 1557 for aircraft gross weights 60,000 pounds or more.**

Additional verification tests will be made, if necessary, to properly classify all materials placed in the lot.

The percent compaction of each sampling location will be determined by dividing the field density of each sublot by the laboratory maximum density for the lot.

END OF SECTION 120

SECTION J
SPECIAL PROVISIONS

SPECIAL PROVISIONS

TABLE OF CONTENTS

A. FEDERAL AVIATION ADMINISTRATION REQUIREMENTS

A-01 Civil Rights - General
A-02 Civil Rights Act of 1964, Title VI
A-03 Notice of Requirement for Affirmative Action
A-04 Access to Records and Reports
A-05 Buy American Certification
A-06 Disadvantage Business Enterprises
A-07 Energy Conservation Requirements
A-08 Federal Fair Labor Standards Act (Federal Minimum Wage)
A-09 Lobbying and Influencing Federal Employees
A-10 Occupational Safety and Health Act of 1970
A-11 Rights to Inventions
A-12 Trade Restriction Clause
A-13 Veteran's Preference
A-14 Copeland Anti-Kickback Act
A-15 Davis Bacon Labor Provisions
A-16 Equal Opportunity Clause
A-17 Notice of Non-Segregated Facilities Requirement
A-18 Termination of Contract
A-19 Certificate Regarding Debarment and Suspension
A-20 Breach of Contract
A-21 Clean Air and Water Pollution Control
A-22 Contract Workhours and Safety Standards Act Requirements

B. STATE TERMS AND CONDITIONS

NOT USED

C. LOCAL TERMS AND CONDITIONS

C-01 Insurance
C-02 Utilities
C-03 Legal Holidays
C-04 Clean Up
C-05 Project Meetings and Coordination
C-06 Liquidated Damages for Delay
C-07 Quality Assurance/Materials Testing
C-08 Record Documents
C-09 Contractor/Subcontractor/Supplier Legal Disputes
C-10 General Guaranty
C-11 Contractor's Release and Affidavit
C-12 Submittals
C-13 Stormwater Pollution Prevention Plan
C-14 Test Borings/Subsurface Information
C-15 Wage Rates

SECTION A – FEDERAL AVIATION ADMINISTRATION REQUIREMENTS

A-01 GENERAL CIVIL RIGHTS PROVISIONS

The contractor agrees that it will comply with pertinent statutes, Executive Orders and such rules as are promulgated to ensure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or handicap be excluded from participating in any activity conducted with or benefiting from Federal assistance.

This provision binds the contractors from the bid solicitation period through the completion of the contract. This provision is in addition to that required of Title VI of the Civil Rights Act of 1964.

This provision also obligates the tenant/concessionaire/lessee or its transferee for the period during which Federal assistance is extended to the airport through the Airport Improvement Program, except where Federal assistance is to provide, or is in the form of personal property; real property or interest therein; structures or improvements thereon.

In these cases the provision obligates the party or any transferee for the longer of the following periods:

(a) the period during which the property is used by the airport sponsor or any transferee for a purpose for which Federal assistance is extended, or for another purpose involving the provision of similar services or benefits; or
(b) the period during which the airport sponsor or any transferee retains ownership or possession of the property.

A-02 CIVIL RIGHTS – TITLE VI ASSURANCES

Title VI Solicitation Notice:
The Owner, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the **Title VI List of Pertinent Nondiscrimination Statutes and Authorities,** as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

2. **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.

3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.

4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the sponsor or the Federal Aviation Administration to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the sponsor or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

5. **Sanctions for Noncompliance:** In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the sponsor will impose such contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:

   a. Withholding payments to the contractor under the contract until the contractor complies; and/or

   b. Cancelling, terminating, or suspending a contract, in whole or in part.

6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the sponsor or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the sponsor to enter into any litigation to protect the interests of the sponsor. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

A-03 NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein

.

2. The goals and timetables for minority and female participation, expressed in percentage terms for the contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

   A. Timetables
   B. Goals for minority participation for each trade (Vol. 45 Federal Register pg. 65984 10/3/80)
   C. Goals for female participation in each trade (6.9%)

   These goals are applicable to all of the contractor's construction work (whether or not it is Federal or federally-assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor is also subject to the goals for both federally funded and non-federally funded construction regardless of the percentage of federal participation in funding.

   The contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training shall be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from contractor to contractor or from project to project, for the sole

purpose of meeting the contractor's goals, shall be a violation of the contract, the Executive Order, and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The contractor shall provide written notification to the Director, Office of Federal Contract Compliance Programs (OFCCP), within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of subcontract; and the geographical area in which the subcontract is to be performed.

4. As used in this notice and in the contract resulting from this solicitation, the "covered area" is **Jefferson County, Texas**.

A-04 ACCESS TO RECORDS AND REPORTS

The Contractor must maintain an acceptable cost accounting system. The Contractor agrees to provide the Sponsor, the Federal Aviation Administration, and the Comptroller General of the United States or any of their duly authorized representatives access to any books, documents, papers, and records of the contractor which are directly pertinent to the specific contract for the purpose of making audit, examination, excerpts and transcriptions. The Contractor agrees to maintain all books, records and reports required under this contract for a period of not less than three years after final payment is made and all pending matters are closed.

A-05 BUY AMERICAN CERTIFICATION

See Section 010470 "Bidder Certifications" for Contractor Buy American Certification.

A-06 DISADVANTAGED BUSINESS ENTERPRISES

Contract Assurance (§ 26.13) - The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy, as the recipient deems appropriate.

Prompt Payment (§26.29))- The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than 30 days from the receipt of each payment the prime contractor receives from Owner. The prime contractor agrees further to return retainage payments to each subcontractor within {specify the same number as above} days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the Owner. This clause applies to both DBE and non-DBE subcontractors.

A-07 ENERGY CONSERVATION REQUIREMENTS

The contractor agrees to comply with mandatory standards and policies relating to energy efficiency that are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Public Law 94-163).

A-08 FEDERAL FAIR LABOR STANDARDS ACT (FEDERAL MINIMUM WAGE)

All contracts and subcontracts that result from this solicitation incorporate the following provisions by reference, with the same force and effect as if given in full text. The contractor has full responsibility to monitor compliance to the referenced statute or regulation. The contractor must address any claims or

disputes that pertain to a referenced requirement directly with the Federal Agency with enforcement responsibilities.

Requirement	Federal Agency with Enforcement Responsibilities
Federal Fair Labor Standards Act (29 USC 201)	U.S. Department of Labor – Wage and Hour Division

A-09 LOBBYING AND INFLUENCING FEDERAL EMPLOYEES

The bidder or offeror certifies by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the bidder or offeror, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

A-10 OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970

All contracts and subcontracts that result from this solicitation incorporate the following provisions by reference, with the same force and effect as if given in full text. The contractor has full responsibility to monitor compliance to the referenced statute or regulation. The contractor must address any claims or disputes that pertain to a referenced requirement directly with the Federal Agency with enforcement responsibilities.

Requirement	Federal Agency with Enforcement Responsibilities
Occupational Safety and Health Act of 1970 (20 CFR Part 1910)	U.S. Department of Labor – Occupational Safety and Health Administration

A-11 RIGHTS TO INVENSIONS

All rights to inventions and materials generated under this contract are subject to requirements and regulations issued by the FAA and the Sponsor of the Federal grant under which this contract is executed.

A-12 TRADE RESTRICTION CLAUSE

The contractor or subcontractor, by submission of an offer and/or execution of a contract, certifies that it:

a. Is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms published by the Office of the United States Trade Representative (USTR);

b. has not knowingly entered into any contract or subcontract for this project with a person that is a citizen or national of a foreign country on said list, or is owned or controlled directly or indirectly by one or more citizens or nationals of a foreign country on said list;

c. has not procured any product nor subcontracted for the supply of any product for use on the project that is produced in a foreign country on said list.

Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR 30.17, no contract shall be awarded to a contractor or subcontractor who is unable to certify to the above. If the contractor knowingly procures or subcontracts for the supply of any product or service of a foreign country on said list for use on the project, the Federal Aviation Administration may direct through the Sponsor cancellation of the contract at no cost to the Government.

Further, the contractor agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in each contract and in all lower tier subcontracts. The contractor may rely on the certification of a prospective subcontractor unless it has knowledge that the certification is erroneous.

The contractor shall provide immediate written notice to the sponsor if the contractor learns that its certification or that of a subcontractor was erroneous when submitted or has become erroneous by reason of changed circumstances. The subcontractor agrees to provide written notice to the contractor if at any time it learns that its certification was erroneous by reason of changed circumstances.

This certification is a material representation of fact upon which reliance was placed when making the award. If it is later determined that the contractor or subcontractor knowingly rendered an erroneous certification, the Federal Aviation Administration may direct through the Sponsor cancellation of the contract or subcontract for default at no cost to the Government.

Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by this provision. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

This certification concerns a matter within the jurisdiction of an agency of the United States of America and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code, Section 1001

A-13 VETERAN'S PREFERENCE

In the employment of labor (except in executive, administrative, and supervisory positions), preference must be given to Vietnam era veterans, Persian Gulf veterans, Afghanistan-Iraq war veterans, disabled veterans, and small business concerns owned and controlled by disabled veterans as defined in Title 49 United States

Code, Section 47112. However, this preference shall apply only where the individuals are available and qualified to perform the work to which the employment relates.

A-14 COPELAND "ANTI-KICKBACK" ACT

The United States Department of Labor Wage and Hours Division oversees the Copeland "Anti-Kickback" Act requirements. All contracts and subcontracts must meet comply with the Occupational Safety and Health Act of 1970.

United States Department of Labor Wage and Hours Division can provide information regarding any specific clauses or assurances pertaining to the Copeland "Anti-Kickback" Act requirements required to be inserted in solicitations, contracts or subcontracts.

A-15 DAVIS-BACON LABOR PROVISIONS

1. Minimum Wages

(I) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalent thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under (1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can easily be seen by the workers.

(ii) (A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
(2) The classification is utilized in the area by the construction industry; and
(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate

(including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii) (B) or (C) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2 Withholding.

The Federal Aviation Administration or the Sponsor shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of work, all or part of the wages required by the contract, the Federal Aviation Administration may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-

Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual costs incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii) (A) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant, sponsor, or owner, as the case may be, for transmission to the Federal Aviation Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/esa/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit them to the applicant, sponsor, or owner, as the case may be, for transmission to the Federal Aviation Administration, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, sponsor, or owner).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under 29 CFR § 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR § 5.5 (a)(3)(i) and that such information is correct and complete;
(2) That each laborer and mechanic (including each helper, apprentice and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations 29 CFR Part 3;
(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (3)(i) of this section available for inspection, copying or transcription by authorized representatives of the Sponsor, the

Federal Aviation Administration or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the contractor, sponsor, applicant or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and Trainees.

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate that is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee

performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal Employment Opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance With Copeland Act Requirements.

The contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this contract.

6. Subcontracts.

The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR Part 5.5(a)(1) through (10) and such other clauses as the Federal Aviation Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR Part 5.5.

7. Contract Termination: Debarment.

A breach of the contract clauses in paragraph 1 through 10 of this section may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance With Davis-Bacon and Related Act Requirements.

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes Concerning Labor Standards.

Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6 and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of Eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

A-16 EQUAL OPPORTUNITY CLAUSE

During the performance of this contract, the contractor agrees as follows:

(1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, or national origin.

(3) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(5) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(6) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(7) The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, That in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the contractor may request the United States to enter into such litigation to protect the interests of the United States.

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS

1. As used in these specifications:

a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;

b. "Director" means Director, Office of Federal Contract Compliance Programs (OFCCP), U.S. Department of Labor, or any person to whom the Director delegates authority;

c. "Employer identification number" means the Federal social security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941;

d. "Minority" includes:

(1) Black (all) persons having origins in any of the Black African racial groups not of Hispanic origin);
(2) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin regardless of race);
(3) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
(4) American Indian or Alaskan native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. Whenever the contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors shall be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each contractor or subcontractor participating in an approved plan is individually required to comply with its obligations under the EEO clause and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other contractors or subcontractors toward a goal in an approved Plan does not excuse any covered contractor's or subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4. The contractor shall implement the specific affirmative action standards provided in paragraphs 18.7a through 18.7p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in a geographical area where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement nor the failure by a union with whom the contractor has a collective bargaining agreement to refer either minorities or women shall excuse the contractor's obligations under these specifications, Executive Order 11246 or the regulations promulgated pursuant thereto.

6. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees shall be employed by the contractor during the training period and the contractor shall have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees shall be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The contractor shall document these efforts fully and shall implement affirmative action steps at least as extensive as the following:

a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the contractor's employees are assigned to work. The contractor, where possible, will assign two or more women to each construction project. The contractor shall specifically ensure that all foremen, superintendents, and other onsite supervisory personnel are aware of and carry out the contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

c. Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source, or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the contractor by the union or, if referred, not employed by the contractor, this shall be documented in the file with the reason therefore along with whatever additional actions the contractor may have taken.

d. Provide immediate written notification to the Director when the union or unions with which the contractor has a collective bargaining agreement has not referred to the contractor a minority person or female sent by the contractor, or when the contractor has other information that the union referral process has impeded the contractor's efforts to meet its obligations.

e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the contractor's employment needs, especially those programs funded or approved by the Department of Labor. The contractor shall provide notice of these programs to the sources compiled under 7b above.

f. Disseminate the contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with onsite supervisory personnel such a superintendents, general foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the contractor's EEO policy with other contractors and subcontractors with whom the contractor does or anticipates doing business.

i. Direct its recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students; and to minority and female recruitment and training organizations serving the contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the contractor shall send written notification to organizations, such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable provide after school, summer, and vacation employment to minority and female youth both on the site and in other areas of a contractor's workforce.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel, for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are non-segregated except that separate or single user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations, which assist in fulfilling one or more of their affirmative action obligations (18.7a through 18.7p). The efforts of a contractor association, joint contractor union, contractor community, or other similar groups of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 18.7a through 18.7p of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the contractor. The obligation to comply, however, is the contractor's and failure of such a group to fulfill an obligation shall not be a defense for the contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, if the particular group is employed in a substantially disparate manner (for example, even though the contractor has achieved its goals for women generally,) the contractor may be in violation of the Executive Order if a specific minority group of women is underutilized.

10. The contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

11. The contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination, and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 18.7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep records. Records shall at least include for each employee, the name, address, telephone number, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

A-17 NOTICE OF NONSEGREGATED FACILITIES REQUIREMENT

Notice to Prospective Federally Assisted Construction Contractors:

1. A Certification of Non-segregated Facilities shall be submitted prior to the award of a federally-assisted construction contract exceeding $10,000 which is not exempt from the provisions of the Equal Opportunity Clause.

2. Contractors receiving federally-assisted construction contract awards exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity Clause will be required to provide for the forwarding of the following notice to prospective subcontractors for supplies and construction contracts where the subcontracts exceed $10,000 and are not exempt from the provisions of the Equal Opportunity Clause.

3. The penalty for making false statements in offers is prescribed in 18 U.S.C. § 1001.

Notice to Prospective Subcontractors of Requirements for Certification of Non-Segregated Facilities:

1. A Certification of Non-segregated Facilities shall be submitted prior to the award of a subcontract exceeding $10,000, which is not exempt from the provisions of the Equal Opportunity Clause.

2. Contractors receiving subcontract awards exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity Clause will be required to provide for the forwarding of this notice to prospective subcontractors for supplies and construction contracts where the subcontracts exceed $10,000 and are not exempt from the provisions of the Equal Opportunity Clause.

3. The penalty for making false statements in offers is prescribed in 18 U.S.C. § 1001.

CERTIFICATION OF NONSEGREGATED FACILITIES

The federally-assisted construction contractor certifies that she or he does not maintain or provide, for his employees, any segregated facilities at any of his establishments and that she or he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally-assisted construction contractor certifies that she or he will not maintain or provide, for his employees, segregated facilities at any of his establishments and that she or he will not permit his employees to perform their services at any location under his control where segregated facilities are maintained. The federally-assisted construction contractor agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this contract.

As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms, and washrooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directives or are, in fact, segregated on the basis of race, color, religion, or national origin because of habit, local custom, or any other reason. The federally-assisted construction contractor agrees that (except where she or he has obtained identical certifications from proposed subcontractors for specific time periods) she or he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity Clause and that she or he will retain such certifications in his files.

A-18 TERMINATION OF CONTRACT

a. The Sponsor may, by written notice, terminate this contract in whole or in part at any time, either for the Sponsor's convenience or because of failure to fulfill the contract obligations. Upon receipt of such notice services must be immediately discontinued (unless the notice directs otherwise) and all materials as may have been accumulated in performing this contract, whether completed or in progress, delivered to the Sponsor.

b. If the termination is for the convenience of the Sponsor, an equitable adjustment in the contract price will be made, but no amount will be allowed for anticipated profit on unperformed services.

c. If the termination is due to failure to fulfill the contractor's obligations, the Sponsor may take over the work and prosecute the same to completion by contract or otherwise. In such case, the contractor is liable to the Sponsor for any additional cost occasioned to the Sponsor thereby.

d. If, after notice of termination for failure to fulfill contract obligations, it is determined that the contractor had not so failed, the termination will be deemed to have been effected for the convenience of the Sponsor. In such event, adjustment in the contract price will be made as provided in paragraph 2 of this clause.

e. The rights and remedies of the sponsor provided in this clause are in addition to any other rights and remedies provided by law or under this contract.

A-19 CERTIFICATE REGARDING DEBARMENT AND SUSPENSION

By submitting a bid/proposal under this solicitation, the bidder or offeror certifies that at the time the bidder or offeror submits its proposal that neither it nor its principals are presently debarred or suspended by any Federal department or agency from participation in this transaction.

CERTIFICATION REGARDING DEBARMENT AND SUSPENSION (SUCCESSFUL BIDDER REGARDING LOWER TIER PARTICIPANTS)

The successful bidder, by administering each lower tier subcontract that exceeds $25,000 as a "covered transaction", must verify each lower tier participant of a "covered transaction" under the project is not presently debarred or otherwise disqualified from participation in this federally assisted project. The successful bidder will accomplish this by:

1. Checking the System for Award Management at website: http://www.sam.gov

2. Collecting a certification statement similar to the Certificate Regarding Debarment and Suspension (Bidder or Offeror), above.

3. Inserting a clause or condition in the covered transaction with the lower tier contract

If the FAA later determines that a lower tier participant failed to tell a higher tier that it was excluded or disqualified at the time it entered the covered transaction, the FAA may pursue any available remedy, including suspension and debarment.

A-20 BREACH OF CONTRACT

Any violation or breach of terms of this contract on the part of the contractor or its subcontractors may result in the suspension or termination of this contract or such other action that may be necessary to enforce the rights of the parties of this agreement. The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder are in addition to, and not a limitation of, any duties, obligations, rights and remedies otherwise imposed or available by law.

A-21 CLEAN AIR AND WATER POLLUTION CONTROL

Contractors and subcontractors agree:

1. That any facility to be used in the performance of the contract or subcontract or to benefit from the contract is not listed on the Environmental Protection Agency (EPA) List of Violating Facilities;

2. To comply with all the requirements of Section 114 of the Clean Air Act, as amended, 42 U.S.C. 1857 et seq. and Section 308 of the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq. relating to inspection, monitoring, entry, reports, and information, as well as all other requirements specified in Section 114 and Section 308 of the Acts, respectively, and all other regulations and guidelines issued thereunder;

3. That, as a condition for the award of this contract, the contractor or subcontractor will notify the awarding official of the receipt of any communication from the EPA indicating that a facility to be used for the performance of or benefit from the contract is under consideration to be listed on the EPA List of Violating Facilities;

4. To include or cause to be included in any construction contract or subcontract which exceeds $100,000 the aforementioned criteria and requirements.

A-22 CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS

1. Overtime Requirements.

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic, including watchmen and guards, in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2 .Violation; Liability for Unpaid Wages; Liquidated Damages.

In the event of any violation of the clause set forth in paragraph (1) above, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph 1 above, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1 above.

3. Withholding for Unpaid Wages and Liquidated Damages.

The Federal Aviation Administration or the Sponsor shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any monies payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 2 above.

4. Subcontractors.

The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs 1 through 4 and also a clause requiring the subcontractor to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1 through 4 of this section.

SECTION B – STATE TERMS AND CONDITIONS

B-01 NOT USED

SECTION C – LOCAL TERMS AND CONDITIONS

C-01 CONTRACTOR'S INSURANCE

All insurance must be written by an insurer licensed to conduct business in the State of Texas, unless otherwise permitted by OWNER. The CONTRACTOR shall, at his own expense, purchase, maintain and keep in force insurance that will protect against injury and/or damages which may arise out of or result from operations under this Contract, whether the operations be himself or by any Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable of the following types and limits (No insurance policy or Certificate of Insurance required below shall contain any aggregate policy year limit unless a specific dollar amount aggregate policy year limit is expressly provided in the specification below which covers the particular insurance policy or Certificate of Insurance).

Owner:
Mr. Alex Rupp - 4875 Parker Drive, Beaumont, TX 77705. email: Arupp@co.Jefferson.tx.us

Garver:
Mr Thomas Dodson 11111 Katy Freeway, Suite 910, Houston, TX 77079. email: tddodson@garverusa.com

C-01.1 Limits

1. *Standard Worker's Compensation Insurance* (with waiver of subrogation in favor of the Jefferson County, its Officers, Agents & Employees). (Jefferson County and Contractor and all persons providing services shall comply with the workers compensation insurance requirements of Section 406.096 of the Texas Labor Code and 28 TAC Section 110.110, a copy of which is attached hereto and is hereby incorporated by reference.)

2. *Commercial General Liability* occurrence type insurance. No. "XCU" RESTRICTIONS SHALL BE APPLICABLE. Products/completed operations coverage must be included, and JEFFERSON COUNTY, its Officers, Agents, and Employees must be named as an additional Insured.
   - o Bodily Injury $500,000 single limit per occurrence, or $500,000 each person/ $500,000 per occurrence for contracts of $100,000 or less; or,
   - o Bodily Injury $1,000,000 single limit per occurrence or $1,000,000 each person/$1,000,000 per occurrence for contracts in excess of $100,000; and,
   - o Property Damage $100,000 per occurrence regardless of Contract amount; and,
   - o Minimum aggregate policy year limit of $1,000,000 for contracts of $100,000 or less; or,
   - o Minimum aggregate policy year limit of $2,000,000 for contracts in excess of $100,000.

3. Comprehensive Automobile Liability (including owned, non-owned and hired vehicles coverage).
   - o Minimum combined single limit of $500,000 per occurrence for bodily injury and property damage.
   - o If individual limits are provided, minimum limits are $300,000 per person, $500,000 per occurrence for bodily injury, and $100,000 per occurrence for property damage.

4. Contractual Liability Insurance covering the indemnity provision of this Contract in the same amount and coverage as provided for Commercial General Liability Policy, specifically referring to this Contract by date, job number and location;

5. All-Risk Builder's Risk of the non-reporting type (**NOT REQUIRED** for grading, paving projects, water and sewer line projects or projects involving lump sum payments).

CONTRACTOR shall cause CONTRACTOR'S insurance company or insurance agent to fill in all information required (including names of insurance agency, CONTRACTOR and insurance companies, and policy numbers, effective dates and expiration dates) and to date and sign and do all other things

necessary to complete and make into a valid Certificate of Insurance the CERTIFICATE OF INSURANCE form attached to and made a part of the Information To Bidders, and pertaining to the above listed Items 1, 2, 3 and 4; and before commencing any of the work and within the time otherwise specified. CONTRACTOR shall file said completed form with the OWNER.
None of the provisions in said Form shall be altered or modified in any respect except as herein expressly authorized. Said CERTIFICATE OF INSURANCE Form contains a provision that coverage's afforded under the policies will not be altered, modified or cancelled unless at least fifteen (15) days prior written notice has been given to the OWNER. CONTRACTOR shall also file with the OWNER valid CERTIFICATE(s) OF INSURANCE on like form from or for all Subcontractors and showing the Subcontractor(s) as the Insured. Said completed CERTIFICATE OF INSURANCE Form(s) shall in any event be filed with OWNER not more than ten (10) days after execution of this Contract.

The original Builder's Risk policy (if required) shall provide for fifteen (15) days written notice of alteration, modification or cancellation and shall be furnished to OWNER. Provided, however, until the Original Policy is issued and furnished to the OWNER a Certified Insurance Binder with the identical notice will be acceptable in place of the original policy, which original policy must be received by the OWNER not later than thirty (30) days after issuance of the Notice to Proceed for the project. Notwithstanding any other provision in the Contract Documents, it is further mutually understood and agreed that no payment will be due and owing or made to the CONTRACTOR for any work performed under the Contract until all of the required insurance documentation, including the original policy specified above, are received by the OWNER.

The CONTRACTOR shall not commence work under this Contract until he has obtained all the insurance required herein and such insurance has been approved by the OWNER, nor shall the CONTRACTOR allow any Subcontractor to commence work on this Subcontract until the insurance required of the Subcontractor has been so obtained and approved.

Cancellation, Non-Renewal, and/or Impairment Notification. Contractor agrees to provide written notification to Owner and Engineer of the cancellation, non-renewal and/or impairment of such insurance coverage, for any reason whatsoever within 2 days of receiving such notice.
Notice shall be sent via email and regular mail to the following persons and addresses:

Owner:
Mr. Alex Rupp - 4875 Parker Drive, Beaumont, TX 77705. email: Arupp@co.Jefferson.tx.us

Engineer:
Mr. Thomas Dodson 11111 Katy Freeway, Suite 910, Houston, TX 77079. email: tddodson@garverusa.com

C-02 UTILITIES

All work in this contract shall be in accordance with the **16 TAC Chapter 18**. The Contractor shall abide by the most current edition of this Act.

Underground utilities exist within and adjacent to the limits of construction. An attempt has been made to locate these utilities on the plans. However, all existing utilities may not be shown and the actual locations of the utilities may vary from the locations shown.

The Contractor shall be responsible for the protection of all existing utilities or improvements crossed by or adjacent to his construction operations. Where existing utilities or service lines are cut, broken, or damaged, the Contractor shall replace or repair immediately the utilities or service lines with the same type of original material and construction or better, at his own expense.

C-03 LEGAL HOLIDAYS

Holidays that shall be observed are the following: New Year's Day (January 1); Memorial Day (last Monday in May); Independence Day (July 4); Labor Day (1st Monday in September); Thanksgiving Day (4th Thursday in November); and Christmas Day (December 25); no other days will be so considered. If a holiday falls on a Saturday or Sunday, the observed day shall be the Friday preceding the Saturday or the Monday following the Sunday. No construction observation will be furnished on legal holidays or Sundays, except in an emergency. The Contractor shall observe these legal holidays and all Sundays, and no work shall be performed on these days except in an emergency. Calendar day contract time includes delays for all holidays. Refer to Section C-06 for more information.

C-04 CLEAN UP

From time to time, the Contractor shall clean up the site, including any work areas at the airport, in order that the site presents a neat appearance and the progress of the work not be impeded. One such period of clean up shall immediately precede final inspection.

Immediately following acceptance of the work by the Owner, the Contractor shall remove all temporary plant, equipment, surplus materials, and debris resulting from his operations, and leave the site in a condition fully acceptable to the Owner.

C-05 PROJECT MEETINGS AND COORDINATION

A preconstruction conference will be called by the Engineer at a time convenient to the Owner and before the issuance of the "Notice to Proceed". The Engineer and the Contractor and such subcontractors as the Contractor may desire shall attend this meeting with the Owner.

The Owner and/or Engineer will call such coordination conferences as may seem expedient to him for the purpose of assuring coordination of the work covered by this Contract. The Contractor shall attend all such conferences. This in no way relieves the Contractor of his responsibility to fully coordinate his work under this Contract.

C-06 LIQUIDATED DAMAGES FOR DELAY

The number of calendar days allowed for completion of the project is stipulated in the Proposal and in the Contract and shall be known as the Contract Time. The Contractor agrees that time is a critical element for this Contract. Loss will accrue to the Owner due to delayed completion of the work; and the cost to the Owner of the administration of the Contract, including engineering, inspection, and supervision, will be increased as the time occupied in the work is lengthened. The Contractor agrees that for each day of delay beyond the number of calendar days herein agreed upon for the completion of the work herein specified and contracted for, the Owner may withhold, permanently, from the Contractor's total compensation, the sum of **One Thousand** Dollars (**$1,000.00**) as stipulated damages for each day of such delay. Should the amount otherwise due the Contractor be less than the amount of such ascertained and liquidated damages, the Contractor and his Surety shall be liable to the Owner for such deficiency.

It is understood and agreed by and between the Owner and the Contractor that the time of completion herein set out is a reasonable time. The Contractor shall perform fully, entirely, and in an acceptable manner, the work contracted for within the contract time stated in the Contract. The contract time shall be counted from ten days after the effective date of the "Notice to Proceed", or the date work commences, whichever occurs first; and shall include all Sundays, holidays, and non-work days. All calendar days elapsing between the effective dates of any orders of the Engineer for suspension of the prosecution of the work, due to the fault of the Contractor, shall be counted as elapsed contract time, and shall not be considered for an extension of time.

Extensions of time for completion, under the condition of 3(a) next below, will be granted; extensions may be granted under other stated conditions:

1. If the satisfactory execution and completion of the Contract shall require work or material in greater amounts or quantities than those set forth in the Contract, then the Contract time shall be increased in the same proportion as the additional work bears to the original work contracted for.

2. An average or usual number of inclement weather days, when work cannot proceed, is to be anticipated during the construction period and is not to be considered as warranting extension of time. The days included in the contract time for Normal Weather-Related Events are as follows:

(On A Monthly Basis)

Month	Normal Weather-Related Events
January	5
February	7
March	4
April	4
May	3
June	4
July	8
August	4
September	6
October	5
November	2
December	5

If, however, it appears that the Contractor is delayed by conditions of weather, outside of normal weather-related events detailed in the proceeding table, extensions of time may be granted.

3. Should the work under the Contract be delayed by other causes which could not have been prevented or contemplated by the Contractor, and which are beyond the Contractor's power to prevent or remedy, an extension of time may be granted. Such causes of delay shall include but not necessarily be limited to the following:

   a. Acts of God, acts of the public enemy, acts of the Owner except as provided in these Specifications, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather.

   b. Any delays of Subcontractors or suppliers occasioned by any of the causes specified above.

The Engineer or other authorized representative of the Owner shall keep a written record sufficient for determination as to the inclusion of that day in the computation of Contract time. This record shall be available for examination by the Contractor during normal hours of work as soon as feasible after the first of each construction month. In case of disagreement between the representative of the Owner and the Contractor, as to the classification of any day, the matter shall be referred to the Owner whose decision shall be final.

If the Contractor finds it impossible for reasons beyond his control to complete the work within the Contract time as specified, or as extended in accordance with the provisions of this subsection, he may, at any time prior to the expiration of the Contract time as extended, make a written request to the Engineer for an extension of time setting forth the reasons which he believes will justify the granting of his request. The

Contractor's plea that insufficient time was specified is not a valid reason for extension of time. If the Engineer finds that the work was delayed because of conditions beyond the control and without the fault of the Contractor, he may recommend to the Owner that the contract time be extended as conditions justify. If the Owner extends the contract, the extended time for completion shall then be in full force and effect, the same as though it were the original time for completion.

The amount of all extensions of time for whatever reason granted shall be determined by the Owner. In general, only actual and not hypothetical days of delay will be considered. The Owner shall have authority to grant additional extensions of time as the Owner may deem justifiable.

C-07 QUALITY ASSURANCE/MATERIALS TESTING

The Owner shall be responsible for quality assurance testing as stated in theses specifications; however, the Contractor shall be responsible for payment of any subsequent tests made necessary by previous unsatisfactory tests. In this event, the Owner's quality assurance representative shall conduct the additional testing and payment for such tests shall be directly deducted from the Contractor's payment. The Contractor shall pay for additional testing at the Owner's contract rate.

C-08 RECORD DOCUMENTS

The Contractor shall keep one record copy of all Specifications, Drawings, Addenda, Modifications, Shop Drawings and samples at the site, in good order, and annotated to show all changes made during the construction process. In addition, the Contractor shall note any differences between locations of underground existing facilities shown in the plans and the actual location located during construction. These record documents shall be available to the Engineer for examination and shall be delivered to the Engineer upon completion of the work.

C-09 CONTRACTOR/SUBCONTRACTOR/SUPPLIER LEGAL DISPUTES

Any fees, expenses, charges, fines or other costs borne by the Owner as a result of legal disputes or lawsuits between the contractor and his subcontractors, or between the contractor and his suppliers, shall be deducted from monies due or which may thereafter become due the contractor.

C-10 GENERAL GUARANTY

Neither the final certificate of payment nor any provision in the Contract nor partial or entire use of the improvements embraced in this contract by the Owner or the public shall constitute an acceptance of work not done in accordance with the Contract or relieve the Contractor of liability in respect to any express warranties or responsibility for faulty materials or workmanship. The Contractor shall promptly remedy any defects in the work and pay for any damage to other work resulting there, which shall appear within a period of 12 months from the date of final acceptance of the work. The Owner will give notice of defective materials and work with reasonable promptness. In the event repair work is required, the Contractor shall remedy any defects and pay for any damage to other work resulting there, which shall appear within a period of 12 months from the date of the acceptance of the repair work.

C-11 CONTRACTOR'S RELEASE AND AFFIDAVIT

At the project's completion, the Contractor shall execute the attached Release and Lien Waiver to release all claims against the Owner arising under and by virtue of his Contract. The date of the Release shall be that agreed to for the final acceptance of the project with the Owner.

C-12 SUBMITTALS

The Contractor shall prepare and submit information required by the individual Specification sections sufficiently in advance of the related work to allow an appropriate review time by the Engineer. The types of submittals are indicated in the individual Specification sections.

During the preconstruction conference, the Contractor shall review his submittal schedule and procedures, including notifying the Engineer whether electronic submittals or paper submittals will be provided for all submittal packages in the project. Mixing of package types will not be allowed. The Contractor shall provide one of the following submittal package types:

1. Submit electronic submittals via email as PDF electronic files directly to the Engineer's designated representative, or post these PDF electronic files directly to the Engineer's FTP site specifically established for this project. Electronic submittals shall be in Adobe Acrobat (*.PDF) format and shall be legible when printed.

2. Submit six (6) paper submittal copies via mail or other courier service to the Engineer's designated representative.

Submittals shall be neat, organized, and easy to interpret. Assemble complete submittal package into a single indexed electronic file or hard cover bound book, incorporating submittal requirements of an individual Specification section, the transmittal form with unique submittal numbering system, and electronic links or tabs enabling navigation to each item. Unless approved otherwise by the Engineer, all submittals for the individual Specification section shall be submitted at one time.

Submittals must come directly from the Prime Contractor; submittals from subcontractors or suppliers will not be reviewed.

Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review. Faxed submittals or submittals with extremely small or otherwise unreadable print will not be accepted. Submittals not required by the Contract Documents will be returned by the Engineer without action.

The Contractor shall retain complete copies of submittals on project site. Use only final submittals that are marked with approval notation from Engineer's submittal review stamp with comments form.

Resubmittals shall continue the unique, sequential, submittal numbering system. Resubmittals without unique numbering, example resubmittals transmitted as 005A or 005REV, are unacceptable and will be returned un-reviewed.

C-13 STORMWATER POLLUTION PREVENTION PLAN

The Contractor shall note that storm water and precipitation runoff from construction activities is regulated by the Texas Commission on Environmental Quality (TCEQ) and that construction sites where soils are disturbed are required to be permitted in accordance with **TXR150000**. This regulation is mandated by Title 40 *Code of Federal Regulations* (CFR) 122.26. The contractor shall be responsible for the preparation (permit to be obtained in the Owner's name), fees, implementation, records, and all other requirements of the Stormwater Pollution Prevention Plan (SWPPP). The contractor shall be responsible to the Owner for the payment of any fines that may be imposed upon the Owner for failure to follow stormwater regulations and/or the SWPPP. The SWPPP shall be submitted to the Owner for review and signature prior to construction and/or prior to submission of the document to TCEQ (if required). The regulation may allow an exemption for some construction sites under a certain size. However, the exemption is not automatic and does not relieve the contractor from contacting TCEQ and making his own arrangements for such an exemption. The contractor shall have a valid permit in place or shall provide evidence of an exemption to the Owner before any construction begins. There will be no

separate measurement or payment for any facilities, materials, or equipment needed by the contractor to comply with the permit.

C-14 TEST BORINGS/SUBSURFACE INFORMATION (NOT USED)

C-15 WAGE RATES

The Davis Bacon minimum wage rates for this project are applicable and included in Section L of this contract.

END OF SPECIAL PROVISIONS

RELEASE OF LIEN

FROM: Contractor's Name _____

Address _____

TO: Owner's Name _____

Address _____

DATE OF CONTRACT: _____

Upon receipt of the final payment and in consideration of that amount, the undersigned does hereby release the Owner and its agents from any and all claims arising under or by virtue of this Contract or modification thereof occurring from the undersigned's performance in connection with the

_____

_____

project.

_____
Contractor's Signature

_____
Title

Subscribed and sworn to before me this _____ day of _____, 20____.

_____
Notary Public

My Commission Expires:

_____

CONTRACTOR'S AFFIDAVIT

FROM: Contractor's Name _____

Address _____

TO: Owner's Name _____

Address _____

_____

DATE OF CONTRACT: _____

I hereby certify that all claims for material, labor, and supplies entered into contingent and incident to the construction or used in the course of the performance of the work on _____

_____

have been fully satisfied.

_____
Contractor's Signature

_____
Title

Subscribed and sworn to before me this _____ day of _____, 20____.

_____
Notary Public

My Commission Expires:

_____

The Surety Company consents to the release of the retained percentage on this project with the understanding that should any unforeseen contingencies arise having a right of action on the bond that the Surety Company will not waive liability through the consent to the release of the retained percentage.

Dated _____
Surety Company

By _____
Resident Agent, State of Texas

SECTION K
ADDENDA

JEFFERSON COUNTY, TEXAS
PURCHASING DEPARTMENT
1149 Pearl Street – First Floor
Beaumont, Texas 77701
409-835-8593

ADDENDUM TO IFB

IFB Number: IFB 14-025/KJS

IFB Title: Taxiway D Reconstruction (2014) at Jack Brooks Regional Airport

IFB Due: **11:00 am CST, Tuesday, July 22, 2014**

Addendum No.: 1

Issued (Date): June 23, 2014

TO BIDDER: This Addendum is an integral part of the IFB package under consideration by you as a Bidder in connection with the subject matter herein identified. Jefferson County deems all sealed proposals to have been proffered in recognition and consideration of the entire IFB package – **including all addenda.** For purposes of clarification, **receipt of this present Addendum by a Bidder should be evidenced by returning it (signed) as part of the Bidder's sealed proposal.** If the Proposal has already been received by the Jefferson County Purchasing Department, Bidder should return this addendum in a separate sealed envelope, clearly marked with the IFB Title, IFB Number, and Opening Date and Time, as stated above.

Reason for Issuance of this addendum: Revision of Website Address where Specifications and Plans may be obtained.

Specifications and Plans may be obtained at: http://ftp.garverusa.com

Username: BPT_TWD2014
Password: BPT2BIDDER

The information included herein is hereby incorporated into the documents of this present Bid matter and supersedes any conflicting documents or portion thereof previously issued.

Receipt of this Addendum is hereby acknowledged by the undersigned Bidder:

ATTEST:

_____
Witness

_____
Witness

Approved by____ Date: _____

_____
Authorized Signature (Bidder)

_____
Title of Person Signing Above

_____
Typed Name of Business or Individual

_____
Address

11111 Katy Freeway
Suite 910
Houston, TX 77079

TEL 713.491.8333
FAX 713.973.5777

www.GarverUSA.com

July 10, 2014

Addendum No.2
To Plans, Contract Documents and Specifications
IFB 14-025/KJS, Taxiway D Reconstruction (2014)

This addendum shall be a part of the Plans, Contract Documents and Specifications to the same extent as though it were originally included therein, and it shall supersede anything contained in the Plans, Contract Documents and Specifications with which it might conflict. All bidders shall acknowledge receipt of this Addendum on page C-5 of the sealed bid proposal.

Modifications to the Bidding Requirements:

1. ***The bid opening time has changed*** to ***11:00 am*** on Tuesday, July 22, 2014. The location where bids are due has NOT changed.
2. A site visit for interested parties has been arranged. This is not a mandatory site visit, but will be the only opportunity to view the secured area of the project. The date and time of the visit are July 14, 2014 at 10:00 a.m. The location is the lobby of the Jerry Ware Terminal Building at 5000 Jerry Ware Drive, Beaumont, TX 77705.

Modifications to the Standard Form of Agreement:

1. **Replace Proposal with the attached Proposal.**

Questions were received by Garver by email and at the pre-bid meeting. Responses to these questions are attached to this addendum. Questions are paraphrased and are as understood by Garver.

By: Thomas D Dodson, PE.

STATE OF TEXAS
THOMAS D. DODSON
83909
LICENSED PROFESSIONAL ENGINEER

digitally signed on 07/10/2014

Attachments: Proposal: 14 pages
Agenda and Sign-in Sheet from July 8, 2014 Pre-Bid Meeting: 3 pages
Response to Bidder Questions: 2 pages

N:\2013\13121730 - BPT Taxiway D\Correspondence\Bidding\Bids 2014\TW D Reconstruction (2014)\Addendum2.2014-07-10.docx

11111 Katy Freeway
Suite 910
Houston, TX 77079
TEL 713.491.8333
FAX 713.973.5777
www.GarverUSA.com

Jack Brooks Regional Airport – Taxiway D Reconstruction (2014)
Pre-Bid Meeting
11:00 a.m. July 8, 2014

1) **Introductions & Roles:**
   a) Alex Rupp, Airport Manager, Jack Brooks Regional Airport
   b) Duke Youmans, Operations Manager, Jack Brooks Regional Airport
   c) Deborah Syphrett-Clark, Purchasing Agent, Jefferson County
   d) Tom Dodson, Senior Project Manager, Garver

2) **Bidding Procedures**
   a) Bids proposals ***are due at 11:00 am*** CDT on July 22, 2014. Bids are to be turned in to the Jefferson County Purchasing Division. DO NOT DELIVER BID PACKAGES TO THE AIRPORT – THEY WILL BE CONSIDERED NON-RESPONSIVE.
   b) Instructions to Bidders. Requirements are detailed in this section.
   c) Bids may be held up to 90 days for FAA funding schedule.
   d) Bid Proposal. Contract Time:
      i) 150 Calendar Days.
      ii) $1,000 Liquidated Damages
   e) Contract Award

Base Bid – Taxiway D Reconstruction
Alternate 1 – Removal of Existing Hold Pads

3) **Federal Provisions**
   a) The DBE goal is 15.88%.
      i) Questions regarding goals and Good Faith Efforts should be directed to Sarah Conner at FAA.

4) **FAA General Provisions**
   a) Provisions are included in the project manual portion of the bid documents.
   b) Section 120 covers the use of nuclear density gauges.

5) **Technical Specifications**
   a) Safety Plan Compliance Document – this is a documentation requirement for working on the airfield.

6) **Construction Plans**
   a) Security background checks and driver training. These are to be provided by the Contractor at his own expense for employees that will be driving on the airfield.

GARVER

Taxiway D Reconstruction (2014)
Jack Brooks Regional Airport

Pre-Bid Meeting
11:00 A.M., Tuesday, 07/08/14

SIGN-IN SHEET

Name	Representing	Phone #	Email
Willard Woods	FAA	(409) 720-5100	Willard.Woods@faa.gov
Brandon Harrison	Alico, LLC	409-860-4459	bharrison@alico.com
Lynda Reaud	Bruce's General Construction Inc	409 866 6245	ryan@brucesgeneralconstruction.com
Mike Kelley	MK Constructors	409-769-0089	Sales@MKconstructors.com
RAY HOOVER	STRIPES & STOPS	281 821 3307	RHOOVER@STRIPESANDSTOPS.COM
Liana Collier	Townsend Wong Engineers	409-840-4214	lcollier@twginc.com
Arlie Tucker	APAC-TX, Inc.	409-866-1441	awtucker@apac.com
DUKE YOUMANS	AIRPORT	409-719-4961	DYOUMANS@co.JEFFERSON.TX.US
Danny Youngblood	JPL Electric	409 626 1908	JPL.Electric@live.com

Taxiway D Reconstruction (2014)
Jack Brooks Regional Airport

Pre-Bid Meeting
11:00 A.M., Tuesday, 07/08/14

SIGN-IN SHEET

Name	Representing	Phone #	Email
Tom Dodson	Garver	713-491-8333	tddodson@garverusa.com
Brett Benoit	Jefferson Elec	409-842-9696	jeffersoncompany@sbcglobal.net
James Goss	Goss Building	409-892-4988	jamesgoss@gossbuilding.com
Robert Ramea JR	Crown Electric, INC	409-842-1306	Robert@crownelectricbmt.com
Donnie Deckard	Simco Ent.	409/962/8593	Donnie@simcoent.com
McClain McDonald	L & L General Contractors	409-796-1344	landlinc@att.net
Keith Gunn	LD Construction	409-781-8972	ekg_1961@yahoo.com

11111 Katy Freeway
Suite 910
Houston, TX 77079

TEL 713.491.8333
FAX 713.973.5777

www.GarverUSA.com

MEMORANDUM

To: Potential Bidders **Date:** July 10, 2014

From: Thomas D Dodson, PE

RE: Jack Brooks Regional Airport – Taxiway D Reconstruction (2014)
Bidder Questions

See below for responses to Bidder questions regarding the Taxiway D Reconstruction (2014) project at the Jack Brooks Regional Airport.

Question 1: The ftp site is not automatically loading. How do you get access to the files?
Answer 1: There is a secure ftp application that your computer must have to access the ftp site. This application is free on our website at http://www.garverusa.com/ftp/. Follow the on-screen instructions and once the program is loaded, access to the files can be made. The username is: **BPT_TWD2014** and the password is: **BPT2BIDDER**. Please note that both the username and password are case-sensitive.

Question 2: What taxiway light fixtures are approved for use on this project?
Answer 2: All airfield fixtures must be approved by the FAA for use in this project. See June 2014 Addendum to AC 150/5345-53D, Airport Lighting Equipment Certification Program. The addendum contains a complete update of the certified equipment and manufacturers lists (Appendices 3 and 4 of AC 150/5345-53D).

Question 3: If the measured quantities do not match the quantities in the proposal, what is bidder to do?
Answer 3: Bidders are to point out any discrepancies they see to the Engineer. We will provide clarification. Some items in this project do not have a pay item. Those are to be considered subsidiary to items that are in the proposal. The intention of the plans is to provide a complete working facility.

Question 4: Does the wiring require standard connector kits?
Answer 4: See details 4 on sheet E-301 and detail 3 on sheet E-304 in the plans.

Question 5: Is the chevron for the displaced threshold to be painted?
Answer 5: The chevron is to be installed using plastic sheeting as outlined in the plans.

Question 6: Are there two trenches required for the edge lighting system?
Answer 6: Yes, one trench is required between the pavement edge and the edge lighting trench, and the edge lighting conduit requires its own trench. See details in the plans.

Question 7: Bid item SS-310-5.1 shows a quantity of 21 lights to remove, but I count 31. Will you please clarify this difference?
Answer 7: The SS-310-5.1 pay item is for the 21 existing stake mounted taxiway edge lights that are only being removed. The SS-310-5.7 pay item is for the 11 existing stake mounted edge lights that

are being removed and re-installed in this project. The SS-310-5.7 pay item covers both the removal and re-installation of these fixtures, so these fixtures were not included in the SS-310-5.1 removal pay item.

Question 8: Alternate bid item SS-310-5.1 shows a quantity of 7 lights to remove, but I count 26. Will you please clarify this difference?
Answer 8: The SS-310-5.1 pay item is for the 7 existing stake mounted taxiway edge lights that are only being removed. The SS-310-5.7 pay item is for the 19 existing stake mounted edge lights that are being removed and re-installed in this project. The SS-310-5.7 pay item covers both the removal and re-installation of these fixtures, so these lights were not included in the SS-310-5.1 removal pay item.

Question 9: On some of the estimated wire quantities for the wire, was allowance made for the extra 3' and 5' tails in the J Boxes and light fixtures. Are we to include the extra wire in the fixture cost or the wire bid item?
Answer 9: The estimate cable quantities included the slack in all junction boxes and light fixtures. The extra slack in the junction boxes and light fixtures shall be covered in the L-108-5.1 cable pay item.

Question 10: Bid item L-108-5.1 shows a quantity of 3,900 feet but I count 3,271 feet? Will you please clarify this difference?
Answer 10: The L-108-5.1 pay item includes the cable installed in conduit and the cable that is direct-buried. The engineer has re-confirmed the linear foot quantity for bid item L-108-5.1 to be 3,900 feet.

Question 11: Bid item L-108-5.2 shows a quantity of 3,400 feet but I count 3,685 feet? Will you please clarify this difference?
Answer 11: The engineer has re-confirmed the linear foot quantity for bid item L-108-5.2 to be 3,400 feet.

11111 Katy Freeway
Suite 910
Houston, TX 77079

TEL 713.491.8333
FAX 713.973.5777

www.GarverUSA.com

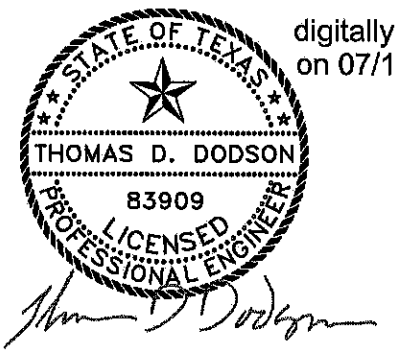
July 17, 2014

Addendum No.3
To Plans, Contract Documents and Specifications
IFB 14-025/KJS, Taxiway D Reconstruction (2014)

This addendum shall be a part of the Plans, Contract Documents and Specifications to the same extent as though it were originally included therein, and it shall supersede anything contained in the Plans, Contract Documents and Specifications with which it might conflict. All bidders shall acknowledge receipt of this Addendum on page C-5 of the sealed bid proposal.

Modifications to the Bid Form and Proposal:

1. **Replace page C-8 of the Bid Form with the attached page C-8 of the Bid Form.**



digitally signed
on 07/17/2014

By: Thomas D Dodson, PE.

Attachments: Bid Form: 1 page

N:\2013\13121730 - BPT Taxiway D\Correspondence\Bidding\Bids 2014\TW D Reconstruction (2014)\Addendum3\Addendum3.2014-07-17.docx

SECTION L
WAGE RATES

Article 5159a of the Revised Civil Statutes of Texas, passed by the 43rd Legislature Acts of 1933, Page 91, Chapter 45, provides that any government subdivision shall ascertain the general prevailing rate of per diem wages in the locality in which the work is to be performed for each craft or type of workman or mechanic and shall specify in the call for bids and in the Contract the prevailing rate of per diem wages which shall be paid for each craft type of workman. This Article further provides that the CONTRACTOR shall forfeit, as a penalty, to the City, County, or State, or other political subdivision, Ten Dollars ($10.00) per day for each laborer, or workman, or mechanic who is not paid the stipulated wage for the type of work performed by him as set up on the wage scale. The OWNER is authorized to withhold from the CONTRACTOR, after full investigation by the awarding body, the amount of this penalty in any payment that might be claimed by the CONTRACTOR or Subcontractor. The Act makes the CONTRACTOR responsible for the acts of the Subcontractor in this respect.

The Article likewise requires that the CONTRACTOR and Subcontractor keep an accurate record of the names and occupations of all persons employed by him and show the actual per diem wages paid to each worker, and these records are open to the inspection of the OWNER.

The Davis Bacon minimum wage rates for this project are as follows:

LABOR CLASSIFICATION AND MINIMUM WAGE SCALE
General Decision Number: TX140056 01/03/2014 TX56
Superseded General Decision Number: TX20130056
State: Texas

Construction Type: Highway

Counties: Austin, Brazoria, Chambers, Fort Bend, Galveston, Hardin, Harris, Jefferson, Liberty, Montgomery, Orange, San Jacinto and Waller Counties in Texas.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction;bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Modification Number	Publication Date
0	01/03/2014

* SUTX2011-013 08/10/2011

Description	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER (Paving and Structures)	$ 12.98	
ELECTRICIAN	$ 27.11	
FORM BUILDER/FORM SETTER		
Paving & Curb	$ 12.34	
Structures	$ 12.23	
LABORER		
Asphalt Raker	$ 12.36	
Flagger	$ 10.33	
Laborer, Common	$ 11.02	

Laborer, Utility	$ 11.73
Pipelayer	$ 12.12
Work Zone Barricade Servicer	$ 11.67
PAINTER (Structures)	$ 18.62
POWER EQUIPMENT OPERATOR:	
Asphalt Distributor	$ 14.06
Asphalt Paving Machine	$ 14.32
Broom or Sweeper	$ 12.68
Concrete Pavement Finishing Machine	$ 13.07
Concrete Paving, Curing, Float, Texturing Machine	$ 11.71
Concrete Saw	$ 13.99
Crane, Hydraulic 80 tons or less	$ 13.86
Crane, Lattice boom 80 tons or less	$ 14.97
Crane, Lattice boom over 80 Tons	$ 15.80
Crawler Tractor	$ 13.68
Excavator, 50,000 pounds or less	$ 12.71
Excavator, Over 50,000 pounds	$ 14.53
Foundation Drill, Crawler Mounted	$ 17.43
Foundation Drill, Truck Mounted	$ 15.89
Front End Loader 3 CY or Less	$ 13.32
Front End Loader, Over 3 CY	$ 13.17
Loader/Backhoe	$ 14.29
Mechanic	$ 16.96
Milling Machine	$ 13.53
Motor Grader, Fine Grade	$ 15.69
Motor Grader, Rough	$ 14.23
Off Road Hauler	$ 14.60
Pavement Marking Machine	$ 11.18
Piledriver	$ 14.95
Roller, Asphalt	$ 11.95
Roller, Other	$ 11.57
Scraper	$ 13.47
Spreader Box	$ 13.58
Servicer	$ 13.97
Steel Worker	
Reinforcing Steel	$ 15.15
Structural Steel Welder	$ 12.85
Structural Steel	$ 14.39
TRUCK DRIVER	
Low Boy Float	$ 16.03
Single Axle	$ 11.46
Single or Tandem Axle Dump	$ 11.48
Tandem Axle Tractor w/Semi Trailer	$ 12.27

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses

(29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification.

Example: PLUM0198-005 07/01/2011. The first four letters PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rate.

0000/9999: weighted union wage rates will be published annually each January.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

For current Wage Determination Decisions, see the Department of Labor website (http://www.wdol.gov/dba.aspx#0).

SECTION M
CHANGE ORDER FORM

Change Order

No. _____

Date of Issuance: Effective Date:
Project: Owner: Owner's Contract No.:
Contract: Date of Contract:
Contractor: Engineer's Project No.:

The Contract Documents are modified as follows upon execution of this Change Order:

Description:

Attachments: (List documents supporting change):

CHANGE IN CONTRACT PRICE:
Original Contract Price:

CHANGE IN CONTRACT TIMES:
Original Contract Times:
□ Working days □ Calendar days

Substantial completion (days or date):
$ Ready for final payment (days or date):
[Increase] [Decrease] from previously approved Change

Orders No._____ to No._____:

[Increase] [Decrease] from previously approved Change Orders
No._____ to No._____:

Substantial completion (days):

$ Ready for final payment (days):
Contract Price prior to this Change Order: Contract Times prior to this Change Order:

Substantial completion (days or date):

$ Ready for final payment (days or date):
[Increase] [Decrease] of this Change Order: [Increase] [Decrease] of this Change Order:
Substantial completion (days or date):

$ Ready for final payment (days or date):
Contract Price incorporating this Change Order: Contract Times with all approved Change Orders:

Substantial completion (days or date):
$ Ready for final payment (days or date):

RECOMMENDED:	ACCEPTED:	ACCEPTED:
By:	By:	By:
Engineer (Authorized Signature)	Owner (Authorized Signature)	Contractor (Authorized signature)
Date:	Date:	Date:

Approved by Funding Agency (if applicable): Date:

SECTION N
TECHNICAL SPECIFICATIONS

ITEM SS-101 SAFETY PLAN COMPLIANCE DOCUMENT (SPCD)

DESCRIPTION

101-1.1 The contractor shall thoroughly review the approved Construction Safety and Phasing Plan (CSPP) and shall comply with approved CSPP. The contractor shall certify such compliance by completing the attached SPCD and submitting to the Engineer for approval.

Contractor Safety Plan Compliance Documents

Owner Name: Jack Brooks Regional Airport / Jefferson County

Airport: Jack Brooks Regional Airport

Project Description: Taxiway 'D' Reconstruction – (2014)

Contractor: APAC-Texas, Inc.

Each item listed below corresponds to a specific section of the approved CSPP. The contractor shall certify that he/she will comply with each section of the approved CSPP. Each certified section with a "no" response must be fully explained in an attachment to the SPCD. The document shall be signed and dated by a principle or owner in the Contractor's company. All other requested information shall be completed by the Contractor and submitted to the Engineer for approval as part of the SPCD.

1. **Section 1 - Correspondence:** This project shall be completed in accordance with Section 1 "Coordination" of the approved Construction Safety Plan Compliance Document.

Owner:	
Contact: Alex Rupp	**Phone: 409-719-4900**
Engineer:	
Project Manager: Tom Dodson	**Phone: 713-491-8333**
Project Engineer: Thomas Sikora	**Phone: 713-491-8333**
Construction Observer:	**Phone:**
Materials Testing:	**Phone:**
Contractor:	
Project Manager: Johnathan Murphy	**Phone:** 409-284-4124
Superintendent: Mike Weible	**Phone:** 409-781-2082
Subcontractors: American Remediation Options, Inc.	
LIST ALL SUBS CPAVE, Inc.	
F&W Electrical Contractors, Inc.	
Stripes & Stops	

Yes SB No *

2. **Section 2 - Phasing:** This project shall be completed in accordance with Section 2 "Phasing" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

3. **Section 3 – Areas of Operations Affected by Construction Activity:** This project shall be completed in accordance with Section 3 "Areas of Operations Affected by Construction Activity" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

4. **Section 4 – Protection of Navigational Aids (NAVAIDS):** This project shall be completed in accordance with Section 4 "Protection of Navigational Aids (NAVAIDS)" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

5. **Section 5 – Contractor Access:** This project shall be completed in accordance with Section 5 "Contractor Access" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

6. **Section 6 – Wildlife Management:** This project shall be completed in accordance with Section 6 "Wildlife Management" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

7. **Section 7 – Foreign Object Debris (FOD) Management:** This project shall be completed in accordance with Section 7 "Foreign Object Debris (FOD) Management" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

8. **Section 8 – Hazardous Materials (HAZMAT) Management:** This project shall be completed in accordance with Section 8 "Hazardous Materials (HAZMAT) Management" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

9. **Section 9 – Notification of Construction Activities:** This project shall be completed in accordance with Section 9 "Notification of Construction Activities" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

10. **Section 10 – Inspection Requirements:** This project shall be completed in accordance with Section 10 "Inspection Requirements" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

11. **Section 11 – Underground Utilities:** This project shall be completed in accordance with Section 11 "Underground Utilities" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

12. **Section 12 – Penalties:** This project shall be completed in accordance with Section 12 "Penalties" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

13. **Section 13 – Special Conditions:** This project shall be completed in accordance with Section 13 "Special Conditions" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

14. **Section 14 – Runway and Taxiway Visual Aids:** This project shall be completed in accordance with 14 "Runway and Taxiway Visual Aids" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

15. **Section 15 – Marking and Signs for Access Routes:** This project shall be completed in accordance with Section 15 "Marking and Signs for Access Routes" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

16. **Section 16 – Hazard Marking and Lighting:** This project shall be completed in accordance with Section 16 "Hazard Marking and Lighting" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

17. **Section 17 – Protection of Safety Areas, Object Free Areas, Object Free Zones, and Approach / Departure Surfaces:** This project shall be completed in accordance with Section 17 "Protection of Safety Areas, Object Free Areas, Object Free Zones, and Approach / Departure Surfaces" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

18. **Section 18 – Other Limitations on Construction:** This project shall be completed in accordance with Section 18 "Other Limitations on Construction" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

I certify that, for the project identified herein, the responses to the foregoing items are correct as marked, and that I shall comply with the approved Construction Safety and Plan.

Signed: _____
Contractor's Authorized Representative

Date: 9/11/2014

Scott Blanchard Asst. Secretary
Print Name and Title of Contractor's Representative

END OF ITEM SS-101

ITEM SS-120 SITE PREPARATION AND MOBILIZATION

DESCRIPTION

120-1.1 This item covers the preparation of the site for construction of the proposed improvements. The attention of the bidder is directed to the necessity for careful examination of the entire project site to determine, at the time of bid preparation, the full extent of work to be done under the item "Site Preparation." The entire job site shall be cleared of all man-made obstructions and debris, of whatever nature, and made ready in all respects for the construction of the proposed improvements.

The item "Site Preparation" shall include:

1. Mobilization
2. Temporary Field Office
3. Lighted Barricades and Closed Taxiway and Runway Markings
4. Temporary Relocated Threshold
5. Contractor's Access/Haul Road
6. Contractor's Staging Areas
7. Lockout/Tagout Program
8. Airport Security Requirements
9. Airport Safety Requirements
10. Instrument Control
11. Clean Up

CONSTRUCTION METHODS

120-2.1 MOBILIZATION. The Contractor shall consider and include his cost for providing personnel, equipment, materials, bonds, etc. required for the prosecution of the work under this item.

120-2.2 TEMPORARY FIELD OFFICE. In addition to any office space Contractor chooses to provide for his personnel, Contractor is to also provide a temporary field office space for Resident Project Representative (RPR) for the project duration. The space for the temporary field office shall be for the exclusive use by the Engineer as a field office and shall conform to the requirements listed below. The dimensions and other requirements specified herein are minimums and the building may be built by the Contractor for the specific purposes noted herein and/or may be connected to his own field office(s). It is not intended to prohibit the use of commercially built trailers or prefabricated buildings which may deviate in minor dimension or detail from the requirements listed herein but may in some features exceed the listed requirements and in all major respects be entirely suitable for the purpose intended. The Contractor is to submit information on proposed temporary field office for approval by the Engineer prior to furnishing the office space on-site.

Minimum requirements for office:

a. Office space to be at least 8' X 8' lighted and conditioned space.

b. The space may be entirely or a part of a portable or other suitable type building with 7-ft minimum ceiling height; must be floored, weatherproof and reasonably dustproof. The space must have at least one door provided with a substantial lock the isolates the space from Contractors space(s) with keys placed in the possession of the Engineer. The building need not be new but the facility furnished under this item shall be neat, clean, sound and usable for the purpose intended.

c. The building shall be provided with electric lights and power outlets. The building shall be provided with desk, chair, file cabinet, and layout table in good working order. In cold weather the space shall be provided with adequate vented space heating facilities and fuel for heating. In hot

weather the building shall be equipped with adequate air conditioning units. Heating and cooling and utility service will be furnished at no cost to the Owner or Engineer.

d. The space shall be provided with internet access with a minimum download speed of at least 3 megabytes per second (Mbps). This service shall be provided for the length of the contract or construction project, whichever is greater. Additionally, within this space the Contractor is to provide a scanner or similar device for transmitting printed material via email or internet ftp. Contractor is to establish this service within 2 weeks of Notice to Proceed.

Furnishing the field office will not be measured for separate payment, but will be considered subsidiary to "Site Preparation." The building shall remain the property of the Contractor and be returned to him at the close of the construction period.

120-2.3 LIGHTED BARRICADES AND CLOSED TAXIWAY AND RUNWAY MARKINGS. The Contractor shall furnish, install, maintain, and remove closed taxiway and runway markings and lighted barricades in accordance with details on the plans and as directed by the Engineer. The closed taxiway and runway markers shall be aviation yellow, nylon-reinforced vinyl. The markers shall be secured to the pavement/ground as shown on the plans and as directed by the Engineer. The lighted barricades shall be constructed and installed as shown on the plans. All lighted barricades and closed taxiway and runway markings shall be constructed in accordance with AC 150/5370-2F Operational Safety on Airports During Construction.

All work involved in the furnishing, installation, maintenance, and removal of lighted barricades, barrels and closed runway markings will not be measured for separate payment, but will be considered subsidiary to the bid item "Site Preparation."

120-2.4 TEMPORARY RELOCATED THRESHOLD. Before commencing work within the air operations areas the Contractor shall temporarily relocate the Runway 12-30 threshold as shown in the Plans. The Contractor shall furnish, install and maintain the temporary threshold in accordance with details on the Plans. The Contractor shall accomplish the relocation of the threshold within one 8-hour work shift. The Contractor shall remove the temporary threshold when work is complete within the safety area, and as directed by the sequence of construction in the Plans and by the Engineer.

Before relocating the threshold, the Contractor shall perform a Megger test from the regulator serving the runway in the presence of the Owner/Engineer. Data from the test shall be reported in writing to the Owner/Engineer. The Contractor shall determine the appropriate method of disabling the lights on the closed portion of the runway and shall verify the circuit prior to re-energizing. Strict adherence to OSHA Lockout/Tagout procedures is mandatory. The Contractor will be held responsible for any damage to the lighting system caused by his operations. Following restoration of the lighting system to its original/final configuration, the Megger test procedure shall be repeated by the Contractor in the presence of the Owner/Engineer, and the results of the test reported in writing to the Owner/Engineer.

All work involved in the furnishing, fabrication, installation, maintenance, and removal of the temporary relocated threshold will not be measured for separate payment, but will be considered subsidiary to the bid item "Site Preparation."

120-2.5 CONTRACTOR'S ACCESS/HAUL ROAD. The Contractor shall layout, construct, maintain, and repair all access/haul roads needed to construct the work. The existing access roads shown on the plans shall be repaired, as determined necessary by the Engineer, at the close of the project. All such work, including all materials and labor, involved in the layout, construction, maintenance, and repair of the Contractor's access/haul roads will not be measured for separate payment but will be considered subsidiary to the bid item "Site Preparation." Temporary pipe culverts shall be installed and maintained as required and shall be of the size as directed by the Engineer. The type of pipe used for temporary pipe shall be at the option of the Contractor. Temporary pipe culverts will not be measured for separate payment, but will be

considered subsidiary to the access/haul road. All temporary pipe culverts shall be removed by the Contractor and shall remain his property at the close of the project.

120-2.6 CONTRACTOR'S STAGING AREAS. The areas designated in the plans or by the Engineer as the Contractor's staging area shall be cleared and graded by the Contractor as needed for use by the Contractor in constructing the work on this project. All areas used or otherwise occupied by the Contractor for his operations shall be cleaned, regraded, and seeded, as directed by the Engineer, prior to the final acceptance of the project by the Airport. All work involved in the preparation and restoration of areas used or occupied by the Contractor, including clearing, grubbing, regrading, seeding, and installing and removing fence, will not be measured for separate payment but will be considered subsidiary to the bid item "Site Preparation."

120-2.7 LOCKOUT / TAGOUT PROGRAM. The Contractor shall submit a complete copy of an electrical energy source Lockout/Tagout Program in accordance with Part 1910 – Occupational Safety and Health Standards (OSHA) Subpart S – Electrical, that meets the requirements of 29 CFR 1910.147, The Control of Hazardous Energy (Lockout/Tagout), including requirements listed in 1910.331 through 1910.335. Implementation of the Lockout/Tagout Program and the related safety requirements are the sole responsibility of the Contractor. All work involved in the preparation and implementation of the Lockout/Tagout Program will not be measured for separate payment, but will be considered subsidiary to the bid item "Site Preparation."

120-2.8 AIRPORT SECURITY REQUIREMENTS. The Contractor shall abide by the Airport Security requirements that are outlined in the Construction Safety and Phasing Plan (CSPP) of the plans. Any costs associated with the Airport Security requirements will not be measured for separate payment but will be considered subsidiary to the bid item "Site Preparation."

120-2.9 AIRPORT SAFETY REQUIREMENTS. The Contractor shall abide by the Airport Safety requirements that are outlined in the Construction Safety and Phasing Plan (CSPP) of the plans. All costs associated with the Airport Safety requirements will not be measured for separate payment but will be considered subsidiary to the bid item "Site Preparation."

120-2.10 INSTRUMENT CONTROL. The Contractor will be furnished survey baselines and benchmarks to control the work as shown on the Plans. The Contractor shall be responsible for the additional instrument control necessary to layout and construct the work. The Contractor shall provide the instrument control as provided for in Section 50 of the General Provisions. The Contractor's instrument control of the work shall not be measured for separate payment, but will be considered subsidiary to the bid item "Site Preparation".

120-2.11 CLEAN UP. From time to time, the Contractor shall clean up the site in order that the site presents a neat appearance and that the progress of work will not be impeded. One such clean up shall immediately precede final inspection.

Immediately following acceptance of the work by the Owner, the Contractor shall remove all temporary equipment, surplus materials, and debris resulting from his operations, and leave the site in a condition fully acceptable to the Owner.

MEASUREMENT AND PAYMENT

120-3.1 Site preparation will be measured as a lump sum complete item. Work completed and accepted under this item will be paid for at the contract lump sum price bid for "Site Preparation," which price shall be full compensation for furnishing all labor, tools, equipment and incidentals necessary to complete the work.

Payment will be made under:

Item SS-120-1	Site Preparation - per Lump Sum

A minimum of two (2) partial payments will be made for Site Preparation. Periodic payments will be made in proportion to the amount of work accepted for payment in monthly pay applications, as outlined in the table below.

Monthly Pay Application Total exceeds	*Partial Payment of Site Preparation*
1% of total Contract value	50% of Site Preparation less retainage, up to 2.5% of total Contract value
5% of total Contract value	100% of Site Preparation, less retainage, up to 5% of total Contract value

Any remaining partial payments for "Site Preparation" will be made less retainage when the work is completed to 95% of the Contract total value.

END OF ITEM SS-120

ITEM SS-300 BASIC ELECTRICAL REQUIREMENTS

DESCRIPTION

300-1.1 This item shall consist of furnishing and installing complete electrical systems as defined in the plans and in these specifications. The work includes the installation, connection and testing of new electrical systems, equipment and all required appurtenances to construct and demonstrate proper operation of the completed electrical systems.

300-1.2 The Contractor shall maintain current copies of all referenced and applicable advisory circulars and standards on the job site. The Contractor is responsible to make known to the Engineer any conflict between plans and specifications that he observes or of which he is made aware.

300-1.3 This work shall consist of lockout/tagout and constant current regulator calibration procedures at the airport electrical vault in accordance with the design and details shown in the plans and in compliance with these specification documents.

EQUIPMENT AND MATERIALS

300-2.1 STANDARDS.

a. Applicable National Fire Protection Association (NFPA) codes, including but not limited to:
   (1) NFPA 70 - National Electrical Code.
   (2) NFPA 70E - Standard for Electrical Safety in the Workplace.
   (3) NFPA 101 - Life Safety Code.
   (4) Internet Website: http://www.nfpa.org

b. Applicable Code of Federal Regulations (CFR) codes, including but not limited to:
   (1) 29 CFR 1910 - Occupational Safety and Health Standards (OSHA)
   (2) 29 CFR 1926 - Safety and Health Regulations for Construction.
   (3) Internet Website: http://www.gpoaccess.gov/cfr/index.html

c. ANSI/IEEE C2 - National Electrical Safety Code.

d. Applicable Federal, State and Local Electrical Codes.

e. Applicable City Electrical Codes.

f. Applicable City Ordinances pertaining to electrical work.

g. Applicable Federal, State and Local Fire Codes.

h. Applicable Federal, State and Local Energy Codes.

i. Applicable Federal, State and Local Building Codes.

j. Applicable Federal, State and Local - Environmental, Health and Safety Laws and Regulations.

Contractor shall utilize the most current editions of standards, which are current at time of bid and as recognized by the Authority Having Jurisdiction for the respective standard.

300-2.2 GENERAL.

a. Airport lighting equipment and materials covered by Federal Aviation Administration (FAA) specifications shall be certified and listed under Advisory Circular (AC) 150/5345-53, Airport Lighting Equipment Certification Program, current version on the date that the submittals are received by the Engineer.

b. Airport lighting equipment and materials shall also meet the Buy American Preference requirements in 49 USC 50101 and the Aviation Safety and Capacity Expansion Act. The equipment shall be approved and listed on the FAA "Equipment Meeting Buy American Requirements" list located at *www.faa.gov/airports/aip/procurement/federal_contract_provisions/*, current version on the date that the submittals are received by the Engineer, or the Contractor may submit a signed formal letter from the manufacturer that clearly lists the specific equipment, model number, location where it is manufactured, and statement certifying that the equipment and/or materials meet the Buy American Preference requirements.

c. All other equipment and materials covered by other referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when requested by the Engineer. All equipment and materials shall be new and meet applicable manufacturer's standards. All other electrical components and products, not covered under the FAA equipment certification program, shall be tested and listed by an OSHA accepted, nationally recognized testing laboratory (NRTL) to conform to the standards indicated in these contract documents and to the industry standards required in the NEC, NEMA, IEEE, and applicable FAA advisory circulars.

d. Manufacturer's certifications shall not relieve the Contractor of the Contractor's responsibility to provide materials in accordance with these specifications and acceptable to the Engineer. Materials supplied and/or installed that do not materially comply with these specifications shall be removed, when directed by the Engineer and replaced with materials, which do comply with these specifications, at the sole cost of the Contractor.

e. All materials and equipment used to construct this item shall be submitted to the Engineer for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify pertinent products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components or electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be boldly and clearly made with arrows or circles (highlighting is not acceptable). Contractor is solely responsible for delays in project accruing directly or indirectly from late submissions or resubmissions of submittals.

f. The data submitted shall be sufficient, in the opinion of the Engineer, to determine compliance with the Contract Documents plans and specifications. The Contractor's submittals shall be neatly bound in a properly sized 3-ring binder, tabbed by specification section. The Engineer reserves the right to reject any and all equipment, materials or procedures, which, in the Engineer's opinion, does not meet the system design and the standards and codes, specified herein.

g. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

All LED light fixtures, with the exception of obstruction lighting, shall be warranted by the manufacturer for a minimum of 4 years after date of installation, final acceptance testing by the Engineer, and Owner's beneficial use of the equipment, inclusive of all electronics.

h. Refer to Special Provisions item C-12 Submittals for electronic or paper submittal requirements for Engineer's review.

i. After approval of submitted equipment, the Contractor shall supply the following Operation and Maintenance Manual documentation to the Owner. Two (2) complete sets of documentation shall be supplied for each model of equipment. The documentation shall be securely bound in heavy-duty 3-ring binders. The information for each piece of equipment shall be indexed using typewritten label tabs. The spine of each binder shall have a typewritten label, which indicates the included equipment types. The documentation shall include:

(1) Approved Submittal and Shop Drawings
(2) Cable Splicer Qualifications, Type and Voltage
(3) State Contractors License with Electrical Classification
(4) Master, Journeyman and Apprentice Electrician Licenses and Certifications
(5) Lockout/Tagout Program
(6) Regulator Load and Calibration Reports for testing, checking and adjusting all regulators in the electrical vault
(7) Megger Test Reports
(8) Ground Rod Test Reports
(9) Installation Manuals

(10) Operation Manuals
(11) Maintenance Manuals
(12) Parts Lists, including recommended spare parts

j. After approval of the O&M Manuals, the Contractor shall provide three (3) complete electronic copies of all documentation in Adobe PDF file format on CD-R (non-rewriteable) discs storage media. The electronic files shall contain searchable text and include a hyperlink index for ease in locating information with the PDF file.

k. All requirements herein Item SS-300 shall be applicable to all referenced sections in these contract documents and applicable to all sections which reference Item SS-300.

l. The Contractor is the single source of responsibility for the installation and integration of the airport's lighting, power, and control systems. New airport lighting equipment and materials shall be fully compatible with all other new and existing airport lighting equipment and systems. Any non-compatible components furnished by the Contractor shall be replaced at no additional cost to the Owner with a similar unit that is approved by the Engineer and compatible with the remainder of the airport lighting system.

300-2.3 OPERATION AND MAINTENANCE DATA.

a. Installation manual: Description of function, installation and calibration manuals, normal operating characteristics and limitations, performance curves, engineering data and tests, and complete nomenclature and commercial numbers of all replaceable parts.

b. Operations manual: Manufacturer's printed operating instructions and procedures to include start-up, break-in, routine and normal operating instructions; regulation, control, stopping, shutdown, and emergency instructions; summer and winter operating instructions; and all programming and equipment settings.

c. Maintenance manual: Maintenance procedures for routine preventative maintenance and troubleshooting; disassembly, repair, and reassembly; aligning and adjusting instructions.

d. Service manual: Servicing instructions and lubrication charts and schedules, including the names and telephone numbers of personnel to contact for both routine periodic and warranty service for equipment and materials provided under this Specification.

e. Final approved equipment shop drawings, clearly labeled.

f. Final test reports, clearly labeled.

g. Final certified calibration sheets for all equipment and instruments.

300-2.4 WIRE. Wire in conduit rated up to 5,000 volts shall conform to AC 150/5345-7, Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits for Rubber Insulated Neoprene Covered Wire, or Fed. Spec. J-C-30, Type RHW, for rubber insulated fibrous covered wire. For ratings up to 600 volts, thermoplastic wire conforming to Fed. Spec. J-C-30, Types TW, THW, and THWN shall be used. The wires shall be of the type, size, number of conductors, and voltage shown in the plans or in the proposal.

Unless otherwise indicated, conductors No. 10 AWG and smaller shall be solid, and conductors No. 8 AWG and larger shall be stranded.

Service, underground feeder, and underground branch circuit wiring shall be minimum Type THHN/THWN-2 unless otherwise noted.

Indoor feeder and indoor branch circuit wiring shall be minimum Type THHN/THWN-2 unless otherwise noted.

300-2.5 CONDUIT. Rigid steel conduit and fittings shall conform to the requirements of Underwriters Laboratories Standard 6, 514, and 1242.

300-2.6 PLASTIC CONDUIT (for use below grade only). Plastic conduit and fittings-shall conform to the requirements of Fed Spec. W-C-1094 and Underwriters Laboratories Standards UL-651 and shall be one of the following, as shown in the plans:

a. Type I - Schedule 40 PVC suitable for underground use either direct-buried or encased in concrete.

b. Type II - Schedule 40 PVC suitable for either above ground or underground use.

c. Type III - Schedule 80 PVC suitable for either above ground or underground use either direct-buried or encased in conduit.

Plastic conduit adhesive shall be a solvent cement manufactured specifically for the purpose of gluing the specific type of plastic conduit and fitting.

300-2.7 TAPE. Rubber and plastic electrical tapes shall be Scotch Electrical Tape Numbers 23 and 88, respectively, as manufactured by the Minnesota Mining and Manufacturing Company, or an approved equal.

The electrical installation shall conform to the requirements of the latest edition of National Fire Protection Association, NFPA-70, National Electrical Code.

Copies of the National Electrical Code may be obtained from the National Fire Protection Associations, Inc., One Batterymarch Park, Quincy, Massachusetts 02269.

300-2.8 CONCRETE. Concrete shall conform to Item P-610, Structural Portland Cement Concrete, with a minimum 28-day compressive strength of 3000 PSI using 1-inch (25-mm) maximum size coarse aggregate, as determined by test cylinders made in accordance with ASTM C 31 and tested in accordance with ASTM C 39. Concrete located within one foot of the proposed ground surface shall contain 4 to 6 percent air content.

Mixing Conditions: Concrete shall not be mixed while the air temperature is below 40°F (4°C) without permission of the Engineer. If permission is granted for mixing under such conditions, aggregates or water, or both, shall be heated and the concrete shall be placed at a temperature not less than 50°F (10°C) nor more than 100°F (38°C). The Contractor shall be held responsible for any defective work, resulting from freezing or injury in any manner during placing and curing, and shall replace such work at his/her expense.

Placing Concrete: All concrete shall be placed during daylight, unless otherwise approved by the Engineer.

Cold Weather Protection: When concrete is placed at temperatures below 40°F (4°C), the Contractor shall provide satisfactory methods and means to protect the mix from injury by freezing. The aggregates, or water, or both, shall be heated in order to place the concrete at temperatures between 50°F and 100°F (10°C and 38°C). After the concrete has been placed, the Contractor shall provide sufficient protection such as cover, canvas, framework, heating apparatus, etc., to enclose and protect the structure and maintain the temperature of the mix at not less than 50°F (10°C) until at least 60% of the designed strength has been attained.

300-2.9 CONSTANT CURRENT REGULATORS. The output power rating of the regulators shall be as noted on plans and meet the criteria set forth in the most current version of AC 150/5345-10, Specification for Constant Current Regulators and Regulator Monitors. The output power rating of all existing and new regulators within the electrical vault shall be tested, checked and adjusted to meet the AC criteria prior to placing the airfield lighting circuits into service.

The Contractor shall submit his initial regulator load test reports prior to any work on the electrical system. The Contractor shall test all regulators within the electrical vault and submit these reports to the Engineer prior to Contractor proceeding with his work.

The Contractor shall calibrate all new and existing regulators following construction and prior to final acceptance testing in accordance with FAA AC 150/5340-26 "Maintenance of Airport Visual Aid Facilities" and manufacturer's recommendations. Contractor shall submit calibration report to Engineer.

After final acceptance testing has been completed, the Contractor shall complete and submit his final regulator load test reports to the Engineer for all regulators and insert copies of the final regulator load test reports in the Operation and Maintenance Manuals.

CONSTRUCTION METHODS

300-3.1 LOCKOUT/TAGOUT PROGRAM. The Contractor shall provide a complete copy of an electrical energy source Lockout/Tagout Program to the Owner, with copy to the Engineer. The document shall clearly identify the on-site master electricians and their contact information, including office and mobile telephone numbers.

The Lockout/Tagout Program shall comply with Part 1910 – Occupational Safety and Health Standards (OSHA) Subpart S – Electrical, and meet the requirements of 29 CFR 1910.147, The Control of Hazardous Energy (Lockout/Tagout), including requirements listed in 1910.331 through 1910.335.

Implementation of the Lockout/Tagout Program and all other related safety requirements are the sole responsibility of the Contractor.

300-3.2 SAFETY PROGRAM. The Contractor shall implement an electrical safety program that complies with NFPA 70E and 29 CFR 1926.

Implementation of the Electrical Safety Program, determining and providing proper Personal Protective Equipment (PPE), training and enforcing personnel to wear the prescribed PPE, conducting work area safety inspections (including correcting deficiencies), and all other related safety requirements are the sole responsibility of the Contractor.

All work involved in the preparation and implementation of the safety program will not be measured for separate payment, but will be considered subsidiary to the lockout/tagout bid item.

300-3.3 GENERAL. In general, the various electrical equipment and material to be installed by the various trades under this specification shall be run as indicated, as specified herein, as required by particular conditions at the site, and as required to conform to the generally accepted standards so as to complete the work in a neat and satisfactory manner. The following is a general outline concerning the running of various systems and is to be excepted where the drawings or conditions at the buildings necessitate deviating from these standards.

The Contractor shall perform megger testing on each existing regulator circuit prior to any work on the electrical system. This information shall be recorded and documented by the Contractor and submitted to the Engineer. The Contractor shall perform megger tests on each regulator circuit after the acceptance test period. This acceptance test information shall be recorded and documented by the Contractor and submitted to the Engineer. Megger test shall be performed in accordance with the requirements of Item L-108.

The drawings and specifications are complementary; any work required by one, but not by the other, shall be performed as though required by both.

All conduits shall be run exposed in the equipment rooms, or run concealed as indicated.

The construction details of the building are illustrated on the drawings. Each Contractor shall thoroughly acquaint himself with the details before submitting his bid as no allowances will be made because of the Contractor's unfamiliarity with these details.

The electrical plans do not give exact locations, etc., and do not show all the offsets, control lines, junction boxes, and other installation details. Each Contractor shall carefully lay out his work at the site to

conform to the job conditions, to conform to details of installation supplied by the manufacturers of the equipment to be installed, and thereby to provide complete operating systems.

The electrical plans show diagrammatically the locations of the various electrical outlets and apparatus and the method of circulating and controlling them. Exact locations of these outlets and apparatus shall be determined by reference to the general plans and to all detail drawings, etc., by measurements at the buildings, and in cooperation with other crafts, and in all cases shall be subject to the approval of the Engineer. The Engineer reserves the right to make any reasonable change in location of any outlet or apparatus before installation, without additional cost to the Owner.

These Specifications and the accompanying Drawings are intended to cover systems which will not interfere with the structure of the buildings, which will fit into the several available spaces, and which will insure complete and satisfactory systems. Each bidder shall be responsible for the proper fitting of his material and apparatus into the buildings.

Should the particular equipment which any bidder proposes to install require other space conditions than those indicated on the Drawings, he shall arrange for such space with the Engineer before submitting his bid. Should changes become necessary on account of failure to comply with this clause, the Contractor shall make such changes at the Contractor's expense.

The Contractor shall be responsible to see that each party furnishes electrical equipment which meets the electrical requirements specified herein and that all systems work together to produce the specified operation.

Where two or more units of the same kind or class of equipment are required, these shall be products of a single manufacturer; however, the component parts need not be the products of one manufacturer.

Each Contractor shall submit working scale drawings of all his apparatus and equipment which in any way varies from these Specifications and Plans, which shall be checked by the Engineer and approved before the work is started, and interferences with the structural conditions shall be corrected by the Contractor before the work proceeds.

Electrical equipment, such as switchgear, switchboards, panelboards, load centers and other power supply equipment, shall not be used as a common enclosure, pull box or junction box for routing conductors of different systems, unless the equipment is specifically designed for this purpose and indicated as such on the Plans.

All electrical equipment shall be securely mounted as indicated in the plans, as required by the contract specifications, as required by guidelines and codes, and as required by the manufacturer using hardware compliant with the environmental conditions.

Interior components of electrical enclosures shall be securely mounted using appropriate hardware within the enclosure. Adhesives or adhesive tapes/strips are not allowed and are prohibited.

Electrical components, including but not limited to, relays, circuit boards, electronics, etc, shall be installed within approved enclosures.

The Contractor shall keep ends of conduits, including those extending through roofs, equipment and fixtures covered or closed with caps or plugs to prevent foreign material from entering during construction.

The Contractor shall install any temporary lines and connections required to maintain electric services and safely remove and dispose of them when complete.

All temporary wiring shall conform to OSHA standards. Remove temporary services when work is complete. Any damage to electrical equipment caused by the Contractor shall be repaired at no cost to the Owner.

All non-current carrying parts and neutrals shall be grounded as indicated on the Drawings or as required by the Codes.

White and/or gray outer finish conductors may only be used as grounded conductors or neutral conductors in accordance with NEC.

Install insulated green equipment grounding conductors with all feeder and branch circuits.

The bidder shall inspect the site, thoroughly acquaint himself with conditions to be met and work to be accomplished. Failure to comply with this shall not constitute grounds for any additional payments.

Where electrical equipment is installed that causes electrical noise interference with other systems either existing or installed under this contract, the offending equipment shall be equipped with isolating transformers, filters, reactors, shielding, or any other means as required for the satisfactory suppression of the interferences, as determined by the Engineer.

All junction boxes, expansion joints, flexible connections, instruments and similar items requiring servicing or repairs shall be installed in an accessible location.

All salvage and equipment removed by the work shall remain the property of the Owner. Material removed from the project shall be stored on the project site where and as directed. Debris shall be removed from the job site and disposed of by the Contractor.

The Contractor shall maintain his work area clean and orderly at all times. Debris shall be removed promptly. The electrical system shall be thoroughly cleaned inside and outside of all enclosures to remove all dust, concrete splatter, plaster, paint and lint.

The Contractor shall do all excavating and backfilling made necessary by electrical work and shall remove all surplus or supply any earth required to establish the proper finished grade.

The Contractor shall do all cutting and patching made necessary by electrical work, but in no case shall he cut through or into any structural member without written permission of the Engineer.

All steel conduits, supports, channels, fittings, nuts, bolts, etc. shall be galvanized, corrosion-resistant type unless otherwise noted.

An approved anti-seize compound shall be used on all threads to prevent equipment and thread damage.

300-3.4 DUCT AND CONDUIT. Conduits shall be galvanized rigid steel unless otherwise indicated or specified. Refer to one-line diagram conduit notes for specific requirements.

For underground service entrance, feeder and branch circuit raceways, offsets and bends over 30 degrees and elbows in Schedule 40 PVC conduit runs shall be Schedule 80 PVC conduit. Underground service entrance PVC conduits shall be concrete encased unless otherwise noted. Underground PVC conduits shall be concrete encased under driveways, roadways, parking lots and other paved areas.

PVC shall convert to coated galvanized rigid steel conduit prior to its emergence; no PVC shall emerge from the ground or concrete slab or encasement. Use manufactured long sweep coated galvanized rigid steel conduit elbows for stub-up risers. Coated galvanized rigid steel conduit shall transition to non-coated galvanized rigid steel conduit no sooner than 3" above finished grade.

Backfilling from two directions will not be allowed. No backfilling will be accomplished without the approval of the Engineer. The Construction Observer will coordinate with the Contractor for advance scheduling of trench inspection.

Install grounding-and-bonding type bushings and bonding jumpers on all service entrance conduits and on all feeder and branch circuit conduits.

Use conduit bushings at each conduit termination. Where No. 4 AWG or larger ungrounded wire is installed, use insulated bushings.

When EMT is allowed, utilize only steel compression fittings. Die-cast and set-screw fittings shall not be used.

Use double lock nuts at each conduit termination. Use weather tight hubs in damp and wet locations. Sealing lock nuts shall not be used.

Grounding continuity to rigid metal conduit shall be accomplished by grounding bushings/adapters with lugs for connection to grounding counterpoise and/or grounding electrode conductor as defined by NEC.

All exposed wiring shall be run in not less than 1/2 inch (12 mm) galvanized rigid steel conduit. All conduits shall be installed to provide for drainage. Conduit shall be attached to wooden structures with galvanized pipe straps and fastened with galvanized wood screws not less than No. 8 nor less than 1-1/4 inches (31 mm) long. There shall be at least two fastenings for each 10-foot (3 m) length.

300-3.5 WIRING. The Contractor shall furnish all labor and materials and shall make complete electrical connections in accordance with the wiring diagram furnished with the project plans. The electrical installation shall conform to the requirements of the latest edition of National Fire Protection Association, NFPA-70, and National Electrical Code.

300-3.6 REMOVAL AND RELOCATION OF EXISTING EQUIPMENT. The Contractor shall carefully remove all salvageable equipment as indicated on the Plans. Any equipment which is damaged during the removal operation shall be subject to a reduction in payment for removal of the equipment. All equipment which is removed during this project shall be transported to a site on the Airfield or removed from the Airfield and properly disposed of as directed by the Owner and the Engineer.

The Contractor shall carefully relocate existing equipment as indicated in the Plans. Any equipment that is damaged during the relocation operation shall be replaced at no additional cost to the Owner.

Any existing electrical equipment, conduit, cables, etc. that is damaged during construction shall be replaced at no additional cost to the Owner to the satisfaction of the Owner and the Engineer.

300-3.7 TESTING. All installations shall be fully tested by continuous operation for not less than 24 hours as completed systems prior to acceptance. These tests shall include the functioning of each control not less than 10 times.

The completed circuits shall be tested in accordance with the applicable provisions of Item L-108.

The installations shall be tested in operation as a completed unit prior to acceptance. Tests shall include taking megger and voltage readings in accordance with manufacturer's requirements. Testing equipment shall be furnished by the Contractor. The insulation resistance to ground of the equipment supply circuit shall be not less than 50 megohms when measured to ground.

Tests shall be conducted in the presence of the Engineer and shall be to his/her satisfaction.

Equipment and materials covered by FAA Advisory Circulars are referred to by item numbers and approved equipment is listed within the AC 150/5345-53 Airport Lighting Equipment Certification Program's monthly Addendum, which contains a complete and updated listing of the certified equipment and manufacturers, and is listed in the FAA Buy American Preference equipment list, which is also updated monthly. The Contractor shall provide and install new certified equipment that works reliably and efficiently with the existing equipment to remain in service. The Contractor shall provide any additional accessories and/or appurtenances required to provide fully functional electrical systems to the satisfaction of the Owner and Engineer, at no additional cost to the Owner.

The Contractor shall ascertain that all lighting system components furnished (including FAA certified and approved equipment) are compatible in all respects with each other and the remainder of the new and existing systems. Any non-compatible components furnished by the Contractor shall be replaced at no additional cost to the Owner with a similar unit that is approved by the Engineer and compatible with the remainder of the airport lighting system.

300-3.8 INSPECTION FEES AND PERMITS. Obtain and pay for all necessary permits and inspection fees required for electrical installation.

300-3.9 WORK SUPERVISION. The electrical contractor (whether the general contractor or a subcontractor) shall be a licensed contractor in the state of Texas having an electrical classification suitable for performing the work required in these contract documents.

The Contractor shall designate in writing the qualified electrical supervisor who shall provide supervision to all electrical work on this project. The minimum qualifications for the electrical supervisor shall be a master electrician as defined by Texas Electrical Safety and Advisory Board. The supervisor or his appointed alternate possessing at least a journeyman electrician license shall be on site whenever electrical work is being performed. The qualifications of the electrical supervisor shall be subject to approval of the Owner and the Engineer.

All master and journeyman electricians shall be licensed in accordance with Texas Board Requirements. The website located at http://www.license.state.tx.us publishes the text of this statutory requirement. No unlicensed electrical workers shall perform work on this project. Apprentice electricians in a ratio of not more than one apprentice per journeyman electrician will be allowed if the apprentices are licensed and actively participating in an apprenticeship program recognized and approved by the Texas Electrical Safety and Advisory Board.

Refer to specification section L-108-2.5 "Splicer Qualifications" for additional requirements.

METHOD OF MEASUREMENT

300-4.1 The quantity of lockout/tagout and constant current regulator calibration procedures to be paid for shall consist of all lockout/tagout procedure work and all constant current regulator calibration work completed in place, accepted and ready for operation. This item does not include measurement for constant current regulator equipment.

BASIS OF PAYMENT

300-5.1 Payment will be made at the contract lump sum price for each completed and accepted lockout/tagout and constant current regulator calibration procedures. This price shall be full compensation for furnishing all materials and for all preparation, testing, labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item SS-300-5.1	Lockout/Tagout and Constant Current Regulator Calibration Procedures – per Lump Sum

MATERIAL REQUIREMENTS

CFR 1910	Occupational Safety and Health Regulations
CFR 1926	Safety and Health Regulations for Construction
ANSI/IEEE C2	National Electrical Safety Code
NFPA-70	National Electrical Code (NEC)
NFPA-70E	Standard for Electrical Safety in the Workplace
NFPA-101	Life Safety Code
29 CFR 1910	Occupational Safety and Health Standards (OSHA)
29 CFR 1926	Safety and Health Regulations for Construction

END OF ITEM SS-300

CONSTANT CURRENT REGULATOR CALIBRATION REPORT

Standard Requirements:

FAA AC 150/5340-26 (latest edition) Maintenance of Airport Visual Aid Facilities

Owner / Sponsor: _____ Engineer: Garver, LLC _____

Airport: _____ Contractor: _____

Project Title: _____ Garver Project Number: _____

Vault ID / Location: _____ Date: _____

Weather / Site Conditions: _____

Constant Current Regulator #: _____

	Completed	Comments
1. Check all control equipment for proper operation.	☐	_____
2. Perform short-circuit test. Record results and recalibrate if necessary.	☐	_____
3. Perform open-circuit test on regulators with open circuit protection. Open circuit protective device should de-energize the regulator. Record results.	☐	_____
4. Check and record regulator input voltage and current.	☐	_____
Input Voltage: _____ Input Current: _____		
5. Check and record regulator output load.	☐	_____
Volt-Amperes: _____		
6. Check and record output current on each brightness step. If output current is outside of the allowable range as defined by the FAA, adjust the regulator's on-board potentiometer to re-calibrate the output current within the allowable range. Re-record the new output current on this form.	☐	_____

3-Step CCR

B10: _____ B30: _____ B100: _____

5-Step CCR

1: _____ 2: _____ 3: _____ 4: _____ 5: _____

Tested By: _____ (Signature and Date)

Test Equipment: _____ (Manufacturer and Model No.)

Engineer Witness: _____ (Signature and Date)

Owner / Sponsor Witness: _____ (Signature and Date)

ITEM SS-310 AIRPORT LIGHTING SYSTEMS

DESCRIPTION

310-1.1 This item shall consist of furnishing and installing airport taxiway pavement edge lighting systems and guidance signs; and removing existing taxiway edge lights and guidance signs, in accordance with this specification, the referenced specifications and drawings, and applicable advisory circulars. The system shall be installed at the locations and in accordance with the dimensions, design and details shown on the plans. This work shall include the furnishing of all equipment, materials, services and incidentals necessary to place it in operating condition as a completed unit to the satisfaction of the Engineer.

310-1.2 Additional details pertaining to the lighting system covered in this item are contained in the advisory circular, AC 150/5340-30, Design and Installation Details for Airport Visual Aids. The Contractor shall maintain current copies of all referenced and applicable advisory circulars on the job site. The Contractor is responsible to make known to the Engineer any conflict between plans and specifications that he observes or of which he is made aware.

EQUIPMENT AND MATERIALS

310-2.1 GENERAL.

a. Airport lighting equipment and materials shall meet the requirements outlined in Item SS-300.

b. For pre-cast or prefabricated concrete encased light base installations, the Contractor shall submit and coordinate the construction of the proposed pre-cast units with the Engineer onsite to review and approve the construction process. The Contractor shall submit his proposed installation process for review and approval by the Engineer. The Contractor shall provide additional items and work if required and requested by the Engineer for the construction and installation of the pre-cast units at no additional cost to the Owner.

310-2.2 LIGHT FIXTURES. Airfield lights shall be supplied with all features and accessories including isolation transformers, light bases, base covers, safety ground rods, concrete pads and incidentals required for a complete installation as defined in these Specifications and as shown on the plans.

a. Medium Intensity Taxiway Lights (MITL):

(1) Taxiway edge elevated lights shall be L-861T(L), LED lamp, Omnidirectional blue lens.

310-2.3 LAMPS. Lamps for elevated edge lights shall be 6.6A Quartz and/or LED type as specified.

310-2.4 SPARE EQUIPMENT INCLUDING LAMPS, FIXTURES, AND SPARE SIGN REPLACEMENT COMPONENTS. Provide minimum 10 percent spare lamps of each type installed for lights and signs, minimum quantity of 6 required. Spare lamps shall not be measured for separate payment but shall be considered subsidiary to the light fixture and guidance sign pay items.

Provide minimum 10 percent spare fixtures of each type installed for lights. Provide minimum 10 percent spare sign replacement components of each type installed for signs. Spare fixtures and spare sign replacement components shall not be measured for separate payment but shall be considered subsidiary to the respective light fixture or sign pay items.

a. A spare elevated LED fixture unit shall be one complete, ready-to-install fixture, including the coupling, column, head housing assembly, cordset, LED power supply assembly, LED assembly, and lens assembly.
b. A spare sign replacement component unit shall include the LED light tube assembly and LED power supply assembly.

The spare lamps, spare fixtures and spare sign replacement components shall be delivered and stored as directed by the Owner, with transmittal receipt signed by Owner's representative. A signed copy shall be forwarded to the Engineer with an additional signed copy placed in the O&M manuals.

310-2.5 GUIDANCE SIGNS. Guidance signs shall be L-858, meeting the criteria set forth in AC 150/5345-44, Specification for Taxiway and Runway Signs, and suitable for base mounting. Each unit shall be furnished with the required panels, mounting assemblies, frangible couplings, transformer, intensity control, identification tag, metal tethers, fasteners and safety ground rods.

Style 2 and Style 3 signs shall meet the luminance requirements in AC 150/5345-44 throughout the current ranges of the associated series circuit.

Guidance signs shall utilize LED lighting technology that results in a low VA load and high power factor. Guidance signs shall have an integral on/off switch for airport maintenance use while changing lamps.

Signs shall be furnished with permanent type nameplates that are both weather and sunlight resistant. Nameplates which are completed with ink markers or similar methods will not be accepted.

The complete sign installation shall be designed to withstand a 200-mph wind load.

Guidance signs shall be constructed using a technology having a proven record of performance for a period of at least five years.

Taxiway guidance and Runway exit signs shall be Size 2 (15" Legend), Style 2 (3-step circuit), Class 1 (operation range from -4 degrees F to 131 degrees F), Mode 2 (withstand wind loads of 200 mph).

Mandatory runway hold signs shall be Size 2 (15" Legend), Style 3 (5-step circuit), Class 1 (operation range from -4 degrees F to 131 degrees F), Mode 2 (withstand wind loads of 200 mph).

310-2.6 ISOLATION TRANSFORMERS. New isolation transformers shall be Type L-830 and have a wattage rating suitable for the wattage of the fixture and sign lamps. The transformer shall be listed in FAA Circular AC 150/5345-47.

310-2.7 FIELD LIGHTNING ARRESTOR. New series circuit field lightning arrestors shall be installed on the airfield series circuits to reduce the risk of lightning damage to the circuits, including cables, isolation transformers and field/vault lighting equipment. The arrestor assembly shall consist of a NEMA 6P rated metal enclosure, using MOV components, rated for 5,000 volts continuous operating voltage with 25,000 A peak surge current, having a minimum 2 giga-ohm insulation resistance, with L-823 connectors, The arrestors shall be designed specifically for protecting 5 kV airfield series circuits and shall be manufactured by ADB, Astronics or Liberty Airport Systems, or approved equal.

CONSTRUCTION METHODS

310-3.1 GENERAL. The installation and testing details for the lighting system shall be as specified in the applicable advisory circulars.

310-3.2 PLACING THE EQUIPMENT. The equipment shall be mounted on concrete pads as shown in the

plans. Secure the equipment and make all final connections.

310-3.3 MOUNTING AND LEVELING. The concrete support to which the equipment is fastened shall be accurately leveled before mounting the equipment. The light units shall be properly aimed, as recommended by the manufacturer of the supplied equipment. This adjustment shall be accomplished using factory-approved aiming devices and techniques. The Contractor is responsible for all surveying and measurement which is required to accurately position and aim these devices.

310-3.4 PLACING LIGHTS. All equipment shall be installed at locations indicated in the plans. Lights shall be laid out by locating the two control points by station as indicated on the plans and measuring the indicated individual separation distances. Light bases shall be located within 1 inch +/- longitudinally and 0.5 inches +/- transversely of the location indicated unless deviation is approved by the Engineer. The Contractor is responsible for all surveying and measurement which is required to accurately position and aim the light fixtures. Excavation for installation of light bases shall be backfilled with at least 4 inches of granular leveling course, as approved by the Engineer. Fixture height shall be as indicated on the Drawings.

For pre-cast or prefabricated concrete encased light base installations, a leveling course of sand shall be placed in the bottom of the excavated hole, sufficient for accurately installing, leveling and placing the lights in accordance with the requirements in this specification and AC 150/5340-30.

310-3.5 PLACING SIGNS. All signs shall be installed at the approximate location indicated in the plans. The specific requirements for sign location are specified in AC 150/5340-18, Standards For Airport Sign Systems. Specific requirements of this AC are also shown on the Plans. Signs shall be located within 1 inch +/- longitudinally or 0.5 inches +/- transversely of the required location unless deviation is approved by the Engineer. The locations for the signs shall be staked by the Contractor and approved by the Engineer before installation begins.

310-3.6 PLACING FIELD LIGHTNING ARRESTORS. All field lighting arrestors shall be installed at locations indicated in the plans, typically about every 2,000 feet around the series circuit. The arrestors shall be installed in base cans or handholes as noted on the plans. Provide a minimum #4 AWG copper ground wire to connect the arrestor ground lug to dedicated ground rod outside the base can or handhole on the pavement side of the equipment. This ground rod shall be connected to the counterpoise system using exothermic welds only.

Provide 10% spare lightning arrestor units, minimum quantity of 2. Spare arrestors shall not be measured for separate payment but shall be considered subsidiary to the respective arrestor pay items.

310-3.7 TRANSFORMER INSTALLATION. The transformer for base mounted fixtures shall be placed inside the base on top of a vitrified brick. The transformer for stake mounted fixtures shall be located uniformly as shown on the plans. The primary cable connections shall be made with L-823 connectors as described in Item L-108 and have 3 feet of slack cable. The secondary leads connected to the lamp leads by means of a disconnecting plug and receptacle provided with the unit, and this joint shall not be taped. The secondary joint shall be fastened with a holding ring provided for this purpose.

310-3.8 UNIT ASSEMBLY. All edge lights and guidance signs shall be assembled in accordance with the manufacturer's installation procedures. Anti-seize compound shall be used on all threads.

Coordinate recommended torque values with the light fixture manufacturer, light base can manufacturer, stainless steel bolts and hardware used, and exact anti-seize compound used, in order to prevent light base thread damage. Utilize a dial-type torque wrench for accuracy and to prevent over-tightening bolts.

310-3.9 IDENTIFICATION NUMBERS. An identifying number shall be assigned to each light and sign in accordance with the plans or as approved by the Engineer and Owner. This number shall be imprinted with reflective black with 1/2" letters on a non-corrosive metal disc 2" minimum diameter and attached to the

pavement side of the fixture with a metal screw.

310-3.10 REMOVAL OF LIGHT FIXTURES AND EQUIPMENT. Light fixtures and other equipment which are to be removed shall be carefully excavated. All concrete bases and concrete anchors shall be removed by the Contractor. The removed lights, guidance signs, isolation transformers and wiring harnesses shall then be given to the Owner, or properly disposed of if so directed by the Owner. The ground in the area of the removed lighting equipment shall be backfilled and properly compacted. Light fixtures and equipment which are to be relocated shall be stored on site and reinstalled with new lamps, new transformers, and all other new required accessories as indicated in the plans.

310-3.11 REMOVAL OF EXISTING EQUIPMENT. The Contractor shall carefully remove all salvageable equipment as indicated in the plans. Any equipment that is damaged during the removal and/or relocation operation shall be subject to a reduction in payment for removal and/or relocation of the equipment. All equipment that is removed during this project shall be transported to a site on the Airfield or removed from the Airfield and properly disposed of as directed by the Owner and the Engineer.

310-3.12 TEMPORARY AIRFIELD LIGHTING. Existing lighting circuits shall remain operational by use of temporary circuits for the duration of the project. This item shall include all work to maintain the existing lighting during construction to allow all taxiways and runways in operation to remain lighted for their full length, including that portion through the construction area, as indicated in the sequence of construction and as directed by the Engineer.

310-3.13 TESTING. The installation shall be tested in operation as a completed unit prior to acceptance. Tests shall include taking megger and voltage readings as outlined in Item SS-300 and Item L-108. Testing equipment shall be furnished by the Contractor. Refer to Item L-108 for additional test requirements.

Tests shall be conducted in the presence of the Engineer and shall be to his/her satisfaction.

All installations shall be fully tested by continuous operation for not less than 24 hours as completed systems prior to acceptance. These tests shall include the functioning of each control not less than 10 times.

Equipment and materials covered by FAA Advisory Circulars are referred to by item numbers and approved equipment is listed within the AC 150/5345-53 Airport Lighting Equipment Certification Program's monthly Addendum, which contains a complete and updated listing of the certified equipment and manufacturers, and is listed in the FAA Buy American Preference equipment list, which is also updated monthly. The Contractor shall provide and install new certified equipment that works reliably and efficiently with the existing equipment to remain in service. The Contractor shall provide any additional accessories and/or appurtenances required to provide fully functional electrical systems to the satisfaction of the Owner and Engineer, at no additional cost to the Owner.

The Contractor shall ascertain that all lighting system components furnished (including FAA certified and approved equipment) are compatible in all respects with each other and the remainder of the new and existing systems. Any non-compatible components furnished by the Contractor shall be replaced at no additional cost to the Owner with a similar unit that is approved by the Engineer and compatible with the remainder of the airport lighting system.

METHOD OF MEASUREMENT

310-4.1 The quantity of existing lights or guidance signs, removed, to be measured under this item shall be the number of each complete unit removed, and accepted by the Engineer.

310-4.2 The quantity of existing lights or guidance signs, relocated, to be measured under this item shall be the number of each complete unit removed, stored, and reinstalled at the new location, complete with new

isolation transformer, new lamps, new concrete bases and cans, new connectors, new safety ground rods, and new appurtenances, as completed units in place, ready for operation, and accepted by the Engineer. This work shall also include removal of the old concrete pads and appurtenances.

310-4.3 The quantity of lights, complete with isolation transformers, bases or stakes, connectors, safety grounds rods, and appurtenances, to be measured under this item shall be the number of each installed, as completed units in place, ready for operation, and accepted by the Engineer. See section on Spare Equipment for information on spare fixture requirements.

310-4.4 The quantity of guidance signs of each type to be measured for under this item shall be the number of signs installed, complete with isolation transformers, bases, safety ground rods, tether and all other required appurtenances, as completed units in place, ready for operation, and accepted by the Engineer. See section on Spare Equipment for information on spare sign component requirements.

310-4.5 The quantity of field lightning arrestors, complete with arrestor, connectors, equipment safety ground rod, lightning arrestor ground rod, conductors, and all other required appurtenances, to be measured under this item shall be the number of each type installed, as completed units in place, ready for operation, and accepted by the Engineer.

310-4.6 The temporary airfield lighting shall be measured as a lump sum complete item, including all work complete and in place and ready for operation, and the installation, protection, and removal of all temporary cable, lighting, and associated items as indicated in the Drawings or as directed by the Engineer.

BASIS OF PAYMENT

310-5.1 Payment will be made at the contract unit price for each complete item, measured as provided above, and accepted by the Engineer. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item.

310-5.2 Payment will be made at the contract lump sum price for each lump sum complete item, measured as provided above, and accepted by the Engineer. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item.

Payment will be made under:

Item SS-310-5.1	Existing Stake Mounted Edge Light, Removed -- per Each
Item SS-310-5.2	Existing Base Mounted Guidance Sign, Removed – per Each
Item SS-310-5.3	Abandoned Sign Base, Removed – per Each
Item SS-310-5.4	L-858(L) Base Mounted, 1-Module Guidance Sign, Installed -- per Each
Item SS-310-5.5	L-858(L) Base Mounted, 3-Module Guidance Sign, Installed -- per Each
Item SS-310-5.6	L-861T(L) Base Mounted Taxiway Edge Light, Installed – per Each

Item SS-310-5.7	Existing L-861T Stake Mounted Taxiway Edge Light, Relocated -- per Each
Item SS-310-5.8	Field Lightning Arrestor, Installed -- per Each
Item SS-310-5.9	Temporary Airfield Lighting -- per Lump Sum

MATERIAL REQUIREMENTS

Fed.Spec.J-C-30	Cable and Wire, Electrical (Power, Fixed Installation)
Fed. Spec. W-C-1094	Conduit and Conduit Fittings; Plastic, Rigid
Fed. Spec. W-P-115	Panel, Power Distribution
Fed. Std. 595	Colors
AC 150/5340-18	Standards for Airport Sign Systems
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-3	Specification for L-821 Panels for Control of Airport Lighting
AC 150/5345-7	Specification for L-824 for Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors
AC 150/5345-28	Standard for Precision Approach Path Indicator (PAPI) Systems
AC 150/5345-39	Specification for L-853 Runway and Taxiway Retroreflective Markers
AC 150/5345-42	Specification for Airport Light Base and Transformer Housings, Junction Boxes, and Accessories
AC 150/5345-44	Specification for Taxiway and Runway Signs
AC 150/5345-46	Specification for Runway and Taxiway Light Fixtures
AC 150/5345-47	Isolation Transformers for Airport Lighting Systems
AC 150/5346-49	Specification L-854, Radio Control Equipment
AC 150/5345-51	Specification for Discharge-Type Flashing Light Equipment
AC 150/5345-53	Airport Lighting Equipment Certification Program
Underwriters Laboratories Standard 6	Rigid Metal Conduit
Underwriters	Fittings for Conduit and Outlet Boxes

Laboratories Standard 514	
Underwriters Laboratories Standard 1242	Intermediate Metal Conduit
Underwriters Laboratories Laboratories Standard 651	Schedule 40 and 80 Rigid PVC Conduit (for Direct Burial)
NFPA-70	National Electrical Code (NEC)

END OF ITEM SS-310

ITEM D-701 PIPE FOR STORM DRAINS AND CULVERTS is hereby amended with respect to the paragraphs and sections cited below.

Revise the following paragraph as noted:

701-2.1 Materials shall meet the requirements shown on the plans and specified below. ***All reinforced concrete pipe shall be Class III pipe unless otherwise denoted on the plans. No pick-eye holes will be allowed.***

Revise the following section as noted:

701-3.2 BEDDING. The pipe bedding shall conform to the class specified on the plans. When no bedding class is specified or detailed on the plans, the requirements for Class C bedding shall apply.

a. Rigid Pipe. Class A bedding shall consist of a continuous concrete cradle conforming to the plan details.

Class B bedding shall consist of a bed of granular material having a thickness of at least 6 in (150 mm) below the bottom of the pipe and extending up around the pipe for a depth of not less than ***50*** ~~30~~ percent of the pipe's vertical outside diameter. The layer of bedding material shall be shaped to fit the pipe for at least ***50*** ~~10~~ percent of the pipe's vertical diameter and shall have recesses shaped to receive the bell of bell and spigot pipe. The bedding material shall be ***number 57 stone as defined in ASTM C 33 or approved equal*** ~~sand or selected sandy soil, all of which passes a 3/8 in (9 mm) sieve and not more than 10 percent of which passes a No. 200 (0.075 mm) sieve~~.

Revise the following paragraph as noted:

701-3.4 JOINING PIPE. Joints shall be made with ~~(1) Portland cement mortar, (2) Portland cement grout,~~ (3) rubber gaskets, ~~(4) plastic gaskets, or (5) coupling bands~~.
~~Mortar joints shall be made with an excess of mortar to form a continuous bead around the outside of the pipe and shall be finished smooth on the inside. Molds or runners shall be used for grouted joints in order to retain the poured grout~~. Rubber ring gaskets shall be installed to form a flexible watertight seal.

Revise the following section as noted:

701-3.5 BACKFILLING. Pipes shall be inspected before any backfill is placed; any pipes found to be out of alignment, unduly settled, or damaged shall be removed and relaid or replaced at the Contractor's expense.

Material for backfill shall be fine, readily compatible soil, granular material selected from the excavation or a source of the Contractor's choosing, **or shall meet the requirements of Item P-153.** It shall not contain frozen lumps, stones that would be retained on a 2 in (50.0 mm) sieve, chunks of highly plastic clay, or other objectionable material. No less than 95 percent of a granular backfill material shall pass through a 1/2 in (12 mm) sieve, and no less than 95 percent of it shall be retained on a No. 4 (4.75 mm) sieve.

Delete the following paragraph:

~~**701-4.2** The volume of concrete for pipe cradles to be paid for shall be the number of cubic yards (cubic meters) of concrete that is completed in place and accepted.~~

Add the following paragraph as noted:

701-4.2 The volume of concrete for pipe cradles ***completed in-place and accepted by the Engineer shall not be measured for separate payment*** ~~to be paid for shall be the number of cubic yards (cubic meters) of concrete that is completed in place and accepted~~.

Replace the following paragraphs as noted:

701-4.3 The volume of ***P-153 completed in-place and accepted by the Engineer shall not be measured for separate payment*** ~~rock to be paid for shall be the number of cubic yards (cubic meters) of rock excavated. No payment shall be made for the cushion material placed for the bed of the pipe~~.

Replace the following section as noted:

BASIS OF PAYMENT

701-5.1 Payment will be made at the contract unit price per linear foot (meter) for each kind of pipe of the type and size designated; at the contract unit price per ~~cubic yard (cubic meter) of concrete~~ ***each*** for pipe cradles; and at the contract unit price per cubic yard (cubic meter) for rock excavation.

These prices shall fully compensate the Contractor for furnishing all materials and for all preparation, excavation, and installation of these materials; and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item 701-5.1	***30"*** ~~Inch~~ ***Class III Reinforced Concrete Pipe*** per linear foot
~~Item 701-5.2~~	~~Concrete for pipe cradles per cubic yard (cubic meter)~~
~~Item 701-5.3~~	~~Rock excavation per cubic yard (cubic meter)~~

END ITEM MOD D-701

ITEM D-701 PIPE FOR STORM DRAINS AND CULVERTS

DESCRIPTION

701-1.1 This item shall consist of the construction of pipe culverts and storm drains in accordance with these specifications and in reasonably close conformity with the lines and grades shown on the plans.

MATERIALS

701-2.1 Materials shall meet the requirements shown on the plans and specified below.

701-2.2 PIPE. The pipe shall be of the type called for on the plans or in the proposal and shall be in accordance with the following appropriate requirements.

Metallic Coated Corrugated Steel Pipe (Type I, IR or II)	ASTM A 760
Galvanized Steel Corrugated Structural Plates and Fasteners for Pipe, Pipe-Arches, and Arches	ASTM A 761
Polymer Precoated Corrugated Steel Pipe for Sewers and Drains	ASTM A 762
Post-Coated and Lined (Bituminous or Concrete) Corrugated Steel Sewer and Drainage Pipe	ASTM A 849
Steel Sheet, Zinc and Aramid Fiber Composite Coated for Corrugated Steel Sewer, Culvert, and Underdrain Pipe	A885/A885M-96
Corrugated Aluminum Alloy Culvert Pipe	ASTM B 745
Non-Reinforced Concrete Pipe	ASTM C 14
Reinforced Concrete Pipe	ASTM C 76
Reinforced Concrete D-Load Pipe	ASTM C 655
Reinforced Concrete Arch Pipe	ASTM C 506
Reinforced Concrete Elliptical Pipe	ASTM C 507
Precast Reinforced Concrete Box Sections	ASTM C 789 and C 850
Large Diameter Corrugated Polyethylene Pipe and Fittings Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter	ASTM F 667 ASTM F 717
Poly (Vinyl Chloride) Ribbed Drain Pipe & Fittings Based on Controlled Inside Diameter	ASTM F 794
Based on Controlled Inside Diameter Polyethylene (PE) Large Diameter Profile Wall Sewer and Drain Pipe	ASTM F 894
Poly (Vinyl Chloride) (PVC) Corrugated Sewer Pipe With a Smooth Interior and Fittings	ASTM F 949

Steel Reinforced Polyethylene (PE) Corrugated Pipe	ASTM F 2435
Steel Reinforced Thermoplastic (HDPE) Ribbed Pipe and Fittings for Non-Pressure Drainage and Sewerage	ASTM F 2562
Bituminous-Coated Corrugated Metal Pipe and Pipe Arches	AASHTO M 190
Bituminous-Coated Corrugated Aluminum Alloy Culvert Pipe	AASHTO M 190 and M 196
Bituminous-Coated Structural Plate Pipe, Pipe Arch, and Arches	AASHTO M 167 and M 243
Aluminum Alloy Structural Plate for Pipe, Pipe Arch, and Arches	AASHTO M 219
Polyvinyl Chloride (PVC) Pipe	ASTM D 3034
Corrugated Polyethylene Drainage Tubing (all types)	AASHTO M 252
Corrugated Polyethylene Pipe 300 to 1200 mm Diameter (all types)	AASHTO M 294M
Poly (Vinyl Chloride) (PVC) Profile Wall Drain Pipe and Fittings Based on Controlled Inside Diameter	AASHTO M 304
Steel Reinforced Polyethylene (PE) Ribbed Pipe	AASHTO MP-20

701-2.3 CONCRETE. Concrete for pipe cradles shall have a minimum compressive strength of 2000 psi (13.8 MPa) at 28 days and conform to the requirements of ASTM C 94.

701-2.4 RUBBER GASKETS. Rubber gaskets for rigid pipe shall conform to the requirements of ASTM C 443. Rubber gaskets for PVC pipe and polyethylene pipe shall conform to the requirements of ASTM F 477. Rubber gaskets for zinc-coated steel pipe and precoated galvanized pipe shall conform to the requirements of ASTM D 1056, for the "RE" closed cell grades.

701-2.5 JOINT MORTAR. Pipe joint mortar shall consist of one part portland cement and two parts sand. The portland cement shall conform to the requirements of ASTM C 150, Type I. The sand shall conform to the requirements of ASTM C 144.

701-2.6 JOINT FILLERS. Poured filler for joints shall conform to the requirements of ASTM D 1190.

701-2.7 PLASTIC GASKETS. Plastic gaskets shall conform to the requirements of AASHTO M 198 (Type B).

[701-2.8. CONTROLLED LOW STRENGTH MATERIAL (CLSM). Controlled low strength material shall conform to the requirements of Item P-153. When CLSM is used all joints shall have gaskets.

CONSTRUCTION METHODS

701-3.1 EXCAVATION. The width of the pipe trench shall be sufficient to permit satisfactory jointing of the pipe and thorough tamping of the bedding material under and around the pipe, but it shall not be less than the external diameter of the pipe plus 6 inches (150 mm) on each side. The trench walls shall be approximately vertical.

Where rock, hardpan, or other unyielding material is encountered, the Contractor shall remove it from below the foundation grade for a depth of at least 12 inches (300 mm) or one-half inch (12 mm) for each foot of fill over the top of the pipe (whichever is greater) but for no more than three-quarters of the nominal diameter of the pipe. The width of the excavation shall be at least 1 foot (30 cm) greater than the horizontal outside diameter of the pipe. The excavation below grade shall be backfilled with selected fine compressible material, such as silty clay or loam, and lightly compacted in layers not over 6 inches (150 mm) in uncompacted depth to form a uniform but yielding foundation.

Where a firm foundation is not encountered at the grade established, due to soft, spongy, or other unstable soil, the unstable soil shall be removed and replaced with approved granular material for the full trench width. The Engineer shall determine the depth of removal necessary. The granular material shall be compacted to provide adequate support for the pipe.

The excavation for pipes that are placed in embankment fill shall not be made until the embankment has been completed to a height above the top of the pipe as shown on the plans.

701-3.2 BEDDING. The pipe bedding shall conform to the class specified on the plans. When no bedding class is specified or detailed on the plans, the requirements for Class C bedding shall apply.

a. Rigid Pipe. Class A bedding shall consist of a continuous concrete cradle conforming to the plan details.

Class B bedding shall consist of a bed of granular material having a thickness of at least 6 inches (150 mm) below the bottom of the pipe and extending up around the pipe for a depth of not less than 30 percent of the pipe's vertical outside diameter. The layer of bedding material shall be shaped to fit the pipe for at least 10 percent of the pipe's vertical diameter and shall have recesses shaped to receive the bell of bell and spigot pipe. The bedding material shall be sand or selected sandy soil, all of which passes a 3/8 inch (9 mm) sieve and not more than 10 percent of which passes a No. 200 (0.075 mm) sieve.

Class C bedding shall consist of bedding the pipe in its natural foundation to a depth of not less than 10 percent of the pipe's vertical outside diameter. The bed shall be shaped to fit the pipe and shall have recesses shaped to receive the bell of bell and spigot pipe.

b. Flexible Pipe. For flexible pipe, the bed shall be roughly shaped to fit the pipe, and a bedding blanket of sand or fine granular material shall be provided as follows:

Pipe Corrugation Depth		Minimum Bedding Depth	
in.	**mm**	**in.**	**mm**
1/2	12.5	1	25.0
1	25.0	2	50.0
2	50.0	3	75.0
2 ½	62.5	3 ½	87.5

c. PVC and Polyethylene Pipe. For PVC and polyethylene pipe, the bedding material shall consist of coarse sands and gravels with a maximum particle size of 3/4-inch (13 mm). For pipes installed under paved areas, no more than 12 percent of the material shall pass the No. 200 (0.075 mm) sieve. For all other areas, no more than 50 percent of the material shall pass the No. 200 (0.075 mm) sieve. The bedding shall have a thickness of at least 6 inches (150 mm) below the bottom of the pipe and extend up around the pipe for a depth of not less than 50 percent of the pipe's vertical outside diameter.

701-3.3 LAYING PIPE. The pipe laying shall begin at the lowest point of the trench and proceed upgrade. The lower segment of the pipe shall be in contact with the bedding throughout its full length. Bell or groove ends of rigid pipes and outside circumferential laps of flexible pipes shall be placed facing upgrade.

Paved or partially lined pipe shall be placed so that the longitudinal center line of the paved segment coincides with the flow line.

Elliptical and elliptically reinforced pipes shall be placed with the manufacturer's top of pipe mark within five degrees of a vertical plane through the longitudinal axis of the pipe.

701-3.4 JOINING PIPE. Joints shall be made with (1) portland cement mortar, (2) portland cement grout, (3) rubber gaskets, (4) plastic gaskets, or (5) coupling bands.

Mortar joints shall be made with an excess of mortar to form a continuous bead around the outside of the pipe and shall be finished smooth on the inside. Molds or runners shall be used for grouted joints in order to retain the poured grout. Rubber ring gaskets shall be installed to form a flexible watertight seal.

a. Concrete Pipe. Concrete pipe may be either bell and spigot or tongue and groove. The method of joining pipe sections shall be such that the ends are fully entered and the inner surfaces are reasonably flush and even. Joints shall be thoroughly wetted before mortar or grout is applied.

b. Metal Pipe. Metal pipe shall be firmly joined by form fitting bands conforming to the requirements of ASTM A 760 for steel pipe and AASHTO M 196 for aluminum pipe.

c. PVC and Polyethylene Pipe. Joints for PVC and Polyethylene pipe shall conform to the requirements of ASTM D 3212 when water tight joints are required. Joints for PVC and Polyethylene pipe shall conform to the requirements of AASHTO M 304 when soil tight joints are required. Fittings for polyethylene pipe shall conform to the requirements of AASHTO M 252 or M 294M.

701-3.5 BACKFILLING. Pipes shall be inspected before any backfill is placed; any pipes found to be out of alignment, unduly settled, or damaged shall be removed and relaid or replaced at the Contractor's expense.

Material for backfill shall be fine, readily compatible soil, granular material selected from the excavation or a source of the Contractor's choosing**, or shall meet the requirements of Item P-153**. It shall not contain frozen lumps, stones that would be retained on a 2-inch (50.0 mm) sieve, chunks of highly plastic clay, or other objectionable material. No less than 95 percent of a granular backfill material shall pass through a 1/2 inch (12 mm) sieve, and no less than 95 percent of it shall be retained on a No. 4 (4.75 mm) sieve.

When the top of the pipe is even with or below the top of the trench, the backfill shall be compacted in layers not exceeding 6 inches (150 mm) on both sides of the pipe and shall be brought up one foot (30 cm) above the top of the pipe or to natural ground level, whichever is greater. Care shall be exercised to thoroughly compact the backfill material under the haunches of the pipe. Material shall be brought up evenly on both sides of the pipe.

When the top of the pipe is above the top of the trench, the backfill shall be compacted in layers not exceeding 6 inches (150 mm) and shall be brought up evenly on both sides of the pipe to 1 foot (30 cm) above the top of the pipe. The width of backfill on each side of the pipe for the portion above the top of the trench shall be equal to twice the pipe's diameter of 12 feet (3.5 m), whichever is less.

For PVC and polyethylene pipe, the backfill shall be placed in two stages; first to the top of the pipe and then at least 12 inches (300 mm) over the top of the pipe. The backfill material shall meet the requirements of paragraph 701-3.2c.

All backfill shall be compacted to the density required under Item P-152.

METHOD OF MEASUREMENT

701-4.1 The length of pipe shall be measured in linear feet (meters) of pipe in place, completed, and approved. It shall be measured along the centerline of the pipe from end or inside face of structure to the end or inside face of structure, whichever is applicable. The several classes, types and size shall be measured separately. All fittings shall be included in the footage as typical pipe sections in the pipe being measured.

701-4.2 The volume of concrete for pipe cradles to be paid for shall be the number of cubic yards (cubic meters) of concrete that is completed in place and accepted.

701-4.3 The volume of rock to be paid for shall be the number of cubic yards (cubic meters) of rock excavated. No payment shall be made for the cushion material placed for the bed of the pipe.

BASIS OF PAYMENT

701-5.1 Payment will be made at the contract unit price per linear foot (meter) for each kind of pipe of the type and size designated; at the contract unit price per cubic yard (cubic meter) of concrete for pipe cradles; and at the contract unit price per cubic yard (cubic meter) for rock excavation.

These prices shall fully compensate the Contractor for furnishing all materials and for all preparation, excavation, and installation of these materials; and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item D-701-5.1	[ ] inch [ ]– per linear foot (meter)
Item D-701-5.2	Concrete for pipe cradles—per cubic yard (cubic meter)
Item D-701-5.3	Rock excavation—per cubic yard (cubic meter)

MATERIAL REQUIREMENTS

ASTM A 760	Corrugated Steel Pipe, Metallic-Coated for Sewers and Drains
ASTM A 761	Corrugated Steel Structural Plate, Zinc Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches
ASTM A 762	Corrugated Steel-Pipe, Polymer Precoated for Sewers and Drains
ASTM A 849	Post-Applied Coatings, Pavings, and Linings for Corrugated Steel Sewer and
Drainage Pipe	
ASTM A 885/A 885M-96	Steel Sheet, Zinc and Aramid Fiber Composite Coated for Corrugated Steel Sewer, Culvert, and Underdrain Pipe
ASTM B 745	Corrugated Aluminum Alloy Culvert Pipe
ASTM C 14	Concrete Sewer, Storm Drain, and Culvert Pipe

ASTM C 76	Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe
ASTM C 94	Ready Mixed Concrete
ASTM C 144	Aggregate for Masonry Mortar
ASTM C 150	Portland Cement
ASTM C 443	Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets
ASTM C 506	Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe
ASTM C 507	Reinforced Concrete Elliptical Culvert, Storm Drain and Sewer Pipe
ASTM C 655	Reinforced Concrete D-Load Culvert, Storm Drain and Sewer Pipe
ASTM C 1433	Precast Reinforced Concrete Box Sections for Culverts, Storm Drains, and Sewers
ASTM D 1056	Flexible Cellular Materials—Sponge or Expanded Rubber
ASTM D 3034	Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
ASTM D 3212	Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
ASTM D 6690	Joint and Crack Sealants, Hot-Applied, for Concrete and Asphalt Pavements
ASTM F 477	Elastomeric Seals (Gaskets) for Joining Plastic Pipe
ASTM F 794	Poly (Vinyl Chloride) Ribbed Drain Pipe & Fittings Based on Controlled Inside Diameter
ASTM F 949	Poly (Vinyl Chloride) (PVC) Corrugated Sewer Pipe With a Smooth Interior and Fittings
AASHTO M 190	Bituminous-Coated Corrugated Metal Culvert Pipe and Pipe Arches
AASHTO M 196	Corrugated Aluminum Alloy Culverts and Underdrains
AASHTO M 198	Joints for Circular Concrete Sewer and Culvert Pipe Using Flexible Watertight Gaskets
AASHTO M 219	Aluminum Alloy Structural Plate for Pipe, Pipe-Arches, and Arches
AASHTO M 243	Field Applied Coating of Corrugated Metal Structural Plate for Pipe, Pipe-Arches, and Arches
AASHTO M 252	Corrugated Polyethylene Drainage Tubing
AASHTO M 294M	Corrugated Polyethylene Pipe, 300 to 1200 mm Diameter
AASHTO M 304	Poly (Vinyl Chloride) (PVC) Profile Wall Drain Pipe and Fittings Based on Controlled Inside Diameter

END ITEM D-701

ITEM D-751 MANHOLES, CATCH BASINS, INLETS, AND INSPECTION HOLES is hereby amended with respect to the paragraphs and sections cited below.

Revise the following paragraph as noted:

METHOD OF MEASUREMENT

751-4.1 *Manholes, catch basins, inlets, and inspection holes shall be measured by the unit* ***completed and accepted.***

751-4.2 Reinforcing steel shall not be measured for separate payment but shall be considered subsidiary to the structure in which it is contained.

Replace the following paragraph as noted:

751-5.1 The accepted quantities of manholes, catch basins, inlets, and inspection holes will be paid for at the contract unit price per each in place when completed. This price shall be full compensation for furnishing all materials and for all preparation, excavation, backfilling and placing of the materials, furnishing and installation of such specials and connections to pipes and other structures as may be required to complete the item as shown on the plans; and for all labor equipment, tools and incidentals necessary to complete the structure.

Payment will be made under:

Item D-751-5.1	***Single Grate Inlet (Heavy-duty Aircraft Rated) 4'x4' — per Each***
Item D-751-5.2	***Junction Box, 4'x4' — per Each***
Item D-751-5.3	***3:1 Slope-End Treatment and 4" Concrete Riprap, Installed — per Lump Sum***

END OF MOD D-751

ITEM D-751 MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES

DESCRIPTION

751-1.1 This item shall consist of construction of manholes, catch basins, inlets, and inspection holes, in accordance with these specifications, at the specified locations and conforming to the lines, grades, and dimensions shown on the plans or required by the Engineer.

MATERIALS

751-2.1 BRICK. The brick shall conform to the requirements of ASTM C 32, Grade SM.

751-2.2 MORTAR. Mortar shall consist of one part portland cement and two parts sand. The portland cement shall conform to the requirements of ASTM C 150, Type I. The sand shall conform to the requirements of ASTM C 144.

751-2.3 CONCRETE. Plain and reinforced concrete used in structures, connections of pipes with structures, and the support of structures or frames shall conform to the requirements of Item P-610.

751-2.4 PRECAST CONCRETE PIPE MANHOLE RINGS. Precast concrete pipe manhole rings shall conform to the requirements of ASTM C 478. Unless otherwise specified, the risers and offset cone sections shall have an inside diameter of not less than 36 inches (90 cm) nor more than 48 inches (120 cm).

751-2.5 CORRUGATED METAL. Corrugated metal shall conform to the requirements of AASHTO M 36.

751-2.6 FRAMES, COVERS, AND GRATES. The castings shall conform to one of the following requirements:

a. Gray iron castings shall meet the requirements of ASTM A 48, Class 30B and 35B.

b. Malleable iron castings shall meet the requirements of ASTM A 47.

c. Steel castings shall meet the requirements of ASTM A 27.

d. Structural steel for grates and frames shall conform to the requirements of ASTM A 283, Grade D.

e. Ductile iron castings shall conform to the requirements of ASTM A 536.

f. Austempered ductile iron castings shall conform to the requirements of ASTM A 897.

All castings or structural steel units shall conform to the dimensions shown on the plans and shall be designed to support the loadings, aircraft gear configuration and/or direct loading, specified.

Each frame and cover or grate unit shall be provided with fastening members to prevent it from being dislodged by traffic but which will allow easy removal for access to the structure.

All castings shall be thoroughly cleaned. After fabrication, structural steel units shall be galvanized to meet the requirements of ASTM A 123.

751-2.7 STEPS. The steps or ladder bars shall be gray or malleable cast iron or galvanized steel. The steps shall be the size, length, and shape shown on the plans and those steps that are not galvanized shall be given a coat of bituminous paint, when directed.

CONSTRUCTION METHODS

751-3.1 UNCLASSIFIED EXCAVATION.

a. The Contractor shall do all excavation for structures and structure footings to the lines and grades or elevations, shown on the plans, or as staked by the Engineer. The excavation shall be of sufficient

size to permit the placing of the full width and length of the structure or structure footings shown. The elevations of the bottoms of footings, as shown on the plans, shall be considered as approximately only; and the Engineer may order, in writing, changes in dimensions or elevations of footings necessary to secure a satisfactory foundation.

b. Boulders, logs, or any other objectionable material encountered in excavation shall be removed. All rock or other hard foundation material shall be cleaned of all loose material and cut to a firm surface either level, stepped, or serrated, as directed by the Engineer. All seams or crevices shall be cleaned out and grouted. All loose and disintegrated rock and thin strata shall be removed. When concrete is to rest on a surface other than rock, special care shall be taken not to disturb the bottom of the excavation, and excavation to final grade shall not be made until just before the concrete or reinforcing is to be placed.

c. The Contractor shall do all bracing, sheathing, or shoring necessary to implement and protect the excavation and the structure as required for safety or conformance to governing laws. The cost of bracing, sheathing, or shoring shall be included in the unit price bid for the structure.

d. Unless otherwise provided, bracing, sheathing, or shoring involved in the construction of this item shall be removed by the Contractor after the completion of the structure. Removal shall be effected in a manner that will not disturb or mar finished masonry. The cost of removal shall be included in the unit price bid for the structure.

e. After each excavation is completed, the Contractor shall notify the Engineer to that effect; and concrete or reinforcing steel shall be placed after the Engineer has approved the depth of the excavation and the character of the foundation material.

751-3.2 BRICK STRUCTURES.

a. Foundations. A prepared foundation shall be placed for all brick structures after the foundation excavation is completed and accepted. Unless otherwise specified, the base shall consist of reinforced concrete mixed, prepared, and placed in accordance with the requirements of Item P-610.

b. Laying Brick. All brick shall be clean and thoroughly wet before laying so that they will not absorb any appreciable amount of additional water at the time they are laid. All brick shall be laid in freshly made mortar. Mortar that is not used within 45 minutes after water has been added shall be discarded. Retempering of mortar shall not be permitted. An ample layer of mortar shall be spread on the beds and a shallow furrow shall be made in it that can be readily closed by the laying of the brick. All bed and head joints shall be filled solid with mortar. End joints of stretchers and side or cross joints of headers shall be fully buttered with mortar and a shoved joint made to squeeze out mortar at the top of the joint. Any bricks that may be loosened after the mortar has taken its set, shall be removed, cleaned, and relaid with fresh mortar. No broken or chipped brick shall be used in the face, and no spalls or bats shall be used except where necessary to shape around irregular openings or edges; in which case, full bricks shall be placed at ends or corners where possible, and the bats shall be used in the interior of the course. In making closures, no piece of brick shorter than the width of a whole brick shall be used; and wherever practicable, whole brick shall be used and laid as headers.

c. Joints. All joints shall be slushed with mortar at every course, but slushing alone will not be considered adequate for making an acceptable joint. Exterior faces shall be laid up in advance of backing. Exterior faces shall be back plastered or pargeted with a coat of mortar not less than 3/8-inch (9 mm) thick before the backing is laid up. Prior to pargeting, all joints on the back of face courses shall be cut flush. Unless otherwise noted, joints shall be not less than 1/4-inch (6 mm) nor more than 1/2-inch (12 mm) wide and whatever width is adopted shall be maintained uniform throughout the work.

d. Pointing. Face joints shall be neatly struck, using the weather joint. All joints shall be finished properly as the laying of the brick progresses. When nails or line pins are used the holes shall be immediately plugged with mortar and pointed when the nail or pin is removed.

e. Cleaning. Upon completion of the work all exterior surfaces shall be thoroughly cleaned by scrubbing and washing down with water and, if necessary to produce satisfactory results, cleaning shall be done with a 5% solution of muriatic acid which shall then be rinsed off with liberal quantities of clean fresh water.

f. Curing and Cold Weather Protection. In hot or dry weather, or when directed by the Engineer, the brick masonry shall be protected and kept moist for at least 48 hours after laying the brick. Brick masonry work or pointing shall not be done when there is frost in the brick or when the air temperature is below 50 F (10 C) unless the Contractor has on the project ready to use, suitable covering and artificial heating devices necessary to keep the atmosphere surrounding the masonry at a temperature of not less than 60 F (15 C) for the duration of the curing period.

751-3.3 CONCRETE STRUCTURES. Concrete structures shall be built on prepared foundations, conforming to the dimensions and form indicated on the plans. The construction shall conform to the requirements specified in Item P-610. Any reinforcement required shall be placed as indicated on the plans and shall be approved by the Engineer before the concrete is poured.

All invert channels shall be constructed and shaped accurately so as to be smooth, uniform, and cause minimum resistance to flowing water. The interior bottom shall be sloped downward toward the outlet.

751-3.4 PRECAST CONCRETE PIPE STRUCTURES. Precast concrete pipe structures shall be constructed on prepared or previously placed slab foundations and shall conform to the dimensions and locations shown on the plans. All precast concrete pipe sections necessary to build a completed structure shall be furnished. The different sections shall fit together readily, and all jointing and connections shall be cemented with mortar. The top of the upper precast concrete pipe member shall be suitably formed and dimensioned to receive the metal frame and cover or grate, or other cap, as required. Provision shall be made for any connections for lateral pipe, including drops and leads that may be installed in the structure. The flow lines shall be smooth, uniform, and cause minimum resistance to flow. The metal steps that are embedded or built into the side walls shall be aligned and placed at vertical intervals of 12 inches (300 mm). When a metal ladder replaces the steps, it shall be securely fastened into position.

751-3.5 CORRUGATED METAL STRUCTURES. Corrugated metal structures shall be constructed on prepared foundations, conforming to the dimensions and locations as shown on the plans. The structures shall be prefabricated. standard or special fittings shall be furnished to provide pipe connections or branches of correct dimensions. The connections or branches shall be of sufficient length to accommodate connecting bands. The fittings shall be welded in place to the metal structures. When indicated, the structures shall be placed on a reinforced concrete base. The top of the metal structure shall be designed so that either a concrete slab or metal collar may be attached to which can be fastened a standard metal frame and grate or cover. Steps or ladders shall be furnished as shown on the plans.

751-3.6 INLET AND OUTLET PIPES. Inlet and outlet pipes shall extend through the walls of the structures for a sufficient distance beyond the outside surface to allow for connections but shall be cut off flush with the wall on the inside surface, unless otherwise directed. For concrete or brick structures, the mortar shall be placed around these pipes so as to form a tight, neat connection.

751-3.7 PLACEMENT AND TREATMENT OF CASTINGS, FRAMES, AND FITTINGS. All castings, frames, and fittings shall be placed in the positions indicated on the plans or as directed by the Engineer, and shall be set true to line and to correct elevation. If frames or fittings are to be set in concrete or cement mortar, all anchors or bolts shall be in place and position before the concrete or mortar is placed. The unit shall not be disturbed until the mortar or concrete has set.

When frames or fittings are to be placed upon previously constructed masonry, the bearing surface or masonry shall be brought true to line and grade and shall present an even bearing surface in order that the entire face or back of the unit will come in contact with the masonry. The unit shall be set in mortar

beds and anchored to the masonry as indicated on the plans or as directed and approved by the Engineer. All units shall set firm and secure.

After the frames or fittings have been set in final position and the concrete or mortar has been allowed to harden for 7 days, then the grates or covers shall be placed and fastened down.

751-3.8 INSTALLATION OF STEPS. The steps shall be installed as indicated on the plans or as directed by the Engineer. When the steps are to be set in concrete, they shall be placed and secured in position before the concrete is poured. When the steps are installed in brick masonry, they shall be placed as the masonry is being built. The steps shall not be disturbed or used until the concrete or mortar has hardened for at least 7 days. After this period has elapsed, the steps shall be cleaned and painted, unless they have been galvanized.

When steps are required with precast concrete pipe structures, they shall be cast into the sides of the pipe at the time the pipe sections are manufactured or set in place after the structure is erected by drilling holes in the concrete and cementing the steps in place.

When steps are required with corrugated metal structures, they shall be welded into aligned position at a vertical spacing of 12 inches (300 mm).

In lieu of steps, prefabricated ladders may be installed. In the case of brick or concrete structures, the ladder shall be held in place by grouting the supports in drilled holes. In the case of metal structures, the ladder shall be secured by welding the top support and grouting the bottom support into drilled holes in the foundation or as directed.

751-3.9 BACKFILLING.

a. After a structure has been completed, the area around it shall be filled with approved material, in horizontal layers not to exceed 8 inches (200 mm) in loose depth, and compacted to the density required in Item P-152. Each layer shall be deposited all around the structure to approximately the same elevation. The top of the fill shall meet the elevation shown on the plans or as directed by the Engineer.

b. Backfilling shall not be placed against any structure until permission is given by the Engineer. In the case of concrete, such permission shall not be given until the concrete has been in place 7 days, or until tests made by the laboratory under supervision of the Engineer establish that the concrete has attained sufficient strength to provide a factor of safety against damage or strain in withstanding any pressure created by the backfill or the methods used in placing it.

c. Backfill shall not be measured for direct payment. Performance of this work shall be considered on obligation of the Contractor covered under the contract unit price for the structure involved.

751-3.10 CLEANING AND RESTORATION OF SITE. After the backfill is completed, the Contractor shall dispose of all surplus material, dirt, and rubbish from the site. Surplus dirt may be deposited in embankments, shoulders, or as ordered by the Engineer. The Contractor shall restore all disturbed areas to their original condition.

After all work is completed, the Contractor shall remove all tools and equipment, leaving the entire site free, clear, and in good condition.

METHOD OF MEASUREMENT

751-4.1 Manholes, catch basins, inlets, and inspection holes shall be measured by the unit.

BASIS OF PAYMENT

751-5.1 The accepted quantities of manholes, catch basins, inlets, and inspection holes will be paid for at the contract unit price per each in place when completed. This price shall be full compensation for furnishing all materials and for all preparation, excavation, backfilling and placing of the materials; furnishing and installation of such specials and connections to pipes and other structures as may be required to complete the item as shown on the plans; and for all labor equipment, tools and incidentals necessary to complete the structure.

Payment will be made under:

Item D-751-5.1	Manholes—per each
Item D-751-5.2	Catch Basins—per each
Item D-751-5.3	Inlets—per each
Item D-751-5.4	Inspection Holes—per each

MATERIAL REQUIREMENT

ASTM A 27 Steel Castings, Carbon, for General Application

ASTM A 47 Ferritic Malleable Iron Castings

ASTM A 48 Gray Iron Castings

ASTM A 123	Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM A 283	Low and Intermediate Tensile Strength Carbon Steel Plates, Shapes, and Bars
ASTM A 536	Ductile Iron Castings
ASTM A 897	Austempered Ductile Iron Castings

ASTM C 32 Sewer and Manhole Brick (Made from Clay or Shale)

ASTM C 144	Aggregate for Masonry Mortar
ASTM C 150	Portland Cement
ASTM C 478	Precast Reinforced Concrete Manhole Sections
AASHTO M 36	Zinc Coated (Galvanized) Corrugated Iron or Steel Culverts and Underdrains

END OF ITEM D-751

ITEM L-108 UNDERGROUND POWER CABLE FOR AIRPORTS is hereby amended with respect to the paragraphs and sections cited below.

Add the following to Section 108-2.1 as noted:

g. Airport lighting equipment and materials shall meet the requirements outlined in Item SS-300.

Insert the paragraph below at the end of Section 108-2.2 as noted:

Colorable cable shall not be used for permanent circuit identification.

Replace Section 108-2.6 with the paragraph below:

108-2.6 CONCRETE. ***Refer to Item SS-300 for Concrete requirements.***

Remove Section 108-2.7 There will be no flowable backfill permitted in this project.

Insert the paragraphs below after the fourth paragraph of Section 108-3.1 as noted:

The existing and the proposed locations of lighting cable are approximate. The Contractor shall be responsible for field locating and identifying the existing lighting circuits to determine their exact routing. The Contractor shall also be responsible for maintaining the lighting systems in a working condition until the new lighting circuits have been installed and tested. The Contractor shall proactively and expeditiously accomplish this cable identification work prior to performing any modifications to the lighting circuits. Coordinate identification work with the Owner and Engineer and make all corrections, additions, etc. on the as-built drawings.

Underground cable and utilities exist within and adjacent to the limits of construction. An attempt has been made to locate these cables and utilities on the Plans. All existing cable and utilities may not be shown on the Plans and the location of the cables and utilities shown may vary from the location shown on the Plans. Prior to beginning of any type of excavation, the Contractor shall contact the utilities, the airport maintenance staff, FAA field personnel and other organizations as required and make arrangements for the location of the utilities on the ground. The Contractor shall maintain the cable and utility location markings until they are no longer required.

The Contractor shall replace or repair any underground cable or utility that has been damaged by the Contractor during excavation to the satisfaction of the owner of the cable or utility at no additional cost to the Owner.

All new lighting cable shall be marked using color-coded plastic electrical tape which is specifically designed for application on polyethylene-jacketed cable. The tape shall be applied as detailed on the Plans. Marking tape shall be Scotch 35 Vinyl Plastic tape or approved equal.

Insert the paragraph below after the seventh paragraph of Section 108-3.2 as noted:

Existing ducts may require clearing before use. It is the responsibility of the Contractor to locate the existing ducts, identify empty or partially empty conduits and clear the conduits as required.

Insert the paragraph below after the fifth paragraph of Section 108-3.3a as noted:

A string line or other approved method shall be used as a guide for excavation of straight trenches. A divergence greater than 12" from this line will not be acceptable and will require re-trenching and installation of new cables at no additional cost to the Owner.

The width of the trench shall be increased so that there is 1 inch of space between cables and 2 inches of space between the outside cables and the wall of the trench.

Insert the paragraph below at the end of Section 108-3.3b as noted:

Backfilling from two directions will not be allowed. No backfilling will be accomplished without the approval of the Engineer. The Construction Observer will coordinate with the Contractor for advance scheduling of trench inspection.

Insert the paragraph below at the end of Section 108-3.3c as noted:

Following restoration of all trenching near airport movement surfaces, the Contractor shall thoroughly visually inspect the area for foreign object debris (FOD), and remove any such FOD that is found. This FOD inspection and removal shall be considered incidental to the pay item of which it is a component part.

Insert the paragraph below at the end of Section 108-3.4 as noted:

After placement, all cable or splice markers shall be given one coat of high-visibility aviation orange paint, as approved by the Engineer.

Insert the paragraph below after the sixth paragraph of Section 108-3.6 as noted:

The counterpoise wire is not connected to the light fixture or sign base cans or mounting stakes.

Insert the paragraph below after the second paragraph of Section 108-3.6a as noted:

Dedicated ground rods shall be installed and exothermically welded to the counterpoise wire at each end of a duct bank crossing under pavement.

Replace Section 108-3.8 with the paragraphs below:

108-3.8 TESTING. The Contractor shall furnish all necessary equipment and appliances for testing the airport electrical systems and underground cable circuits before and after installation. The Contractor shall perform all tests in the presence of the Engineer. The Contractor shall demonstrate the electrical characteristics to the satisfaction of the Engineer. All costs for testing are incidental to the respective item being tested. For phased projects, the tests must be completed by phase and results meeting the specifications below must be maintained by the Contractor throughout the entire project as well as during the ensuing warranty period.

Earth resistance testing methods shall be submitted to the Engineer for approval. Earth resistance testing results shall be recorded on ***the enclosed "Ground Rod Impedance Test Report"*** form and testing shall be performed in the presence of the Engineer. All such testing shall be at the sole expense of the Contractor. ***The Contractor shall coordinate with the resident Engineer to approve tests daily before proceeding. The Contractor shall fill out a separate test report for each date. Test reports shall be submitted weekly to the Engineer.***

Should the counterpoise or ground grid conductors be damaged or suspected of being damaged by construction activities the Contractor shall test the conductors for continuity with a low resistance ohmmeter. The conductors shall be isolated such that no parallel path exists and tested for continuity. The Engineer shall approve of the test method selected. All such testing shall be at the sole expense of the Contractor.

The installation shall be fully tested by continuous operation for not less than 24 hours as a completed unit prior to acceptance. These tests shall include the functioning of each control not less than 10 times.

After installation, the Contractor shall test and demonstrate to the satisfaction of the Engineer the following:

a. That all affected lighting power and control circuits (existing and new) are continuous and free from short circuits.

b. That all affected circuits (existing and new) are free from unspecified grounds.

c. That the insulation resistance to ground of all new non-grounded series circuits or cable segments is not less than ***500*** megohms ***using an insulation tester, such as a Fluke 1587 Insulation Multimeter.***

(1) Refer to the minimum guaranteed insulation resistance requirements through the end of the contract warranty period as listed in section L-108-2.1 item f.

(2) For existing circuit insulation resistance requirements, refer to section L-108-2.11.

d. That the insulation resistance to ground of all ***new*** non-grounded conductors of new multiple circuits or circuit segments is not less than ***100*** megohms ***using an insulation tester, such as a Fluke 1587 Insulation Multimeter.***

e. That all affected circuits (existing and new) are properly connected in accordance with applicable wiring diagrams.

f. That all affected circuits (existing and new) are operable. Tests shall be conducted that include operating each control not less than 10 times and the continuous operation of each lighting and power circuit for not less than 1/2 hour.

g. That the impedance to ground of each ground rod does not exceed 25 ohms prior to establishing connections to other ground electrodes. The fall-of-potential ground impedance test shall be utilized, as described by ANSI/IEEE Standard 81, to verify this requirement. ***Three-pole fall-of-potential testers that can measure the ground resistance of a ground rod using auxiliary electrodes (staked testing), such as a Fluke 1621 Earth Ground Tester, shall be used for testing individual dedicated equipment ground rods at fixtures and equipment, or for testing isolated counterpoise ground rods not yet connected to the counterpoise wire.***

As an alternative, clamp-on style ground impedance test meters may be used to satisfy this impedance testing requirement. Clamp-on testers that can measure the ground resistance of a ground rod without using auxiliary ground rods (stakeless testing), such as a Fluke 1630 Earth Ground Clamp Meter, shall be used for testing counterpoise ground rods which have already been connected to the counterpoise wire, or ground ring ground rods which have already been connected to the established ground ring system.

Insulation resistance testers for 5kV series circuits shall utilize the 1000V DC source output for testing. The test equipment shall be submitted for review and approval by the Engineer prior to performing the tests.

Ground impedance test equipment shall be submitted for review and approval by the Engineer prior to performing the tests.

If the ground rod's impedance exceeds 25 ohms, an additional rod shall be driven in a location suitable and approved by the Engineer. However, the additional rod must satisfy the requirements of NEC 250.56 and not be less than 6 feet away from any other ground rod electrode. Additional ground rods shall not be measured for separate payment but shall be considered subsidiary to the counterpoise or respective equipment pay item.

h. As-Built drawings shall indicate the location of all installed ground rods. Each ground rod shall have a unique identifier that corresponds with its submitted ground impedance test report.

The Contractor shall submit his initial megger test reports on the enclosed "Insulation-Resistance Test Report" form prior to any work on the electrical system. This report shall be submitted to the Engineer and approved by the Owner prior to Contractor proceeding with his work.

After final acceptance testing has been completed, the Contractor shall complete and submit his final megger test reports to the Engineer and insert copies of the initial and final megger test reports in the Operation and Maintenance Manuals.

The Contractor shall perform additional tests if required and requested by the Engineer at no additional cost.

Two copies of tabulated results of all cable tests performed shall be supplied by the Contractor to the Engineer. Where connecting new cable to existing cable, ground resistance tests shall be performed on the new cable prior to connection to the existing circuit.

There are no approved "repair" procedures for items that have failed testing other than complete replacement.

Replace Section 108-5.1 with the paragraphs below:

108-5.1 Payment will be made at the contract unit price for trenching, cable and bare counterpoise wire installed in trench (direct-buried), or cable and equipment ground installed in duct bank or conduit, in place by the Contractor and accepted by the Engineer. This price shall be full compensation for furnishing all materials and for all preparation and installation of these materials, and for all labor, equipment, tools, ***ground rod and megger testing with reports,*** and incidentals, including ground rods and ground connectors and trench marking tape, necessary to complete this item.

Payment will be made under:

Item L-108-5.1	**No. 8 AWG *5kV,*** L-824C Cable, Installed in Trench, Duct Bank, or Conduit -- per Linear Foot
Item L-108-5.2	***No. 6 AWG Solid,*** Bare Counterpoise Wire, Installed in Trench, ***Above the*** Duct Bank or Conduit, Including Ground Rods and Ground Connectors -- per Linear Foot
Item L-108-5.3	***Trenching for Direct-Buried Bare Counterpoise Wire, 8" Minimum Depth – per Linear Foot***
Item L-108-5.4	Trenching for Direct-Buried Cable, ***18" Minimum Depth***—per Linear Foot

Add the following the paragraphs as noted:

MATERIAL REQUIREMENTS

AC 150/5340-30	***Design and Installation Details for Airport Visual Aids***
AC 150/5345-53	***Airport Lighting Equipment Certification Program***

ASTM B 8	*Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft*
ASTM D 33	*Tinned Soft or Annealed Copper Wire for Electrical Purposes*
MIL-I-24391	*Insulation Tape, Electrical, Plastic, Pressure Sensitive*
MIL-P-21035	*Paint High Zinc Duct Content, Galvanizing Repair*

END OF MOD L-108

AIRPORT LIGHTING CIRCUIT INSULATION RESISTANCE TEST REPORT

Owner / Sponsor: _____ Engineer: Garver, LLC

Airport: _____ Contractor: _____

Project Title: _____ Garver Project Number: _____

Vault ID / Location: _____ Date Initial / Final Tests: _____

Weather / Site Conditions (Initial Test): _____

Weather / Site Conditions (Final Test): _____

		Initial Test Results		Final Test Results	
	Circuit Designation and Color Code	Regulator Size (kW)	Megger Reading Before Field Work (Megohms)	Regulator Size (kW)	Megger Reading After Field Work (Megohms)
1					
2					
3					
4					
5					
6					
Tested By:					
Test Equipment:					
Engineer Witness:					
Owner/Sponsor Witness:					

Provide signature/date and manufacturer/model no. as required in the fields above.

Initial Test Record – Owner Disposition

Owner / Sponsor: _____ (Signature and Date)

Check one only: Proceed with Installation: _____

Hold: _____

GROUND ROD IMPEDANCE TEST REPORT

Owner / Sponsor: _____ Engineer: Garver, LLC _____

Airport: _____ Contractor: _____

Project Title: _____ Garver Project Number: _____

Date: _____ Weather / Site Conditions: _____

Fall-of-Potential Style Tester (F):
Manufacturer: _____ Model #: _____

Clamp-On Style Tester (C):
Manufacturer: _____ Model #: _____

Ground Rod #	Test Equipment Style (F or C)	Impedance Value (Ohms)	Ground Rod #	Test Equipment Style (F or C)	Impedance Value (Ohms)

Tested By:	
Engineer Witness:	

Provide signature/date in the fields above.

Page _____ of _____

ITEM L-108 UNDERGROUND POWER CABLE FOR AIRPORTS

DESCRIPTION

108-1.1 This item shall consist of furnishing and installing power cables direct buried and furnishing and/or installing power cables within conduit or duct banks in accordance with these specifications at the locations shown on the plans. It includes excavation and backfill of trench for direct-buried cables only. Also included are the installation of counterpoise wires, ground wires, ground rods and connections, cable splicing, cable marking, cable testing, and all incidentals necessary to place the cable in operating condition as a completed unit to the satisfaction of the Engineer. This item shall not include the installation of duct banks or conduit, trenching and backfilling for duct banks or conduit, or furnishing or installation of any cable for FAA facilities. Requirements and payment for trenching and backfilling for the installation of underground conduit and duct banks is covered under Item L-110 "Airport Underground Electrical Duct Banks and Conduits."

EQUIPMENT AND MATERIALS

108-2.1 GENERAL.

a. Airport lighting equipment and materials covered by Federal Aviation Administration (FAA) specifications shall be approved under the Airport Lighting Equipment Certification Program described in Advisory Circular (AC) 150/5345-53, current version.

b. All other equipment and materials covered by other referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification, when requested by the Engineer.

c. Manufacturer's certifications shall not relieve the Contractor of the Contractor's responsibility to provide materials in accordance with these specifications and acceptable to the Engineer. Materials supplied and/or installed that do not materially comply with these specifications shall be removed, when directed by the Engineer and replaced with materials, which do comply with these specifications, at the sole cost of the Contractor.

d. All materials and equipment used to construct this item shall be submitted to the Engineer for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify pertinent products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be boldly and clearly made with arrows or circles (highlighting is not acceptable). Contractor is solely responsible for delays in project accruing directly or indirectly from late submissions or resubmissions of submittals.

e. The data submitted shall be sufficient, in the opinion of the Engineer, to determine compliance with the plans and specifications. The Contractor's submittals shall be neatly bound in a properly sized 3-ring binder, tabbed by specification section. The Engineer reserves the right to reject any and all equipment, materials or procedures, which, in the Engineer's opinion, does not meet the system design and the standards and codes, specified herein.

f. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner. The Contractor shall be responsible to maintain

an insulation resistance of 50 megohms minima, (1000V megger) with isolation transformers connected in new circuits and new segments of existing circuits through the end of the contract warranty period.

108-2.2 CABLE. Underground cable for airfield lighting facilities (runway and taxiway lights and signs) shall conform to the requirements of AC 150/5345-7, Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits. Conductor sizes noted above shall not apply to leads furnished by manufacturers on airfield lighting transformers and fixtures.

Wire for electrical circuits up to 600 volts shall comply with Specification L-824 and/or Federal Specification J-C-30 and shall be type THWN-2.

Cable type, size, number of conductors, strand and service voltage shall be as specified on the plans.

108-2.3 BARE COPPER WIRE (COUNTERPOISE, BARE COPPER WIRE AND GROUND RODS). Wire for counterpoise or ground installations for airfield lighting systems shall be No. 6 AWG solid for counterpoise and or No. 6 AWG stranded for ground wire conforming to ASTM B 3 and ASTM B 8, and shall be bare copper wire conforming to the requirements of ASTM D 33.

Ground rods shall be copper-clad steel. The ground rods shall be of the length and diameter specified on the plans, but in no case shall they be less than 8-feet (240 cm) long nor less than 5/8 inch (15 mm) in diameter.

108-2.4 CABLE CONNECTIONS. In-line connections of underground primary cables shall be of the type called for on the plans, and shall be one of the types listed below. No separate payment will be made for cable connections.

a. The Cast Splice. A cast splice, employing a plastic mold and using epoxy resin equivalent to that manufactured by Minnesota Mining and Manufacturing Company, "Scotchcast" Kit No. 82--B, or as manufactured by Hysol Corporation, "Hyseal Epoxy Splice" Kit No. E1135, or equivalent, is used for potting the splice is acceptable.

b. The Field-attached Plug-in Splice. Figure 3 of AC 150/5345-26, Specification for L-823 Plug and Receptacle, Cable Connectors, employing connector kits, is acceptable for field attachment to single conductor cable. It shall be the Contractor's responsibility to determine the outside diameter of the cable to be spliced and to furnish appropriately sized connector kits and/or adapters and heat shrink tubing with integral sealant.

c. The Factory-Molded Plug-in Splice. Specification for L-823 Connectors, Factory-Molded to Individual Conductors, is acceptable.

d. The Taped or Heat-Shrinked Splice. Taped splices employing field-applied rubber, or synthetic rubber tape covered with plastic tape is acceptable. The rubber tape should meet the requirements of ASTM D 4388 and the plastic tape should comply with Mil Spec. MIL-I-24391or Fed. Spec. A-A-55809. Heat shrinkable tubing shall be heavy-wall, self-sealing tubing rated for the voltage of the wire being spliced and suitable for direct-buried installations. The tubing shall be factory coated with a thermoplastic adhesive-sealant that will adhere to the insulation of the wire being spliced forming a moisture- and dirt-proof seal. Additionally, heat shrinkable tubing for multi-conductor cables, shielded cables, and armored cables shall be factory kits designed for the application. Heat shrinkable tubing and tubing kits shall be manufactured by Tyco Electronics/ Raychem Corporation, Energy Division, or approved equivalent.

e. In all the above cases, connections of cable conductors shall be made using crimp connectors utilizing a crimping tool designed to make a complete crimp before the tool can be removed. All L-823/L-824 splices and terminations shall be made in accordance with the manufacturer's recommendations and listings.

f. All connections of counterpoise, grounding conductors and ground rods shall be made by the exothermic process or approved equivalent, except the base can ground clamp connector shall be used for attachment to the base can. All exothermic connections shall be made in accordance with the manufacturer's recommendations and listings.

108-2.5 SPLICER QUALIFICATIONS. Every airfield lighting cable splicer shall be qualified in making cable splices and terminations on cables rated above 5,000 volts AC. The Contractor shall submit to the Engineer proof of the qualifications of each proposed cable splicer for the cable type and voltage level to be worked on. Cable splicing/terminating personnel shall have a minimum of three (3) years continuous experience in terminating/splicing medium voltage cable.

108-2.6 CONCRETE. Concrete for cable markers shall conform to Specification Item P-610, "Structural Portland Cement Concrete".

108-2.7 FLOWABLE BACKFILL. Flowable material used to backfill trenches for power cable trenches shall conform to the requirements of Item P-153 "Controlled Low Strength Material".

108-2.8 CABLE IDENTIFICATION TAGS. Cable identification tags shall be made from a non-corrosive material with the circuit identification stamped or etched onto the tag. The tags shall be of the type as detailed on the plans.

108-2.9 TAPE. Electrical tapes shall be Scotch Electrical Tapes – number Scotch 88 (1-1/2" wide) and Scotch 130C linerless rubber splicing tape (2" wide), as manufactured by the Minnesota Mining and Manufacturing Company, or approved equivalent.

108-2.10 ELECTRICAL COATING. Scotchkote shall be as manufactured by Minnesota Mining and Manufacturing Company, or approved equivalent.

108-2.11 EXISTING CIRCUITS. Whenever the scope of work requires, connection to an existing circuit, the circuit's insulation resistance shall be tested, in the presence of the Engineer. The test shall be performed in accordance with this item and prior to any activity affecting the respective circuit. The Contractor shall record the results on forms acceptable to the engineer. When the work affecting the circuit is complete, the circuit's insulation resistance shall be checked again, in the presence of the Engineer. The Contractor shall record the results on forms acceptable to the engineer. The second reading shall be equal to or greater than the first reading or the Contractor shall make the necessary repairs to the circuit to bring the second reading above the first reading. All repair costs including a complete replacement of the L-823 connectors, L-830 transformers and L-824 cable, if necessary, shall be borne by the Contractor. All test results shall be submitted in the Operation and Maintenance (O&M) Manual.

CONSTRUCTION METHODS

108-3.1 GENERAL. The Contractor shall install the specified cable at the approximate locations indicated on the plans. Unless otherwise shown on the plans, all cable required to cross under pavements expected to carry aircraft loads shall be installed in concrete encased duct banks. Wherever possible, cable shall be run without splices, from connection to connection.

Cable connections between lights will be permitted only at the light locations for connecting the underground cable to the primary leads of the individual isolation transformers. The Contractor shall be responsible for providing cable in continuous lengths for home runs or other long cable runs without connections, unless otherwise authorized in writing by the Engineer or shown on the plans.

In addition to connectors being installed at individual isolation transformers, L-823 cable connectors for maintenance and test points shall be installed at locations shown on the plans. Cable circuit identification

markers shall be installed on both sides of the L-823 connectors installed or at least once in each access point where L-823 connectors are not installed.

Provide not less than 3 feet of cable slack on each side of all connections, isolation transformers, light units, and at points where cable is connected to field equipment. Where provisions must be made for testing or for future above grade connections, provide enough slack to allow the cable to be extended at least one foot vertically above the top of the access structure. This requirement also applies where primary cable passes through empty base cans, junction and access structures to allow for future connections, or as designated by the Engineer.

108-3.2 INSTALLATION IN DUCT BANKS OR CONDUITS. This item includes the installation of the cable in duct banks or conduit as described below. The maximum number and voltage ratings of cables installed in each single duct or conduit, and the current-carrying capacity of each cable shall be in accordance with the latest National Electric Code, or the code of the local agency or authority having jurisdiction.

The Contractor shall make no connections or splices of any kind in cables installed in conduits or duct banks.

Unless otherwise designated in the plans, where ducts are in tiers, use the lowest ducts to receive the cable first, with spare ducts left in the upper levels. Check duct routes prior to construction to obtain assurance that the shortest routes are selected and interferences are avoided.

Duct banks or conduits shall be installed as a separate item in accordance with Item L-110, ``Airport Underground Electrical Duct Banks and Conduit." The Contractor shall run a mandrel through duct banks or conduit prior to installation of cable to insure that the duct bank or conduit is open, continuous and clear of debris. Mandrel size shall be compatible with conduit size. The Contractor shall swab out all conduits/ducts and clean base can, manhole, etc. interiors IMMEDIATELY prior to pulling cable. Once cleaned and swabbed the base cans and all accessible points of entry to the duct/conduit system shall be kept closed except when installing cables. Cleaning of ducts, base cans, manholes, etc. is incidental to the pay item of the item being cleaned. All raceway systems left open, after initial cleaning, for any reason shall be recleaned at the Contractor's expense. All accessible points shall be kept closed when not installing cable. The Contractor shall verify existing ducts proposed for use in this project as clear and open. The Contractor shall notify the Engineer of any blockage in the existing ducts. The cable shall be installed in a manner to prevent harmful stretching of the conductor, injury to the insulation, or damage to the outer protective covering. The ends of all cables shall be sealed with moisture-seal tape providing moisture-tight mechanical protection with minimum bulk, or alternately, heat shrinkable tubing before pulling into the conduit and it shall be left sealed until connections are made. Where more than one cable is to be installed in a conduit, all cable shall be pulled in the conduit at the same time. The pulling of a cable through duct banks or conduits may be accomplished by handwinch or power winch with the use of cable grips or pulling eyes. Maximum pulling tensions shall be governed by cable manufacturer's recommendations. A non-hardening lubricant recommended for the type of cable being installed shall be used where pulling lubricant is required.

Contractor shall submit pulling tension values to the Engineer prior to any cable installation. If required by the Engineer, pulling tension values for cable pulls shall be monitored by a dynamometer in the presence of the Engineer. Cable pull tensions shall be recorded by the Contractor and reviewed by the Engineer. Cables exceeding the maximum allowable pulling tension values shall be removed and replaced by the Contractor at the Contractor's expense.

The manufacturer's minimum bend radius or the NEC requirements whichever is more restrictive shall apply. Cable installation, handling and storage shall be per manufacturer's recommendations. During cold weather, particular attention shall be paid to the manufacturer's minimum installation temperature. Cable shall not be installed when the temperature is at or below the manufacturer's minimum installation temperature. At the Contractor's option, the Contractor may submit a plan, for review by the Engineer, for

heated storage of the cable and maintenance of an acceptable cable temperature during installation when temperatures are below the manufacturer's minimum cable installation temperature.

Cable shall not be dragged across base can or manhole edges, pavement or earth. When cable must be coiled, lay cable out on a canvas tarp or utilize other appropriate means to prevent abrasion to the cable jacket.

108-3.3 INSTALLATION OF DIRECT-BURIED CABLE IN TRENCHES. Unless otherwise specified, the Contractor shall not use a cable plow for installing the cable. Cable(s) shall be unreeled uniformly in place alongside or in the trench and shall be carefully placed along the bottom of the trench. The cable(s) shall not be unreeled and pulled into the trench from one end. Slack cable sufficient to provide strain relief shall be placed in the trench in a series of S curves. Sharp bends or kinks in the cable shall not be permitted.

Where cables must cross over each other, a minimum of 3-inch vertical displacement shall be provided with the topmost cable depth at or below the minimum required depth below finished grade.

Primary airfield lighting cables installed shall have cable circuit identification markers attached on both sides of each L-823 connector and on each airport lighting cable entering or leaving cable access points, such as manholes, handholes, pullboxes, junction boxes, etc. Markers shall be of sufficient length for imprinting the cable circuit identification legend on one line, using letters not less than ¼ inch in size. The cable circuit identification shall match the circuits noted on the construction plans.

a. Trenching. Where turf is well established and the sod can be removed, it shall be carefully stripped and properly stored. Trenches for cables may be excavated manually or with mechanical trenching equipment. Walls of trenches shall be essentially vertical so that a minimum of surface is disturbed. Graders shall not be used to excavate the trench with their blades. The bottom surface of trenches shall be essentially smooth and free from coarse aggregate. Unless otherwise specified, cable trenches shall be excavated to a minimum depth of 18 inches below finished grade, except as follows:

(1) When off the airport or crossing under a roadway or driveway, the minimum depth shall be 36 inches unless otherwise specified.

(2) Minimum cable depth when crossing under a railroad track, shall be 42 inches unless otherwise specified.

Dewatering necessary for cable installation, erosion and turbidity control, in accordance with Federal, State, and Local requirements is incidental to its respective pay items as part of Item L-108. The cost of all excavation regardless of type of material encountered, shall be included in the unit price bid for the L-108 Item.

The Contractor shall excavate all cable trenches to a width not less than 6 inches. Unless otherwise specified on the plans, all cables in the same location and running in the same general direction shall be installed in the same trench.

When rock is encountered, the rock shall be removed to a depth of at least 3 inches below the required cable depth and it shall be replaced with bedding material of earth or sand containing no mineral aggregate particles that would be retained on a 1/4-inch sieve. Flowable backfill material may alternatively be used. The Contractor shall ascertain the type of soil or rock to be excavated before bidding. All such rock removal shall be performed and paid for under Item P-152 .

Duct bank or conduit markers temporarily removed for trench excavations shall be replaced as required.

It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Where existing active cable(s) cross proposed installations, the Contractor shall insure that these cable(s) are adequately protected. Where crossings are unavoidable, no splices will be allowed in the existing

cables, except as specified on the plans. Installation of new cable where such crossings must occur shall proceed as follows:

(1) Existing cables shall be located manually. Unearthed cables shall be inspected to assure absolutely no damage has occurred.

(2) Trenching, etc., in cable areas shall then proceed, with approval of the Engineer, with care taken to minimize possible damage or disruption of existing cable, including careful backfilling in area of cable.

In the event that any previously identified cable is damaged during the course of construction, the Contractor shall be responsible for the complete repair or replacement.

b. Backfilling. After the cable has been installed, the trench shall be backfilled. The first layer of backfill in the trench shall be 3 inches deep, loose measurement, and shall be either earth or sand containing no mineral aggregate particles that would be retained on a 1/4-inch sieve. This layer shall not be compacted. The second layer shall be 5 inches deep, loose measurement, and shall contain no particles that would be retained on a 1-inch sieve. The remaining 3rd and subsequent layers of backfill shall not exceed 8 inches of loose measurement and be excavated or imported material and shall not contain stone or aggregate larger than 4 inches maximum diameter.

The second and subsequent layers shall be thoroughly tamped and compacted to at least the density of the adjacent undisturbed soil, and to the satisfaction of the Engineer. If necessary to obtain the desired compaction, the backfill material shall be moistened or aerated as required.

Trenches shall not contain pools of water during backfilling operations. The trench shall be completely backfilled and tamped level with the adjacent surface, except that when turf is to be established over the trench, the backfilling shall be stopped at an appropriate depth consistent with the type of turfing operation to be accommodated. A proper allowance for settlement shall also be provided. Any excess excavated material shall be removed and disposed of in accordance with the plans and specifications.

Underground electrical warning (caution) tape shall be installed in the trench above all direct-buried cable. Contractor shall submit a sample of the proposed warning tape for acceptance by the Engineer. If not shown on the plans, the warning tape shall be located six inches above the direct-buried cable or the counterpoise wire if present. A 4-6 inch wide polyethylene film detectable tape, with a metalized foil core, shall be installed above all direct buried cable or counterpoise. The tape shall be of the color and have a continuous legend as indicated on the plans. The tape shall be installed 8 inches minimum below finished grade.

c. Restoration. Where soil and sod has been removed, it shall be replaced as soon as possible after the backfilling is completed. All areas disturbed by work shall be restored to its original condition. The restoration shall include the topsoiling and seeding as shown on the plans. The Contractor shall be held responsible for maintaining all disturbed surfaces and replacements until final acceptance. When trenching is through paved areas, restoration shall be equal to existing conditions and compaction shall meet the requirements of Item P-152. Restoration shall be considered incidental to the pay item of which it is a component part.

108-3.4 CABLE MARKERS FOR DIRECT-BURIED CABLE. The location of direct buried circuits shall be marked by a concrete slab marker, 2 feet (60 cm) square and 4-6 inches (100-150 mm) thick, extending approximately 1 inch (25 mm) above the surface. Each cable run from a line of lights and signs to the equipment vault shall be marked at approximately every 200 feet (60 m) along the cable run, with an additional marker at each change of direction of cable run. All other direct-buried cable shall be marked in the same manner. Cable markers shall be installed directly above the cable. The Contractor shall impress the word "CABLE" and directional arrows on each cable marking slab. The letters shall be approximately 4 inches (100 mm) high and 3 inches (75 mm) wide, with width of stroke 1/2 inch (12 mm) and 1/4 inch (6 mm) deep.

The location of each underground cable connection, except at lighting units, or isolation transformers, or power adapters shall be marked by a concrete marker slab placed above the connection. The Contractor shall impress the word "SPLICE" on each slab. The Contractor also shall impress additional circuit identification symbols on each slab as directed by the Engineer. All cable markers and splice markers shall be painted international orange. Paint shall be specifically manufactured for uncured exterior concrete. Furnishing and installation of cable markers is incidental to the respective cable pay item.

108-3.5 SPLICING. Connections of the type shown on the plans shall be made by experienced personnel regularly engaged in this type of work and shall be made as follows:

a. Cast Splices. These shall be made by using crimp connectors for jointing conductors. Molds shall be assembled, and the compound shall be mixed and poured in accordance with manufacturer's instructions and to the satisfaction of the Engineer.

b. Field-attached Plug-in Splices. These shall be assembled in accordance with manufacturer's instructions. These splices shall be made by plugging directly into mating connectors. In all cases the joint where the connectors come together shall be wrapped with at least one layer of rubber or synthetic rubber tape and one layer of plastic tape, one-half lapped, extending at least 1-1/2 inches (37 mm) on each side of the joint.

c. Factory-Molded Plug-in Splices. These shall be made by plugging directly into mating connectors. In all cases, the joint where the connectors come together shall be wrapped with at least one layer of rubber or synthetic rubber tape and one layer of plastic tape, one-half lapped, extending at least 1-1/2 inches (37 mm) on each side of the joint.

d. Taped or Heat-Shrinked Splices. A taped splice shall be made in the following manner:

Bring the cables to their final position and cut so that the conductors will butt. Remove insulation and jacket allowing for bare conductor of proper length to fit compression sleeve connector with 1/4 inch (6 mm) of bare conductor on each side of the connector. Prior to splicing, the two ends of the cable insulation shall be penciled using a tool designed specifically for this purpose and for cable size and type. Do not use emery paper on splicing operation since it contains metallic particles. The copper conductors shall be thoroughly cleaned. Join the conductors by inserting them equidistant into the compression connection sleeve. Crimp conductors firmly in place with crimping tool that requires a complete crimp before tool can be removed. Test the crimped connection by pulling on the cable. Scrape the insulation to assure that the entire surface over which the tape will be applied (plus 3 inches (75 mm) on each end) is clean. After scraping wipe the entire area with a clean lint-free cloth. Do not use solvents.

Apply high-voltage rubber tape one-half lapped over bare conductor. This tape should be tensioned as recommended by the manufacturer. Voids in the connector area may be eliminated by highly elongating the tape, stretching it just short of its breaking point. Throughout the rest of the splice less tension should be used. Always attempt to exactly half-lap to produce a uniform buildup. Continue buildup to 1-1/2 times cable diameter over the body of the splice with ends tapered a distance of approximately 1 inch (25 mm) over the original jacket. Cover rubber tape with two layers of vinyl pressure-sensitive tape one-half lapped. Do not use glyptol or lacquer over vinyl tape as they react as solvents to the tape. No further cable covering or splice boxes are required.

Heat shrinkable tubing shall be installed following manufacturer's instructions. Direct flame heating shall not be permitted unless recommended by the manufacturer. Cable surfaces within the limits of the heat-shrink application shall be clean and free of contaminates prior to application.

108-3.6 BARE COUNTERPOISE WIRE INSTALLATION FOR LIGHTNING PROTECTION AND GROUNDING. If shown on the plans or included in the job specifications, bare counterpoise copper wire shall be installed for lightning protection of the underground cables. Counterpoise wire shall be installed in the same trench for the entire length of buried cable, conduits and duct banks that are installed to

contain airfield cables. Where the cable or duct/conduit trench runs parallel to the edge of pavement, the counterpoise shall be installed in a separate trench located half the distance between the pavement edge and the cable or duct/conduit trench. In trenches not parallel to pavement edges, counterpoise wire shall be installed continuously a minimum of 4 inches above the cable, conduit or duct bank, or as shown on the plans if greater. Additionally, counterpoise wire shall be installed at least 8 inches below the top of subgrade in paved areas or 10 inches below finished grade in un-paved areas. This dimension may be less than 4 inches where conduit is to be embedded in existing pavement. Counterpoise wire shall not be installed in conduit.

The counterpoise wire shall be routed around to each light fixture base, mounting stake, or junction/access structures. The counterpoise wire shall also be exothermically welded to ground rods installed as shown on the plans but not more than 500feet (150 m) apart around the entire circuit.

The counterpoise system shall be continuous and terminate at the transformer vault or at the power source. It shall be securely attached to the vault or equipment external ground ring or other made electrode grounding system. The connections shall be made as shown on the plans and in the specifications.

If shown on the plans or in the specifications, a separate equipment (safety) ground system shall be provided in addition to the counterpoise wire using one of the following methods:

(1) A ground rod installed at and securely attached to each light fixture base, mounting stake if painted, and to all metal surfaces at junction/access structures.

(2) Install an insulated equipment ground conductor internal to the conduit system and securely attached it to each light fixture base and to all metal surfaces at junction/access structures. This equipment ground conductor shall also be exothermically welded to ground rods installed not more than 500 feet (150 m) apart around the circuit.

a. Counterpoise Installation Above Multiple Conduits and Duct Banks. Counterpoise wires shall be installed above multiple conduits/duct banks for airfield lighting cables, with the intent being to provide a complete cone of protection over the airfield lighting cables. When multiple conduits and/or duct banks for airfield cable are installed in the same trench, the number and location of counterpoise wires above the conduits shall be adequate to provide a complete cone of protection measured 22 ½ degrees each side of vertical.

Where duct banks pass under pavement to be constructed in the project, the counterpoise shall be placed above the duct bank. Reference details on the construction plans.

b. Counterpoise Installation at Existing Duct Banks. When airfield lighting cables are indicated on the plans to be routed through existing duct banks, the new counterpoise wiring shall be terminated at ground rods at each end of the existing duct bank where the cables being protected enter and exit the duct bank. The new counterpoise conductor shall be bonded to the existing counterpoise system.

108-3.7 EXOTHERMIC BONDING. Bonding of counterpoise wire shall be by the exothermic welding process. Only personnel experienced in and regularly engaged in this type of work shall make these connections.

Contractor shall demonstrate to the satisfaction of the Engineer, the welding kits, materials and procedures to be used for welded connections prior to any installations in the field. The installations shall comply with the manufacturer's recommendations and the following:

All slag shall be removed from welds.

For welds at light fixture base cans, all galvanized coated surface areas and "melt" areas, both inside and outside of base cans, damaged by exothermic bond process shall be restored by coating with a liquid cold-galvanizing compound conforming to U.S. Navy galvanized repair coating meeting Mil. Spec. MIL-P-21035. Surfaces to be coated shall be prepared and compound applied in accordance with manufacturer's recommendations.

All buried copper and weld material at weld connections shall be thoroughly coated 6 mil of 3M "Scotchkote," or approved equivalent, or coated with coal tar bitumastic material to prevent surface exposure to corrosive soil or moisture."

108-3.8 TESTING. The Contractor shall furnish all necessary equipment and appliances for testing the airport electrical systems and underground cable circuits before and after installation. The Contractor shall perform all tests in the presence of the Engineer. The Contractor shall demonstrate the electrical characteristics to the satisfaction of the Engineer. All costs for testing are incidental to the respective item being tested. For phased projects, the tests must be completed by phase and results meeting the specifications below must be maintained by the Contractor throughout the entire project as well as during the ensuing warranty period.

Earth resistance testing methods shall be submitted to the Engineer for approval. Earth resistance testing results shall be recorded on an approved form and testing shall be performed in the presence of the Engineer. All such testing shall be at the sole expense of the Contractor.

Should the counterpoise or ground grid conductors be damaged or suspected of being damaged by construction activities the Contractor shall test the conductors for continuity with a low resistance ohmmeter. The conductors shall be isolated such that no parallel path exists and tested for continuity. The Engineer shall approve of the test method selected. All such testing shall be at the sole expense of the Contractor.

After installation, the Contractor shall test and demonstrate to the satisfaction of the Engineer the following:

a. That all affected lighting power and control circuits (existing and new) are continuous and free from short circuits.

b. That all affected circuits (existing and new) are free from unspecified grounds.

c. That the insulation resistance to ground of all new non-grounded series circuits or cable segments is not less than 50 megohms

d. That the insulation resistance to ground of all non-grounded conductors of new multiple circuits or circuit segments is not less than 50 megohms

e. That all affected circuits (existing and new) are properly connected in accordance with applicable wiring diagrams.

f. That all affected circuits (existing and new) are operable. Tests shall be conducted that include operating each control not less than 10 times and the continuous operation of each lighting and power circuit for not less than 1/2 hour.

g. That the impedance to ground of each ground rod does not exceed 25 ohms prior to establishing connections to other ground electrodes. The fall-of-potential ground impedance test shall be utilized, as described by ANSI/IEEE Standard 81, to verify this requirement.

Two copies of tabulated results of all cable tests performed shall be supplied by the Contractor to the Engineer. Where connecting new cable to existing cable, ground resistance tests shall be performed on the new cable prior to connection to the existing circuit.

There are no approved "repair" procedures for items that have failed testing other than complete replacement.

METHOD OF MEASUREMENT

108-4.1 Trenching shall be measured by the linear feet (meters) of trench, including the excavation, backfill, and restoration, completed, measured as excavated, and accepted as satisfactory.

When specified, separate measurement shall be made for trenches of various specified widths.

The cost of all excavation, backfill, dewatering and restoration regardless of the type of material encountered shall be included in the unit price bid for the work.

108-4.2 Cable or counterpoise wire installed in trench, duct bank or conduit shall be measured by the number of linear feet (meters) of cable or counterpoise wire installed in trenches, duct bank or conduit, including ground rods and grounding connectors, and trench marking tape ready for operation, and accepted as satisfactory. Separate measurement shall be made for each cable or counterpoise wire installed in trench, duct bank or conduit. The measurement for this item shall include additional quantities required for slack.

BASIS OF PAYMENT

108-5.1 Payment will be made at the contract unit price for trenching, cable and bare counterpoise wire installed in trench (direct-buried), or cable and equipment ground installed in duct bank or conduit, in place by the Contractor and accepted by the Engineer. This price shall be full compensation for furnishing all materials and for all preparation and installation of these materials, and for all labor, equipment, tools, and incidentals, including ground rods and ground connectors and trench marking tape, necessary to complete this item.

Payment will be made under:

Item L-108-5.1	Trenching for Direct-Buried Cable, per Linear Foot
Item L-108-5.2	L-824C Cable, Installed in Trench, Duct Bank or Conduit -- per Liner Foot ~~(meter)~~
Item L-108-5.3	Bare Counterpoise Wire, Installed in Trench, Duct Bank or Conduit, Including Ground Rods and Ground Connectors -- per Linear Foot
Item L-108-5.4	Insulated Equipment Ground, Installed in Duct Bank or Conduit, Including Ground Rods and Ground Connectors -- per Linear Foot

MATERIAL REQUIREMENTS

AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-26	Specification for L-823 Plug and Receptacle Cable Connectors

FED SPEC J-C-30	Cable and Wire, Electrical Power, Fixed Installation (cancelled; replaced by A-A-59544 Cable and Wire, Electrical (Power, Fixed Installation))
FED SPEC A-A-55809	Insulation Tape, Electrical, Pressure-Sensitive Adhesive, Plastic
ASTM B 3	Soft or Annealed Copper Wire
ASTM D 4388	Rubber tapes, Nonmetallic Semiconducting and Electrically Insulating

REFERENCE DOCUMENTS

NFPA No. 70	National Electrical Code (NEC)
MIL-S-23586C	Sealing Compound, Electrical, Silicone Rubber
NN	Building Industry Consulting Service International (BICSI)
ANSI/IEEE Std 81	IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System

END OF ITEM L-108

AIRPORT LIGHTING CIRCUIT INSULATION RESISTANCE TEST REPORT

Owner / Sponsor: _____ Engineer: Garver, LLC

Airport: _____ Contractor: _____

Project Title: _____ Garver Project Number: _____

Vault ID / Location: _____ Date Initial / Final Tests: _____

Weather / Site Conditions (Initial Test): _____

Weather / Site Conditions (Final Test): _____

		Initial Test Results		Final Test Results	
	Circuit Designation and Color Code	Regulator Size (kW)	Megger Reading Before Field Work (Megohms)	Regulator Size (kW)	Megger Reading After Field Work (Megohms)
1					
2					
3					
4					
5					
6					
Tested By:					
Test Equipment:					
Engineer Witness:					
Owner/Sponsor Witness:					

Provide signature/date and manufacturer/model no. as required in the fields above.

Initial Test Record – Owner Disposition

Owner / Sponsor: _____ (Signature and Date)

Check one only: Proceed with Installation: _____

Hold: _____

GROUND ROD IMPEDANCE TEST REPORT

Owner / Sponsor: _____ Engineer: Garver, LLC

Airport: _____ Contractor: _____

Project Title: _____ Garver Project Number: _____

Date: _____ Weather / Site Conditions: _____

Fall-of-Potential Style Tester (F):
Manufacturer: _____ Model #: _____

Clamp-On Style Tester (C):
Manufacturer: _____ Model #: _____

Ground Rod #	Test Equipment Style (F or C)	Impedance Value (Ohms)	Ground Rod #	Test Equipment Style (F or C)	Impedance Value (Ohms)

Tested By:	
Engineer Witness:	

Provide signature/date in the fields above.

Page _____ of _____

ITEM L-110 AIRPORT UNDERGROUND ELECTRICAL DUCT BANKS AND CONDUITS is hereby amended with respect to the paragraphs and sections cited below.

Insert the section below after Section 110-2.1e:

f. Airport lighting equipment and materials shall meet the requirements outlined in Item SS-300.

Replace the first paragraph of Section 110-2.3 with the paragraph below:

Plastic conduit and fittings-shall conform to the requirements of Fed. Spec. W-C-1094, Underwriters Laboratories Standards UL-651 and Article ***352*** of the current National Electrical Code shall be one of the following, as shown on the plans:

Insert the section below after Section 110-2.3b:

c. Type III – Schedule 80 PVC suitable for either above ground or underground use either direct-buried or encased in concrete.

Replace Section 110-2.6 with the paragraph below:

110-2.6 CONCRETE. ***Refer to Item SS-300 for Concrete requirements.*** Where reinforced duct banks are specified, reinforcing steel shall conform to ASTM A 615 Grade 60. Concrete and reinforcing steel are incidental to the respective pay item of which they are a component part.

Remove Section 110-2.7. Flowable backfill shall not be permitted in this project.

Replace the first and ninth paragraphs of Section 110-3.1 with the paragraphs below:

The Contractor shall install underground duct banks and conduits at the approximate locations indicated on the plans. The Engineer shall indicate specific locations as the work progresses, if required to differ from the plans. Duct banks and conduits shall be of the size, material, and type indicated on the plans or specifications. Where no size is indicated on the plans or in the specifications, conduits shall be not less than 2 inches (50 mm) inside diameter or comply with the National Electrical Code based on cable to be installed, whichever is larger. All duct bank and conduit lines shall be laid so as to grade toward access points and duct or conduit ends for drainage. Unless shown otherwise on the plans, grades shall be at least 3 inches (75 mm) per 100 feet (30 m). On runs where it is not practicable to maintain the grade all one way, the duct bank and conduit lines shall be graded from the center in both directions toward access points or conduit ends, with a drain into the storm drainage system. Pockets or traps where moisture may accumulate shall be avoided. No duct bank shall be less than ***24*** inches below finished grade. No underground conduit shall be less than 18 inches below finished grade. Where under pavement, the top of the duct bank shall not be less than ***6*** inches below the subgrade.

When rock is encountered, the rock shall be removed to a depth of at least 3 inches below the required conduit or duct bank depth and it shall be replaced with bedding material of earth or sand containing no mineral aggregate particles that would be retained on a 1/4-inch sieve. Flowable backfill ***shall not be used.*** The Contractor shall ascertain the type of soil or rock to be excavated before bidding. All such rock removal shall be performed and paid for under ***the respective trenching or conduit or duct bank pay item.***

Insert the paragraphs below after the eighth paragraph of Section 110-3.1:

The Contractor shall provide a staked centerline or offset for the duct and manhole system - utilizing the drawings and a site inspection of the existing grounds, grades and utility crossings. The Owner and Engineer shall approve the staking plan that shall be indicated on a drawing

submitted for approval before starting any excavation for the ducts. The staking plan shall indicate the proposed location, elevation and dimensions of manholes and handholes. The Engineer reserves the right to adjust duct, manhole and handhole locations and elevations before installation at no additional cost to the Owner.

The bottom surface of trenches shall be essentially smooth and free from coarse aggregate.

Insert the paragraph below at the end of Section 110-3.1:

PVC shall convert to coated galvanized rigid steel conduit prior to its emergence; no PVC shall emerge from the ground or concrete slab or encasement. Coated galvanized rigid steel conduit shall transition to non-coated galvanized rigid steel conduit no sooner than 3" above finished grade.

Replace Section 110-3.2 with the paragraphs below:

110-3.2 DUCT BANKS. Unless otherwise shown in the plans, duct banks shall be installed so that the top of the concrete envelope is not less than ***6 inches (15 cm)*** below the bottom of the base or stabilized base course layers where installed under runways, taxiways, aprons, or other paved areas, and not less than ***24 inches (60 cm)*** below finished grade where installed in unpaved areas.

Unless otherwise shown on the plans, duct banks under paved areas shall extend at least 3 feet (90 cm) beyond the edges of the pavement or 3 feet (90 cm) beyond any underdrains that may be installed alongside the paved area. Trenches for duct banks shall be opened the complete length before concrete is placed so that if any obstructions are encountered, proper provisions can be made to avoid them. Unless otherwise shown on the plans, all duct banks shall be placed on a layer of concrete not less than 3 inches (75 mm) thick prior to its initial set. Where two or more conduits in the duct bank are intended to carry conductors of equivalent voltage insulation rating, the Contractor shall space the conduits not less than ***3 inches*** apart (measured from outside wall to outside wall). Where two or more conduits in the duct bank are intended to carry conductors of differing voltage insulation rating, the Contractor shall space the conduits not less than 3 inches apart (measured from outside wall to outside wall). All such multiple conduits shall be placed using conduit spacers applicable to the type of conduit. As the conduit laying progresses, concrete shall be placed around and on top of the conduits not less than 3 inches (75 mm) thick unless otherwise shown on the plans. End bells or couplings ***with removable factory plugs*** shall be installed flush with the concrete encasement at access points.

Conduits forming the duct bank shall be installed using conduit spacers. No. 4 reinforcing bars shall be driven vertically into the soil a minimum of 6 inches to anchor the assembly into the earth prior to placing the concrete encasement. For this purpose, the spacers shall be fastened down with locking collars attached to the vertical bars. Spacers shall be installed at 5 -foot intervals. Spacers shall be in the proper sizes and configurations to fit the conduits. Locking collars and spacers shall be submitted to the Engineer for review prior to use.

When specified, the Contractor shall reinforce the bottom side and top of encasements with steel reinforcing mesh or fabric or other approved metal reinforcement. When directed, the Contractor shall supply additional supports where the ground is soft and boggy, where ducts cross under roadways, or where shown on the plans. Under such conditions, the complete duct structure shall be supported on reinforced concrete footings, piers, or piles located at approximately 5 foot (150 cm) intervals.

All pavement surfaces that are to have ducts installed therein shall be neatly saw cut to form a vertical face. All excavation shall be included in the contract with price for the duct. ***All concrete/asphalt pavement removal and repair work shall be installed as separate pay items in accordance with Specification P-101 Surface Preparation.***

The subgrade below the removed pavement shall be compacted to 90% maximum density for cohesive soils and to 100% maximum density for non-cohesive soils, as determined by ASTM D1557. The in-place field density shall be determined in accordance with ASTM D1556, D2167, or D2922. Subgrade preparation will not be measured for separate payment, but will be considered subsidiary to Specification P-101 Surface Preparation.

Install a plastic, detectable, color as noted, 4-6 inch (75-150mm) wide tape 8 inches (200mm) minimum below grade above all underground conduit or duct lines not installed under pavement.

When existing cables are to be placed in split duct, encased in concrete, the cable shall be carefully located and exposed by hand tools. Prior to being placed in duct, the Engineer shall be notified so that he may inspect the cable and determine that it is in good condition. Where required, split duct shall be installed as shown on the drawings or as required by the Engineer.

Replace Section 110-3.3 with the paragraphs below:

110-3.3 CONDUITS WITHOUT CONCRETE ENCASEMENT. Trenches for single-conduit lines shall be not less than 6 inches (150 mm) nor more than 12 inches (300 mm) wide, and the trench for 2 or more conduits installed at the same level shall be proportionately wider. Trench bottoms for conduits without concrete encasement shall be made to conform accurately to grade so as to provide uniform support for the conduit along its entire length.

Unless otherwise shown on the plans, a layer of fine earth material, at least ***3 inches (75 mm)*** thick (loose measurement) shall be placed in the bottom of the trench as bedding for the conduit. The bedding material shall consist of soft dirt, sand or other fine fill, and it shall contain no particles that would be retained on a 1/4-inch (6 mm) sieve. The bedding material shall be tamped until firm. Flowable backfill ***shall not be used.***

Unless otherwise shown on plans, conduits shall be installed so that the tops of all conduits ***within the Airport's secured area where trespassing is prohibited*** are at least 18 inches (45 cm) below the finished grade. ***Conduits outside the Airport's secured area shall be installed so that the tops of the conduits are at least 24 inches (60 cm) below the finished grade.***

Non-encased conduits shall convert to concrete encased ducts under all paved areas and shall extend at least 3 feet beyond the edges of the pavement unless otherwise noted.

When two or more individual conduits intended to carry conductors of equivalent voltage insulation rating are installed in the same trench without concrete encasement, they shall be spaced not less than ***3 inches (75 mm)*** apart (measured from outside wall to outside wall) in a horizontal direction and not less than ***3 inches (75 mm)*** apart in a vertical direction. Where two or more individual conduits intended to carry conductors of differing voltage insulation rating are installed in the same trench without concrete encasement, they shall spaced not less than 3 inches (75 mm) apart (measured from outside wall to outside wall) in a horizontal direction and lot less than ***3 inches (75 mm)*** apart in a vertical direction.

Trenches shall be opened the complete length between normal termination points before conduit is installed so that if any unforeseen obstructions are encountered, proper provisions can be made to avoid them.

Conduits shall be installed using conduit spacers. No. 4 reinforcing bars shall be driven vertically into the soil a minimum of 6 inches to anchor the assembly into the earth while backfilling. For this purpose, the spacers shall be fastened down with locking collars attached to the vertical bars. Spacers shall be installed at 5 -foot intervals. Spacers shall be in the proper sizes and configurations to fit the conduits. Locking collars and spacers shall be submitted to the Engineer for review prior to use.

Insert the paragraphs below at the end of Section 110-3.4:

Each duct run shall be marked at approximately every 200 feet (60 m) along the duct or conduit run, with an additional marker at each change of direction of duct or conduit run.

Impression of letters shall be done in a manner, approved by the Engineer, to effect a neat, professional appearance. The letters shall be stenciled neatly. After placement, all markers shall be given one coat of high-visibility orange paint, as approved by the Engineer.

Replace Section 110-3.5 with the paragraphs below:

110-3.5 BACKFILLING FOR CONDUITS. For conduits, 8 inches (200 cm) of sand, soft earth, or other fine fill (loose measurement) shall be placed around the conduits ducts and carefully tamped around and over them with hand tampers. The remaining trench shall then be backfilled and compacted in accordance with Item P-152 "Excavation and Embankment" except that material used for back fill shall be select material not larger than 4 inches in diameter.

Flowable backfill ***shall not*** be used

Trenches shall not contain pools of water during back, filling operations.

The trench shall be completely backfilled and tamped level with the adjacent surface: except that, where sod is to be placed over the trench, the backfilling shall be stopped at a depth equal to the thickness of the sod to be used, with proper allowance for settlement.

Any excess excavated material shall be removed and disposed of in accordance with instructions issued by the Engineer.

Trenches shall be backfilled and compacted in 6" layers to 90% maximum density for cohesive soils and to 100% maximum density for non-cohesive soils, as determined by ASTM D1557. The in-place field density shall be determined in accordance with ASTM D1556, D2167, or D6938.

Backfilling from two directions will not be allowed. No backfilling will be accomplished without the approval of the Engineer. The Construction Observer will coordinate with the Contractor for advance scheduling of trench inspection.

Replace Section 110-3.6 with the paragraphs below:

110-3.6 BACKFILLING FOR DUCT BANKS. After the concrete has cured, the remaining trench shall be backfilled and compacted in accordance with Item P-152 "Excavation and Embankment" except that the material used for backfill shall be select material not larger than 4 inches in diameter. In addition to the requirements of P-152, where duct banks are installed under pavement, one moisture/density test per lift shall be made for each 250 linear feet of duct bank or one work period's construction, whichever is less.

Flowable backfill ***shall not*** be used

Trenches shall not contain pools of water during backfilling operations.

The trench shall be completely backfilled and tamped level with the adjacent surface: except that, where sod is to be placed over the trench, the backfilling shall be stopped at a depth equal to the thickness of the sod to be used, with proper allowance for settlement.

Any excess excavated material shall be removed and disposed of in accordance with instructions issued by the Engineer.

Trenches shall be backfilled and compacted in 6" layers to 90% maximum density for cohesive soils and to 100% maximum density for non-cohesive soils, as determined by ASTM D1557. The in-place field density shall be determined in accordance with ASTM D1556, D2167, or D6938.

Backfilling from two directions will not be allowed. No backfilling will be accomplished without the approval of the Engineer. The Construction Observer will coordinate with the Contractor for advance scheduling of trench inspection.

Replace Section 110-3.7 with the paragraphs below:

110-3.7 RESTORATION. Where sod has been removed, it shall be replaced as soon as possible after the backfilling is completed. All areas disturbed by the work shall be restored to its original condition. The restoration shall include topsoiling and seeding shown on the plans ***of all disturbed areas***. The Contractor shall be held responsible for maintaining all disturbed surfaces and replacements until final acceptance. All restoration shall be considered incidental to the respective L-110 pay item.

Following restoration of all trenching near airport movement surfaces, the Contractor shall thoroughly visually inspect the area for foreign object debris (FOD), and remove any such FOD that is found. This FOD inspection and removal shall be considered incidental to the respective L-110 pay item.

Insert the section below after Section 110-3.7:

110-3.8 CLEARING OF EXISTING DUCT. Where new cable is to be installed in existing duct, the full length of the duct shall be cleared of debris by mechanical means before the installation of the new cable. Acceptable methods of clearing existing ducts include "hydro-jetting" and "roto-rooting." All existing cables in each re-used duct shall be replaced for the length of the duct and properly spliced in a method approved by the Engineer. Clearing of existing duct banks or conduits is incidental to the cable pay item.

Replace Section 110-5.1 with the paragraphs below:

110-5.1 Payment will be made at the contract unit price per linear foot for each type and size of conduit and duct bank completed and accepted, including trench and backfill with the designated material, and, for drain lines, the termination at the drainage structure. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item in accordance with the provisions and intent of the plans and specifications.

Payment will be made under:

Item L-110-5.1	***Concrete Encased***, Electrical Duct Bank, ***4-Way 4"C***—per Linear Foot
Item L-110-5.2	***Concrete Encased***, Electrical Conduit, ***1-Way 2"C***—per Linear Foot
Item L-110-5.3	***Non-Encased***, Electrical Conduit, ***1-Way 2"C***—per Linear Foot

Insert the paragraphs below in the Material Requirements section:

MATERIAL REQUIREMENTS

AC 150/5340-30	*Design and Installation Details for Airport Visual Aids*
AC 150/5345-53	*Airport Lighting Equipment Certification Program*
ASTM D1556	*Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method*
ASTM D1557	*Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3(2,700 kN-m/m3))*
ASTM D2167	*Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method*
ASTM D2922	*Standard Test Methods for Density of Soil and Soil-Aggregate In Place by Nuclear Methods (Shallow Depth)*
NFPA-70	*National Electrical Code (NEC)*

END OF MOD L-110

ITEM L-110 AIRPORT UNDERGROUND ELECTRICAL DUCT BANKS AND CONDUITS

DESCRIPTION

110-1.1 This item shall consist of underground electrical conduits and duct banks (single or multiple conduits encased in concrete) installed in accordance with this specification at the locations and in accordance with the dimensions, designs, and details shown on the plans. This item shall include furnishing and installing of all underground electrical duct banks and individual and multiple underground conduits. It shall also include all turfing trenching, backfilling, removal, and restoration of any paved or turfed areas; concrete encasement, mandreling, pulling lines, duct markers, plugging of conduits, and the testing of the installation as a completed system ready for installation of cables in accordance with the plans and specifications. This item shall also include furnishing and installing conduits and all incidentals for providing positive drainage of the system. Verification of existing ducts is incidental to the pay items provided in this specification.

EQUIPMENT AND MATERIALS

110-2.1 GENERAL.

a. All equipment and materials covered by referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when so requested by the Engineer.

b. Manufacturer's certifications shall not relieve the Contractor of the Contractor's responsibility to provide materials in accordance with these specifications and acceptable to the Engineer. Materials supplied and/or installed that do not materially comply with these specifications shall be removed, when directed by the Engineer and replaced with materials, which do comply with these specifications, at the sole cost of the Contractor.

c. All materials and equipment used to construct this item shall be submitted to the Engineer for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify pertinent products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be boldly and clearly made with arrows or circles (highlighting is not acceptable). Contractor is solely responsible for delays in project accruing directly or indirectly from late submissions or resubmissions of submittals.

d. The data submitted shall be sufficient, in the opinion of the Engineer, to determine compliance with the plans and specifications. The Contractor's submittals shall be neatly bound in a properly sized 3-ring binder, tabbed by specification section. The Engineer reserves the right to reject any and all equipment, materials or procedures, which, in the Engineer's opinion, does not meet the system design and the standards and codes, specified herein.

e. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

110-2.2 STEEL CONDUIT. Rigid galvanized steel conduit and fittings shall be hot dipped galvanized inside and out and conform to the requirements of Underwriters Laboratories Standard 6, 514B, and 1242.

110-2.3 PLASTIC CONDUIT. Plastic conduit and fittings-shall conform to the requirements of Fed. Spec. W-C-1094, Underwriters Laboratories Standards UL-651 and Article 347 of the current National Electrical Code shall be one of the following, as shown on the plans:

a. Type I–Schedule 40 PVC suitable for underground use either direct-buried or encased in concrete.

b. Type II–Schedule 40 PVC suitable for either above ground or underground use.

The type of adhesive shall be as recommended by the conduit/fitting manufacturer.

110-2.4 SPLIT CONDUIT. Split conduit shall be pre-manufactured for the intended purpose and shall be made of steel or plastic.

110-2.5 CONDUIT SPACERS. Conduit spacers shall be prefabricated interlocking units manufactured for the intended purpose. They shall be of double wall construction made of high grade, high density polyethylene complete with interlocking cap and base pads, They shall be designed to accept No. 4 reinforcing bars installed vertically.

110-2.6 CONCRETE. Concrete shall conform to Item P-610, Structural Portland Cement Concrete, using 1 inch maximum size coarse aggregate with a minimum 28 day compressive strength of 3500 psi. Where reinforced duct banks are specified, reinforcing steel shall conform to ASTM A 615 Grade 60. Concrete and reinforcing steel are incidental to the respective pay item of which they are a component part.

110-2.7 FLOWABLE BACKFILL. Flowable material used to back fill conduit and duct bank trenches shall conform to the requirements of Item P-153 "Controlled Low Strength Material".

110-2.8 DETECTABLE WARNING TAPE Plastic, detectable, color as noted magnetic tape shall be polyethylene film with a metallized foil core and shall be 4-6 inches (75-150 MM) wide. Detectable tape is incidental to the respective bid item.

CONSTRUCTION METHODS

110-3.1 GENERAL. The Contractor shall install underground duct banks and conduits at the approximate locations indicated on the plans. The Engineer shall indicate specific locations as the work progresses, if required to differ from the plans. Duct banks and conduits shall be of the size, material, and type indicated on the plans or specifications. Where no size is indicated on the plans or in the specifications, conduits shall be not less than 2 inches (50 mm) inside diameter or comply with the National Electrical Code based on cable to be installed, whichever is larger. All duct bank and conduit lines shall be laid so as to grade toward access points and duct or conduit ends for drainage. Unless shown otherwise on the plans, grades shall be at least 3 inches (75 mm) per 100 feet (30 m). On runs where it is not practicable to maintain the grade all one way, the duct bank and conduit lines shall be graded from the center in both directions toward access points or conduit ends, with a drain into the storm drainage system. Pockets or traps where moisture may accumulate shall be avoided. No duct bank shall be less than 18 inches below finished grade. No underground conduit shall be less than 18 inches below finished grade. Where under pavement, the top of the duct bank shall not be less than 18 inches below the subgrade.

The Contractor shall mandrel each individual conduit whether the conduit is direct-buried or part of a duct bank. An iron-shod mandrel, not more than 1/4-inch (6 mm) smaller than the bore of the conduit shall be pulled or pushed through each conduit. The mandrel shall have a leather or rubber gasket slightly larger than the conduit hole.

The Contractor shall swab out all conduits/ducts and clean base can, manhole, pull boxes, etc. interiors IMMEDIATELY prior to pulling cable. Once cleaned and swabbed the base cans, manhole, pull boxes, etc. and all accessible points of entry to the duct/conduit system shall be kept closed except when installing cables. Cleaning of ducts, base cans, manholes, etc. is incidental to the pay item of the item being cleaned. All raceway systems left open, after initial cleaning, for any reason shall be recleaned at the Contractor's expense. All accessible points shall be kept closed when not installing cable. The Contractor shall verify existing ducts proposed for use in this project as clear and open. The Contractor shall notify the Engineer of any blockage in the existing ducts.

For pulling the permanent wiring, each individual conduit, whether the conduit is direct-buried or part of a duct bank, shall be provided with a 200 pound test polypropylene pull rope. The ends shall be secured and sufficient length shall be left in access points to prevent it from slipping back into the conduit. Where spare conduits are installed, as indicated on the plans, the open ends shall be plugged with removable tapered plugs, designed for this purpose.

All conduits shall be securely fastened in place during construction and shall be plugged to prevent contaminate from entering the conduits. Any conduit section having a defective joint shall not be installed. Ducts shall be supported and spaced apart using approved spacers at intervals not to exceed 5 feet.

Unless otherwise shown on the plans, concrete encased duct banks shall be utilized when crossing under pavements expected to carry aircraft loads.

Where turf is well established and the sod can be removed, it shall be carefully stripped and properly stored.

Trenches for conduits and duct banks may be excavated manually or with mechanical trenching equipment unless in pavement, in which case they shall be excavated with mechanical trenching equipment. Walls of trenches shall be essentially vertical so that a minimum of shoulder surface is disturbed. Blades of graders shall not be used to excavate the trench.

When rock is encountered, the rock shall be removed to a depth of at least 3 inches below the required conduit or duct bank depth and it shall be replaced with bedding material of earth or sand containing no mineral aggregate particles that would be retained on a 1/4-inch sieve. Flowable backfill may alternatively be used. The Contractor shall ascertain the type of soil or rock to be excavated before bidding. All such rock removal shall be performed and paid for under Item P-152.

Underground electrical warning (caution) tape shall be installed in the trench above all underground duct banks and conduits in unpaved areas. Contractor shall submit a sample of the proposed warning tape for approval by the Engineer. If not shown on the plans, the warning tape shall be located six inches above the duct/conduit or the counterpoise wire if present.

Joints in plastic conduit shall be prepared in accordance with the manufacturer's recommendations for the particular type of conduit. Plastic conduit shall be prepared by application of a plastic cleaner and brushing a plastic solvent on the outside of the conduit ends and on the inside of the couplings. The conduit fitting shall then be slipped together with a quick one-quarter turn twist to set the joint tightly. Where more than one conduit is placed in a single trench, or in duct banks, joints in the conduit shall be staggered a minimum of 2 feet.

Changes in direction of runs exceeding 10 degrees, either vertical or horizontal, shall be accomplished using manufactured sweep bends.

Whether or not specifically indicated on the drawings, where the soil encountered at established duct bank grade is an unsuitable material, as determined by the Engineer, the unsuitable material shall be removed in accordance with Item P-152 and replaced with suitable material. Alternatively, additional duct bank supports that are adequate and stable shall be installed, as approved by the Engineer.

All excavation shall be unclassified and shall be considered incidental to the respective L-110 pay item of which it is a component part. Dewatering necessary for duct installation, erosion and turbidity control, in accordance with Federal, State, and Local requirements is incidental to its respective pay item as a part of Item L-110. The cost of all excavation, regardless of type of material encountered, shall be included in the unit price bid for the L-110 Item.

Unless otherwise specified, excavated materials that are deemed by the Engineer to be unsuitable for use in backfill or embankments shall be removed and disposed of off site.

Any excess excavation shall be filled with suitable material approved by the Engineer and compacted in accordance with Item P-152 .

It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Where existing active cables) cross proposed installations, the Contractor shall insure that these cable(s) are adequately protected. Where crossings are unavoidable, no splices will be allowed in the existing cables, except as specified on the plans. Installation of new cable where such crossings must occur shall proceed as follows:

(1) Existing cables shall be located manually. Unearthed cables shall be inspected to assure absolutely no damage has occurred

(2) Trenching, etc., in cable areas shall then proceed with approval of the Engineer, with care taken to minimize possible damage or disruption of existing cable, including careful backfilling in area of cable.

In the event that any previously identified cable is damaged during the course of construction, the Contractor shall be responsible for the complete repair.

110-3.2 DUCT BANKS. Unless otherwise shown in the plans, duct banks shall be installed so that the top of the concrete envelope is not less than 18 inches (45 cm) below the bottom of the base or stabilized base course layers where installed under runways, taxiways, aprons, or other paved areas, and not less than 18 inches (45 cm) below finished grade where installed in unpaved areas.

Unless otherwise shown on the plans, duct banks under paved areas shall extend at least 3 feet (90 cm) beyond the edges of the pavement or 3 feet (90 cm) beyond any underdrains that may be installed alongside the paved area. Trenches for duct banks shall be opened the complete length before concrete is placed so that if any obstructions are encountered, proper provisions can be made to avoid them. Unless otherwise shown on the plans, all duct banks shall be placed on a layer of concrete not less than 3 inches (75 mm) thick prior to its initial set. Where two or more conduits in the duct bank are intended to carry conductors of equivalent voltage insulation rating, the Contractor shall space the conduits not less than 1-1/2 inches (37 mm) apart (measured from outside wall to outside wall). Where two or more conduits in the duct bank are intended to carry conductors of differing voltage insulation rating, the Contractor shall space the conduits not less than 3 inches apart (measured from outside wall to outside wall). All such multiple conduits shall be placed using conduit spacers applicable to the type of conduit. As the conduit laying progresses, concrete shall be placed around and on top of the conduits not less

than 3 inches (75 mm) thick unless otherwise shown on the plans. End bells or couplings shall be installed flush with the concrete encasement at access points.

Conduits forming the duct bank shall be installed using conduit spacers. No. 4 reinforcing bars shall be driven vertically into the soil a minimum of 6 inches to anchor the assembly into the earth prior to placing the concrete encasement. For this purpose, the spacers shall be fastened down with locking collars attached to the vertical bars. Spacers shall be installed at 5 -foot intervals. Spacers shall be in the proper sizes and configurations to fit the conduits. Locking collars and spacers shall be submitted to the Engineer for review prior to use.

When specified, the Contractor shall reinforce the bottom side and top of encasements with steel reinforcing mesh or fabric or other approved metal reinforcement. When directed, the Contractor shall supply additional supports where the ground is soft and boggy, where ducts cross under roadways, or where shown on the plans. Under such conditions, the complete duct structure shall be supported on reinforced concrete footings, piers, or piles located at approximately 5 foot (150 cm) intervals.

All pavement surfaces that are to have ducts installed therein shall be neatly saw cut to form a vertical face. All excavation shall be included in the contract with price for the duct.

Install a plastic, detectable, color as noted, 4-6 inch (75-150mm) wide tape 8 inches (200mm) minimum below grade above all underground conduit or duct lines not installed under pavement.

When existing cables are to be placed in split duct, encased in concrete, the cable shall be carefully located and exposed by hand tools. Prior to being placed in duct, the Engineer shall be notified so that he may inspect the cable and determine that it is in good condition. Where required, split duct shall be installed as shown on the drawings or as required by the Engineer.

110-3.3 CONDUITS WITHOUT CONCRETE ENCASEMENT. Trenches for single-conduit lines shall be not less than 6 inches (150 mm) nor more than 12 inches (300 mm) wide, and the trench for 2 or more conduits installed at the same level shall be proportionately wider. Trench bottoms for conduits without concrete encasement shall be made to conform accurately to grade so as to provide uniform support for the conduit along its entire length.

Unless otherwise shown on the plans, a layer of fine earth material, at least 4 inches (100 mm) thick (loose measurement) shall be placed in the bottom of the trench as bedding for the conduit. The bedding material shall consist of soft dirt, sand or other fine fill, and it shall contain no particles that would be retained on a 1/4-inch (6 mm) sieve. The bedding material shall be tamped until firm. Flowable backfill may alternatively used.

Unless otherwise shown on plans, conduits shall be installed so that the tops of all conduits are at least 18 inches (45 cm) below the finished grade.

When two or more individual conduits intended to carry conductors of equivalent voltage insulation rating are installed in the same trench without concrete encasement, they shall be spaced not less than 2 inches (50 mm) apart (measured from outside wall to outside wall) in a horizontal direction and not less than 6 inches (150 mm) apart in a vertical direction. Where two or more individual conduits intended to carry conductors of differing voltage insulation rating are installed in the same trench without concrete encasement, they shall spaced not less than 3 inches (75 mm) apart (measured from outside wall to outside wall) in a horizontal direction and lot less than 6 inches (150 mm) apart in a vertical direction.

Trenches shall be opened the complete length between normal termination points before conduit is installed so that if any unforeseen obstructions are encountered, proper provisions can be made to avoid them.

Conduits shall be installed using conduit spacers. No. 4 reinforcing bars shall be driven vertically into the soil a minimum of 6 inches to anchor the assembly into the earth while backfilling. For this purpose, the spacers shall be fastened down with locking collars attached to the vertical bars. Spacers shall be installed at 5 -foot intervals. Spacers shall be in the proper sizes and configurations to fit the conduits. Locking collars and spacers shall be submitted to the Engineer for review prior to use.

110-3.4 MARKERS. The location of each end and of each change of direction of conduits and duct banks shall be marked by a concrete slab marker 2 feet (60 cm) square and 4-6 inches (100-150 mm) thick extending approximately 1 inch (25 mm) above the surface. The markers shall also be located directly above the ends of all conduits or duct banks, except where they terminate in a junction/access structure or building.

The Contractor shall impress the word "DUCT" or "CONDUIT" on each marker slab. The Contractor shall also impress on the slab the number and size of conduits beneath the marker along with all other necessary information as determined by the Engineer. The letters shall be 4 inches (100 mm) high and 3 inches (75 mm) wide with width of stroke 1/2-inch (12 mm) and 1/4-inch (6 mm) deep or as large as the available space permits. Furnishing and installation of duct markers is incidental to the respective duct pay item.

110-3.5 BACKFILLING FOR CONDUITS. For conduits, 8 inches (200 cm) of sand, soft earth, or other fine fill (loose measurement) shall be placed around the conduits ducts and carefully tamped around and over them with hand tampers. The remaining trench shall then be backfilled and compacted in accordance with Item P-152 "Excavation and Embankment" except that material used for back fill shall be select material not larger than 4 inches in diameter.

Flowable backfill may alternatively be used

Trenches shall not contain pools of water during back, filling operations.

The trench shall be completely backfilled and tamped level with the adjacent surface: except that, where sod is to be placed over the trench, the backfilling shall be stopped at a depth equal to the thickness of the sod to be used, with proper allowance for settlement.

Any excess excavated material shall be removed and disposed of in accordance with instructions issued by the Engineer.

110-3.6 BACKFILLING FOR DUCT BANKS. After the concrete has cured, the remaining trench shall be backfilled and compacted in accordance with Item P-152 "Excavation and Embankment" except that the material used for backfill shall be select material not larger than 4 inches in diameter. In addition to the requirements of P-152, where duct banks are installed under pavement, one moisture/density test per lift shall be made for each 250 linear feet of duct bank or one work period's construction, whichever is less.

Flowable backfill may alternatively be used

Trenches shall not contain pools of water during backfilling operations.

The trench shall be completely backfilled and tamped level with the adjacent surface: except that, where sod is to be placed over the trench, the backfilling shall be stopped at a depth equal to the thickness of the sod to be used, with proper allowance for settlement.

Any excess excavated material shall be removed and disposed of in accordance with instructions issued by the Engineer.

110-3.7 RESTORATION. Where sod has been removed, it shall be replaced as soon as possible after the backfilling is completed. All areas disturbed by the work shall be restored to its original condition. The restoration shall include topsoiling and seeding shown on the plans. The Contractor shall be held responsible for maintaining all disturbed surfaces and replacements until final acceptance. All restoration shall be considered incidental to the respective L-110 pay item.

METHOD OF MEASUREMENT

110-4.1 Underground conduits and duct banks shall be measured by the linear feet (meter) of conduits and duct banks installed, including encasement, locator tape, trenching and backfill with designated, resolution, and for drain lines, the termination at the drainage structure, all measured in place, completed, and accepted. Separate measurement shall be made for the various types and sizes.

BASIS OF PAYMENT

110-5.1 Payment will be made at the contract unit price per linear foot for each type and size of conduit and duct bank completed and accepted, including trench and backfill with the designated material, and, for drain lines, the termination at the drainage structure. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item in accordance with the provisions and intent of the plans and specifications.

Payment will be made under:

Item L-110-5.1	Electrical Duct Bank, # and Size —per Linear Foot (meter)
Item L-110-5.2	Electrical Conduit # and size—per Linear Foot (meter)

MATERIAL REQUIREMENTS

Fed.Spec.W-C-1094	Conduit and Conduit Fittings; Plastic, Rigid (cancelled; replaced by UL 514 Boxes, Nonmetallic Outlet, Flush Device Boxes, & Covers, and UL 651 Standard for Conduit & Hope Conduit, Type EB & A Rigid PVC)
Underwriters Laboratories Standard 6	Rigid Metal Conduit
Underwriters Laboratories Standard 514B	Fittings For Conduit and Outlet Boxes
Underwriters Laboratories Standard 1242	Intermediate Metal Conduit
Underwriters Laboratories Standard 651	Schedule 40 and 80 Rigid PVC Conduit (for Direct Burial)
Underwriters Laboratories Standard 651A	Type EB and A Rigid PVC Conduit and HDPE Conduit (for concrete encasement)

END OF ITEM L-110

ITEM L-115 ELECTRICAL MANHOLES AND JUNCTION STRUCTURES is hereby amended with respect to the paragraphs and sections cited below.

Insert the section below after Section 115-2.1e:

f. Airport lighting equipment and materials shall meet the requirements outlined in Item SS-300.

Insert the paragraphs below at the end of Section 115-2.3:

Cans shall have both internal and external ground lugs. Size (diameter) and depth shall be as specified in the plans.

Replace Section 115-2.5 with the paragraph below:

115-2.5 CONCRETE. ***Refer to Item SS-300 for Concrete requirements.***

Insert the paragraph below at the end of Section 115-2.6:

Each cover and frame shall be galvanized and have a spring assisted, latching mechanism allowing one individual to open the manhole hinged cover(s) using the recessed lifting handles. Covers shall be secured by stainless steel penta-head bolts.

Remove Section 115-2.10. Flowable backfill shall not be permitted in this project.

Insert the paragraph below after the first paragraph of Section 115-3.7:

Trenches shall be backfilled and compacted in 6" layers to 90% maximum density for cohesive soils and to 100% maximum density for non-cohesive soils, as determined by ASTM D1557. The in-place field density shall be determined in accordance with ASTM D1556, D2167, or D6938.

Insert the paragraph below at the end of Section 115-3.11:

Following restoration of all trenching near airport movement surfaces, the Contractor shall thoroughly visually inspect the area for foreign object debris (FOD), and remove any such FOD that is found. This FOD inspection and removal shall be considered incidental to the respective L-115 pay item.

Remove Section 115-3.13. Manhole elevation adjustments shall not be allowed in this project.

Replace Section 115-5.1 with the paragraph below:

115-5.1 The accepted quantity of electrical manholes, ***electrical handholes,*** and junction structures will be paid for at the Contract unit price per each, complete and in place. This price shall be full compensation for furnishing all materials and for all preparation, excavation, backfilling and placing of the materials, furnishing and installation of appurtenances and connections to duct banks and other structures as may be required to complete the item as shown on the plans and for all labor, equipment, tools and incidentals necessary to complete the structure.

Remove Section 115-5.2. Manhole elevation adjustments shall not be allowed in this project.

Payment will be made under:

Item L-115-5.1	***Concrete Encased,*** Electrical Junction Structure, L-867 Class 1, Size 12" Diameter by 24" Depth, Installed -- Per Each

Item L-115-5.2	***Precast Concrete Electrical Handhole, Interior Dimensions 2'L x 3'W x 3'D, Installed –Per Each***

Insert the paragraphs below in the Material Requirements section:

MATERIAL REQUIREMENTS

AC 150/5340-30	***Design and Installation Details for Airport Visual Aids***
AC 150/5345-53	***Airport Lighting Equipment Certification Program***
NFPA-70	***National Electrical Code (NEC)***

END OF MOD L-115

ITEM L-115 ELECTRICAL MANHOLES AND JUNCTION STRUCTURES

DESCRIPTION

115-1.1 This item shall consist of electrical manholes and junction structures (handholes, pullboxes, junction cans, etc.) installed in accordance with this specification, at the indicated locations and conforming to the lines, grades and dimensions shown on the plans or as required by the Engineer. This item shall include the installation of each electrical manhole and/or junction structures with all associated excavation, backfilling, sheeting and bracing, concrete, reinforcing steel, ladders, appurtenances, testing, dewatering and restoration of surfaces to the satisfaction of the Engineer.

EQUIPMENT AND MATERIALS

115-2.1 GENERAL.

a. All equipment and materials covered by referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when so requested by the Engineer.

b. Manufacturer's certifications shall not relieve the Contractor of the Contractor's responsibility to provide materials in accordance with these specifications and acceptable to the Engineer. Materials supplied and/or installed that do not materially comply with these specifications shall be removed, when directed by the Engineer and replaced with materials, which do comply with these specifications, at the sole cost of the Contractor.

c. All materials and equipment used to construct this item shall be submitted to the Engineer for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify pertinent products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be boldly and clearly made with arrows or circles (highlighting is not acceptable). Contractor is solely responsible for delays in project accruing directly or indirectly from late submissions or resubmissions of submittals.

d. The data submitted shall be sufficient, in the opinion of the Engineer, to determine compliance with the plans and specifications. The Contractor's submittals shall be neatly bound in a properly sized 3-ring binder, tabbed by specification section. The Engineer reserves the right to reject any and all equipment, materials or procedures, which, in the Engineer's opinion, does not meet the system design and the standards and codes, specified herein.

e. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

115-2.2 CONCRETE STRUCTURES. Cast-in-place concrete structures shall conform to the details and dimensions shown on the plans.

Provide precast concrete structures where shown on the plans. Precast concrete structures shall be an approved standard design of the manufacturer. Precast units shall have mortar or bitumastic sealer placed between all joints to make them watertight. The structure shall be designed to withstand 100,000

lb aircraft wheel loads, unless otherwise shown on the plans. Openings or knockouts shall be provided in the structure as detailed on the plans.

Threaded inserts and pulling eyes shall be cast in as shown.

If the Contractor chooses to propose a different structural design, signed and sealed shop drawings, design calculations, and other information requested by the Engineer shall be submitted by the Contractor to allow for a full evaluation by the Engineer. The Engineer shall review in accordance with the process defined in the General Provisions.

115-2.3 JUNCTION CANS. Junction Cans shall be L-867 Class 1 (non-load bearing) or L-868 Class 1 (load bearing) cans encased in concrete. The cans shall have a galvanized steel blank cover, gasket, and stainless steel hardware. Covers shall be 3/8" thickness for L-867 and 3/4" thickness for L-868.

115-2.4 MORTAR. The mortar shall be composed of one part of portland cement and two parts of mortar sand, by volume. The portland cement shall conform to the requirements of ASTM C 150, Type I. The sand shall conform to the requirements of ASTM C 144. Hydrated lime may be added to the mixture of sand and cement in an amount not to exceed 15 percent of the weight of cement used. The hydrated lime shall meet the requirements of ASTM C 6. The water shall be clean and free of deleterious amounts of acid, alkalies or organic material. If the water is of questionable quality, it shall be tested in accordance with AASHTO T-26.

115-2.5 CONCRETE. All concrete used in structures shall conform to the requirements of Item P-610, Structural Portland Cement Concrete.

115-2.6 FRAMES AND COVERS. The frames shall conform to one of the following requirements:

a. Gray iron castings shall meet the requirements of ASTM A 48.

b. Malleable iron castings shall meet the requirements of ASTM A 47.

c. Steel castings shall meet the requirements of ASTM A 27.

d. Structural steel for frames shall conform to the requirements of ASTM A-283, Grade D.

e. Ductile iron castings shall conform to the requirements of ASTM A 536.

f. Austempered ductile iron castings shall conform to the requirements of ASTM A 897.

All castings specified shall withstand a maximum tire pressure of 250 psi and maximum load of 100,000 pounds.

All castings or structural steel units shall conform to the dimensions shown on the plans and shall be designed to support the loadings specified.

Each frame and cover unit shall be provided with fastening members to prevent it from being dislodged by traffic, but which will allow easy removal for access to the structure.

All castings shall be thoroughly cleaned. After fabrication, structural steel units shall be galvanized to meet the requirements of ASTM A 123.

Each cover shall have the word "ELECTRIC" or other approved designation cast on it. Each frame and cover shall be as shown on the plans or approved equivalent. No cable notches are required.

115-2.7 LADDERS. Ladders, if specified, shall be galvanized steel or as shown on the plans.

115-2.8 REINFORCING STEEL. All reinforcing steel shall be deformed bars of new billet steel meeting the requirements of ASTM A 615, Grade 60.

115-2.9 BEDDING/SPECIAL BACKFILL. Bedding or special backfill shall be as shown on the plans.

115-2.10 FLOWABLE BACKFILL. Flowable material used to backfill shall conform to the requirements of Item P-153 "Controlled Low Strength Material".

115-2.11 CABLE TRAYS. Cable trays shall be of galvanized steel, plastic, or aluminum. Cable trays shall be located as shown on the plans.

115-2.12 PLASTIC CONDUIT. Plastic conduit shall comply with Item L-110 - Airport Underground Electrical Duct Banks and Conduits.

115-2.13 CONDUIT TERMINATORS. Conduit terminators shall be pre-manufactured for the specific purpose and sized as required or as shown on the plans.

115-2.14 PULLING-IN IRONS. Pulling-in irons shall be manufactured with 7/8-inch (22mm) diameter hot-dipped galvanized steel or stress-relieved carbon steel roping designed for concrete applications (7 strand, 1/2-inch diameter with an ultimate strength of 270,000 psi). Where stress-relieved carbon steel roping is used, a rustproof sleeve shall be installed at the hooking point and all exposed surfaces shall be encapsulated with a polyester coating to prevent corrosion.

115-2.15 GROUND RODS. Ground rods shall be one piece, or copper clad steel. The ground rods shall be of the length and diameter specified on the plans, but in no case shall they be less than 8-feet (240 cm) long nor less than 5/8 inch (15 mm) in diameter.

CONSTRUCTION METHODS

115-3.1 UNCLASSIFIED EXCAVATION. It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Damage to utility lines, through lack of care in excavating, shall be repaired or replaced to the satisfaction of the Engineer without additional expense to the Owner.

The Contractor shall perform excavation for structures and structure footings to the lines and grades or elevations shown on the plans or as staked by the Engineer. The excavation shall be of sufficient size to permit the placing of the full width and length of the structure or structure footings shown.

All excavation shall be unclassified and shall be considered incidental to the respective L-115 pay item of which it is a component part. Dewatering necessary for L-115 structure installation, erosion and turbidity control, in accordance with Federal, State, and Local requirements is incidental to its respective pay item as a part of Item L-115. The cost of all excavation regardless of type of material encountered, shall be included in the unit price bid for the L-115 Item.

Boulders, logs and all other objectionable material encountered in excavation shall be removed. All rock and other hard foundation material shall be cleaned of all loose material and cut to a firm surface either level, stepped or serrated, as directed by the Engineer. All seams, crevices, disintegrated rock and thin strata shall be removed. When concrete is to rest on a surface other than rock, special care shall be taken not to disturb the bottom of the excavation. Excavation to final grade shall not be made until just before the concrete or reinforcing is to be placed.

The Contractor shall provide all bracing, sheeting and shoring necessary to implement and protect the excavation and the structure as required for safety or conformance to governing laws. The cost of bracing, sheeting and shoring shall be included in the unit price bid for the structure.

Unless otherwise provided, bracing, sheeting and shoring involved in the construction of this item shall be removed by the Contractor after the completion of the structure. Removal shall be effected in a manner that will not disturb or mar finished masonry. The cost of removal shall be included in the unit price bid for the structure.

After each excavation is completed, the Contractor shall notify the Engineer. Structures shall be placed after the Engineer has approved the depth of the excavation and the suitability of the foundation material.

Prior to installation the Contractor shall provide a minimum of 6 inches of sand or a material approved by the Engineer as a suitable base to receive the structure. The base material shall be compacted and graded level and at proper elevation to receive the structure in proper relation to the conduit grade or ground cover requirements, as indicated on the plans.

115-3.2 CONCRETE STRUCTURES. Concrete structures shall be built on prepared foundations conforming to the dimensions and form indicated on the plans. The concrete and construction methods shall conform to the requirements specified in Item P-610. Any reinforcement required shall be placed as indicated on the plans and shall be approved by the Engineer before the concrete is placed.

115-3.3 PRECAST UNIT INSTALLATIONS. Precast units shall be installed plumb and true. Joints shall be made watertight by use of sealant at each tongue-and-groove joint and at roof of manhole. Excess sealant shall be removed and severe surface projections on exterior of neck shall be removed.

115-3.4 PLACEMENT AND TREATMENT OF CASTINGS, FRAMES AND FITTINGS. All castings, frames and fittings shall be placed in the positions indicated on the Plans or as directed by the Engineer and shall be set true to line and to correct elevation. If frames or fittings are to be set in concrete or cement mortar, all anchors or bolts shall be in place and position before the concrete or mortar is placed. The unit shall not be disturbed until the mortar or concrete has set.

Field connections shall be made with bolts, unless indicated otherwise. Welding will not be permitted unless shown otherwise on the approved shop drawings and written permission is granted by the casting manufacturer. Erection equipment shall be suitable and safe for the workman. Errors in shop fabrication or deformation resulting from handling and transportation that prevent the proper assembly and fitting of parts shall be reported immediately to the Engineer and approval of the method of correction shall be obtained. Approved corrections shall be made at Contractor's expense.

Anchor bolts and anchors shall be properly located and built into connection work. Bolts and anchors shall be preset by the use of templates or such other methods as may be required to locate the anchors and anchor bolts accurately.

Pulling-in irons shall be located opposite all conduit entrances into structures to provide a strong, convenient attachment for pulling-in blocks when installing cables. Pulling-in irons shall be set directly into the concrete walls of the structure.

115-3.5 INSTALLATION OF LADDERS. Ladders shall be installed such that they may be removed if necessary. Mounting brackets shall be supplied top and bottom and shall be cast in place during fabrication of the structure or drilled and grouted in place after erection of the structure.

115-3.6 REMOVAL OF SHEETING AND BRACING. In general, all sheeting and bracing used to support the sides of trenches or other open excavations shall be withdrawn as the trenches or other open excavations are being refilled. That portion of the sheeting extending below the top of a structure shall be withdrawn, unless otherwise directed, before more than six (6) inches of material is placed above the top of the structure and before any bracing is removed. Voids left by the sheeting shall be carefully refilled with selected material and rammed tight with tools especially adapted for the purpose or otherwise as may be approved.

The Engineer may order the Contractor to delay the removal of sheeting and bracing if, in his judgment, the installed work has not attained the necessary strength to permit placing of backfill.

115-3.7 BACKFILLING. After a structure has been completed, the area around it shall be backfilled in horizontal layers not to exceed 6 inches in thickness measured after compaction to the density requirements in Item P-152. Each layer shall be deposited all around the structure to approximately the same elevation. The top of the fill shall meet the elevation shown on the plans or as directed by the Engineer.

Backfill shall not be placed against any structure until permission is given by the Engineer. In the case of concrete, such permission shall not be given until tests made by the laboratory under supervision of the Engineer establish that the concrete has attained sufficient strength to provide a factor of safety against damage or strain in withstanding any pressure created by the backfill or the methods used in placing it.

Where required, the Engineer may direct the Contractor to add, at his own expense, sufficient water during compaction to assure a complete consolidation of the backfill. The Contractor shall be responsible for all damage or injury done to conduits, duct banks, structures, property or persons due to improper placing or compacting of backfill.

115-3.8 CONNECTION OF DUCT BANKS. To relieve stress of joint between concrete-encased duct banks and structure walls, reinforcement rods shall be placed in the structure wall and shall be formed and tied into duct bank reinforcement at the time the duct bank is installed.

115-3.9 GROUNDING. A ground rod shall be installed in the floor of all concrete structures so that the top of rod extends 6 inches (154 mm) above the floor. The ground rod shall be installed within 1 foot of a corner of the concrete structure. Ground rods shall be installed prior to casting the bottom slab. Where the soil condition does not permit driving the ground rod into the earth without damage to the ground rod, the Contractor shall drill a 4-inch diameter hole into the earth to receive the ground rod. The hole around the ground rod shall be filled throughout its length, below slab, with Portland cement grout. Ground rods shall be installed in precast bottom slab of structures by drilling a hole through bottom slab and installing the ground rod. Bottom slab penetration shall be sealed watertight with Portland cement grout around the ground rod.

A grounding bus of 4/0 bare stranded copper shall be exothermically bonded to the ground rod and loop the concrete structure walls. The ground bus shall be a minimum of 1 foot above the floor of the structure and separate from other cables. No. 2 AWG bare copper pigtails shall bond the grounding bus to all cable trays and other metal hardware within the concrete structure. Connections to the grounding bus shall be exothermic. Hardware connections may be mechanical, using a lug designed for that purpose.

115-3.10 CLEANUP AND REPAIR. After erection of all galvanized items, damaged areas shall be repaired by applying a liquid cold-galvanizing compound conforming MIL-P-21035. Surfaces shall be prepared and compound applied in accordance with manufacturer's recommendations.

Prior to acceptance, the entire structure shall be cleaned of all dirt and debris.

115-3.11 RESTORATION. After the backfill is completed, the Contractor shall dispose of all surplus material, dirt and rubbish from the site. The Contractor shall restore all disturbed areas equivalent to or better than their original condition. All sodding, grading and restoration shall be considered incidental to the respective L-115 pay item.

The Contractor shall grade around structures as required to provide positive drainage away from the structure.

Areas with special surface treatment, such as roads, sidewalks, or other paved areas shall have backfill compacted to match surrounding areas, and surfaces shall be repaired using materials comparable to original materials.

After all work is completed, the Contractor shall remove all tools and other equipment, leaving the entire site free, clear and in good condition.

115-3.12 INSPECTION. Prior to final approval, the electrical structures shall be thoroughly inspected for conformance with the plans and this specification. Any indication of defects in materials or workmanship shall be further investigated and corrected. The earth resistance to ground of each ground rod shall not exceed 25 ohms. Each ground rod shall be tested utilizing the fall-of-potential ground impedance test as described by ANSI IEEE Standard 81. This test shall be performed prior to establishing connections to other ground electrodes.

115-3.13 MANHOLE ELEVATION ADJUSTMENTS. The Contractor shall adjust the tops of existing manholes in areas designated in the Contract Documents to the new elevations shown. The Contractor shall be responsible for determining the exact height adjustment required to raise the top of each manhole to the new elevations. The existing top elevation of each manhole to be adjusted shall be determined in the field and subtracted/added from the proposed top elevation.

The Contractor shall remove/extend the existing top section or ring and cover on the manhole structure or manhole access. The Contractor shall then install precast concrete sections or grade rings of the required dimensions to adjust the manhole top to the new proposed elevation or shall cut the existing manhole walls to shorten the existing structure, as required by final grades. Finally, the Contractor shall reinstall the manhole top section or ring and cover on top and check the new top elevation.

The Contractor shall construct a concrete slab around the top of adjusted structures located in graded areas that are not to be paved. The concrete slab shall conform to the dimensions shown on the plans.

115-3.14 DUCT EXTENSION TO EXISTING DUCTS. Where existing concrete encased ducts are to be extended, the duct extension shall be concrete encased plastic conduit. The fittings to connect the ducts together shall be standard manufactured connectors designed and approved for the purpose. The duct extensions shall be installed according to the concrete encased duct detail and as shown on the plans.

METHOD OF MEASUREMENT

115-4.1 Electrical manholes and junction structures shall be measured by each unit completed in place and accepted. The following additional items are specifically included in each unit.

- All Required Excavation, Dewatering
- Sheeting and Bracing
- All Required Backfilling with On-Site Materials
- Restoration of All Surfaces and Finished Grading, Sodding
- All Required Connections
- Dewatering If Required
- Temporary Cables and Connections
- Ground Rod Testing

115-4.2 Manhole elevation adjustments shall be measured by the completed unit installed, in place, completed, and accepted. Separate measurement shall not be made for the various types and sizes.

BASIS OF PAYMENT

115-5.1 The accepted quantity of electrical manholes and junction structures will be paid for at the Contract unit price per each, complete and in place. This price shall be full compensation for furnishing all materials and for all preparation, excavation, backfilling and placing of the materials, furnishing and installation of appurtenances and connections to duct banks and other structures as may be required to complete the item as shown on the plans and for all labor, equipment, tools and incidentals necessary to complete the structure.

115-5.2 Payment shall be made at the contract unit price for manhole elevation adjustments. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary, including but not limited to, spacers, concrete, rebar, dewatering, excavating, backfill, topsoil, sodding and pavement restoration, where required, to complete this item as shown in the plans and to the satisfaction of the Engineer.

Payment will be made under:

Item L-115-5.1	Electrical Manhole size and type -Per Each
Item L-115-5.2	Electrical Junction Structure, L-867 Class 1, Size 16" Diameter by 24" Depth, Installed -- Per Each
Item L-115-5.3	Existing Electrical Manhole/Junction Structure Elevation Adjustment size and type –Per Each

MATERIAL REQUIREMENTS

ANSI/IEEE Std 81	IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System
AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-26	Specification for L-823 Plug and Receptacle Cable Connectors
FED SPEC J-C-30	Cable and Wire, Electrical Power, Fixed Installation (cancelled; replaced by AA-59544 Cable and Wire, Electrical (Power, Fixed Installation))
ASTM B.3	Soft or Annealed Copper Wire
ASTM B.8	Concentric-Lay-Stranded Copper Conductor, Hard, Medium-Hard, or Soft

END OF ITEM L-115

ITEM P-101 SURFACE PREPARATION is hereby amended with respect to the paragraphs and sections cited below.

Add the following paragraph as noted:

101-1.2. Limits of pavement removal, pavement repair, joint and crack repair, paint and rubber removal, and cold planing are estimated in the plans. Actual limits of these items shall be coordinated with the Engineer prior to construction.

Revise the following paragraph as noted:

101-3.1 REMOVAL OF EXISTING PAVEMENT

a. Concrete: The existing concrete to be removed shall be freed from the pavement to remain unless jackhammers are used for the complete removal. ***When the pavement removal limit is located at a joint,*** this shall be accomplished by ~~line drilling or~~ sawing through the complete depth of the slab 1 ft inside the perimeter of the final removal limits or outside the load transfer devices, whichever is greater. In this case, the limits of removal would be located on joints. ~~If line drilling is used, the distance between holes shall not exceed the diameter of the hole.~~ The pavement between the perimeter of the pavement removal and the saw cut ~~or line drilled holes~~ shall be removed with a jackhammer. Where the perimeter of the removal limits is not located on the joint, the perimeter shall be saw cut 2 in in depth or 1/4 the slab thickness, whichever is less. Again, the concrete shall be ~~line drilled or~~ saw cut the full depth of the pavement 6 in***ches*** inside the removal limits. The pavement inside the saw cut or line shall be broken by methods suitable to the Contractor; however, if the material is to be wasted on the airport site, it shall be reduced to a maximum size designated by the airport owner. The Contractor's removal operation shall not cause damage to cables, utility ducts, pipelines, or drainage structures under the pavement. Any damage shall be repaired by the Contractor at no expense to the airport owner.

Add the following paragraph as noted:

c. Disposal: All existing pavement removed shall be disposed of off-site. All hauling will be considered a necessary and incidental part of the work. Its costs shall be considered by the Contractor and included in the contract unit price for the pay items of work involved. No payment will be made separately or directly for hauling on any part of the work.

Revise the following paragraph as noted:

101-3.2 PREPARATION OF JOINTS AND CRACKS. All joints and cracks in bituminous and concrete pavements to be overlaid with asphaltic concrete shall be cleaned of joint and crack sealer, debris, and vegetation. Any excess joint or crack sealer on the surface of the pavement shall also be removed from the pavement surface. If vegetation is a problem a soil sterilant shall be applied. ***Cracks and joints wider than 1/4 inch and less than 1/2 inch shall be filled with a hot-poured joint sealant conforming to ASTM D 6690.*** Cracks and joints wider than ~~3/8~~ ***1/2*** inch shall be filled with a mixture of emulsified asphalt and aggregate. The aggregate shall consist of limestone, volcanic ash, sand, or other material that will cure to form a hard substance. The combined gradation shall be as shown in Table 1.

Add the following paragraph as noted:

a. Soil Sterilants: Soil sterilants shall contain Bromacil or Prometone and shall be approved by the Engineer. Application rates shall be in accordance with the manufacturer's recommendations.

b. Crack Preparation: A high temperature compressed air lance shall be used at all times to blast out any vegetation, dirt, dampness and loose materials from the cracks. Existing crack sealant which is deteriorated shall be removed as directed by the Engineer. The high velocity hot air shall be not less than 2,000 °F in temperature. The air lance shall operate in a no flame impingment condition and shall have a directional controlled velocity of 330-fps minimum and a combustion temperature at ignition of no less than 2,000 °F. After cleaning of crack, tack coat shall be applied prior to the application of emulsified asphalt and aggregate. Tack coat shall conform to Item P-603 of these specifications.

c. Filler Application: After cracks have been cleaned, received soil sterilant and tack coat, and have been approved by the Engineer, the cracks shall be filled with the emulsified asphalt and aggregate described within this specification. The mix shall be raked in the crack by hand in order to completely fill the entire crack. Once the crack is filled, excess asphalt mix shall be rounded up along the length of the crack, and pinched into the crack using a small asphalt roller. The application and compaction method shall be approved by the Engineer prior to beginning crack cleaning operations.

Revise the following paragraph as noted:

b. Asphaltic Concrete Pavement Repair: The failed areas shall be removed as specified in paragraph 101-3.1b. All failed material including surface, base course, subbase course, and subgrade shall be removed. The base course and subbase shall be replaced if it has been infiltrated with clay, silt, or other material affecting the load-bearing capacity. Materials and methods of construction shall comply with the other applicable sections of this specification. ***All asphalt used for the permanent repair shall conform to Item P-401 of these specifications. The pavement thickness shall be consistent with the adjacent existing pavement thickness and strength.***

Revise the following paragraph as noted:

101-3.5 COLD PLANING.

a. Patching: The machine shall be capable of cutting a vertical edge without chipping or spalling the edges of the pavement to remain. The machine shall have a positive method of controlling the depth of cut. The ***Contractor*** ~~Engineer~~ shall layout the area to be milled ***and receive approval from the Engineer before beginning cold planing.*** The area shall be laid out with straightedges in increments of 1 ft widths. The area to be milled shall cover only the failed area. Any excessive area that is milled because the Contractor doesn't have the appropriate machine, or areas that are damaged because of his negligence, shall not be included in the measurement for payment.

Replace the following paragraph as noted:

BASIS OF PAYMENT

101-5.1 Payment. Payment shall be made at contract unit price for the unit of measurement as specified hereinbefore. This price shall be full compensation for furnishing all materials and for all preparation, hauling, and placing of the material and for all labor, equipment, tools, and incidentals necessary to complete this item.

Payment will be made under:

Item P-101-5.1a Concrete Pavement Removal — per Square Yard

Item P-101-5.1b Asphaltic Concrete Pavement Removal — per Square Yard

END OF MOD P-101

ITEM P-101 SURFACE PREPARATION

DESCRIPTION

101-1.1. This item shall consist of preparation of existing pavement surfaces for overlay, removal of existing pavement, and other miscellaneous items. The work shall be accomplished in accordance with these specifications and the applicable drawings.

EQUIPMENT

101-2.1. All equipment shall be specified hereinafter or as approved by the Engineer. The equipment shall not cause damage to the pavement to remain in place.

CONSTRUCTION

101-3.1. REMOVAL OF EXISTING PAVEMENT

a. Concrete: The existing concrete to be removed shall be freed from the pavement to remain unless jackhammers are used for the complete removal. this shall be accomplished by line drilling or sawing through the complete depth of the slab one foot inside the perimeter of the final removal limits or outside the load transfer devices, whichever is greater. In this case, the limits of removal would be located on joints. If line drilling is used, the distance between holes shall not exceed the diameter of the hole. The pavement between the perimeter of the pavement removal and the saw cut or line-drilled holes shall be removed with a jackhammer. Where the perimeter of the removal limits is not located on the joint, the perimeter shall be saw cut 2 inches in depth or 1/4 the slab thickness, whichever is less. Again, the concrete shall be line drilled or saw cut the full depth of the pavement 6 inches inside the removal limits. The pavement inside the saw cut or line shall be broken by methods suitable to the Contractor; however, if the material is to be wasted on the airport site, it shall be reduced to a maximum size designated by the airport owner. The Contractor's removal operation shall not cause damage to cables, utility ducts, pipelines, or drainage structures under the pavement. Any damage shall be repaired by the Contractor at no expense to the airport owner.

b. Asphaltic Concrete: Asphaltic concrete pavement to be removed shall be cut to the full depth of the bituminous material around the perimeter of the area to be removed. The pavement shall be removed in such a manner that the joint for each layer of pavement replacement is offset one foot from the joint in the preceding layer. This does not apply if the removed pavement is to be replaced with concrete or soil. If the material is to be wasted on the airport site, it shall be broken to a maximum size as designated by the airport owner.

101-3.2. PREPARATION OF JOINTS AND CRACKS. All joints and cracks in bituminous and concrete pavements to be overlaid with asphaltic concrete shall be cleaned of joint and crack sealer, debris, and vegetation. Any excess joint or crack sealer on the surface of the pavement shall also be removed from the pavement surface. If vegetation is a problem a soil sterilant shall be applied. Cracks and joints wider than 3/8 inch shall be filled with a mixture of emulsified asphalt and aggregate. The aggregate shall consist of limestone, volcanic ash, sand, or other material that will cure to form a hard substance. The combined gradation shall be as shown in Table 1.

Table 1

Sieve Size	Percent Passing
No. 4	100
No. 8	90-100
No. 16	65-90

No. 30	40-60
No. 50	25-42
No. 100	15-30
No. 200	10-20

Up to 3% cement can be added to accelerate the set time. The mixture shall not contain more than 20% natural sand without approval in writing from the Engineer.

The proportions of asphalt emulsion and aggregate shall be determined in the field and may be varied to facilitate construction requirements. Normally, these proportions will be approximately one part asphalt emulsion to five parts aggregate by volume. The material shall be poured into the joints or cracks or shall be placed in the joint or crack and compacted to form a voidless mass. The joint or crack shall be filled within 0 to 1/8 inch of the surface. Any material spilled outside the width of the joint shall be removed from the surface prior to constructing the overlay. Where concrete overlays are to be constructed, only the excess joint material on the surface and vegetation in the joints need to be removed.

101-3.3. REMOVAL OF PAINT AND RUBBER. All paint and rubber over one foot wide that will affect the bond of the new overlay shall be removed from the surface of the existing pavement. Chemicals, high-pressure water, heater scarifier (asphaltic concrete only), cold milling, or sandblasting may be used. Any methods used shall not cause major damage to the pavement. Major damage is defined as changing the properties of the pavement or removing pavement over 1/8 inch deep. If chemicals are used, they shall comply with the state's environmental protection regulations. No material shall be deposited on the runway shoulders. All wastes shall be disposed of in areas indicated in this specification or shown on the plans. This specification shall not be used for removal of rubber deposits to improve skid resistance or obliterate traffic markings where a new overlay is not to be constructed.

101-3.4. CONCRETE SPALL OR FAILED ASPHALTIC CONCRETE PAVEMENT REPAIR.

a. Repair of Concrete Spalls in Areas to be overlaid with Asphalt: The Contractors shall repair all spalled concrete as shown on the plans or as directed by the Resident Engineer. The perimeter of the repair shall be sawed a minimum of 1 inch deep or shall be cut with approved tools to this depth. The deteriorated material shall be removed to a depth where the existing material is firm or cannot be easily removed with a geologist pick. The removed area shall be filled with asphaltic concrete with a minimum Marshal stability of 1,200 lbs. and maximum flow of 20. The material shall be compacted with equipment approved by the Resident Engineer until the material is dense and no movement or marks can be noted. The material shall not be placed in lifts over 4 inches in depth. This method of repair applies only to pavement to be overlaid.

b. Asphaltic Concrete Pavement Repair: The failed areas shall be removed as specified in paragraph 101-3.1b. All failed material including surface, base course, subbase course, and subgrade shall be removed. The base course and subbase shall be replaced if it has been infiltrated with clay, silt, or other material affecting the load-bearing capacity. Materials and methods of construction shall comply with the other applicable sections of this specification.

101-3.5. COLD PLANING.

a. Patching: The machine shall be capable of cutting a vertical edge without chipping or spalling the edges of the pavement to remain. The machine shall have a positive method of controlling the depth of cut. The Engineer shall layout the area to be milled. The area shall be laid out with straightedges in increments of 1-foot widths. The area to be milled shall cover only the failed area. Any excessive area that is milled because the Contractor doesn't have the appropriate machine, or areas that are damaged because of his negligence, shall not be included in the measurement for payment.

b. Profiling, Grade Correction, or Surface Correction: The machine shall have a minimum width of 10 feet. It shall be equipped with electronic grade control devices on both sides that will cut the surface to the grade and tolerances specified. The machine shall cut vertical edges. A positive method of dust control shall be provided. The machine shall be capable of discharging the millings in a truck or leaving them in a defined windrow.

METHOD OF MEASUREMENT

101-4.1. MEASUREMENT.

a. General: If there is no quantity shown in the bidding schedule, the work covered by this section shall be considered as a subsidiary obligation of the Contractor covered under the other contract items. Only accepted work will be measured.

b. Pavement Removal: The unit of measurement for pavement removal shall be the number of square yards removed by the Contractor. Any pavement removed outside the limits of removal because the pavement was damaged by negligence on the part of the Contractor shall not be included in the measurement for payment.

c. Joint and Crack Repair: The unit of measurement for joint and crack repair shall be the linear foot of joint.

d. Paint and Rubber Removal: The unit of measurement for paint and rubber removal shall be the square foot.

e. Spall and Failed Asphaltic Concrete Pavement Repair:

(1) The unit of measure for concrete spall repair shall be the number of square feet. The average depth of the patch shall be agreed upon by the Contractor and the Resident Engineer. The quantity shall be divided in the following categories:

(a) 0 to 4 inches in average depth.

(b) 4 to 8 inches in average depth.

(c) Greater than 8 inches in average depth.

(2) The unit of measure for failed asphaltic concrete pavement shall be as follow:

(a) Asphaltic Concrete Square Yards.

(b) Base Course Square Yards.

(c) Subbase Course Square Yards.

(d) Subgrade Square Yards.

f. Cold Planing: The unit of measure for cold planing shall be the number square yards. The average depth of the cold planing shall be determined by the Engineer and the Contractor prior to accomplishment of the work. When surface correction is required, if the initial cut doesn't correct the condition, the Contractor shall re-plane the area and will be paid only once for the total depth of planning. The quantity shall be divided into the following categories:

(a) 0 to 2 inches

(b) 0 to 3 inches

(c) 0 to 4 inches

(d) 0 to 5 inches

(e) 0 to 6 inches

BASIS OF PAYMENT

101-5.1 PAYMENT. Payment shall be made at contract unit price for the unit of measurement as specified hereinbefore. This price shall be full compensation for furnishing all materials and for all preparation, hauling, and placing of the material and for all labor, equipment, tools, and incidentals necessary to complete this item.

END OF ITEM P-101

ITEM P-152 EXCAVATION AND EMBANKMENT is hereby amended with respect to the paragraphs and sections cited below.

Revise the following paragraph as noted:

152-1.2 CLASSIFICATION.

e. Borrow Excavation. Borrow excavation shall consist of approved material required for the construction of embankment or for other portions of the work in excess of the quantity of ***potentially*** usable material available from required excavations. Borrow material shall be obtained from areas within the limits of the airport property but outside the normal limits of necessary grading, or from areas outside the airport.

Revise the following paragraph as noted:

152-1.3 Unsuitable Excavation. Any material containing vegetable or organic matter, such as muck, peat, organic silt, or sod shall be considered unsuitable for use in embankment construction. Material, when approved by the Engineer as suitable to support vegetation, may be used on the embankment slope. ***Material not considered by the Engineer to be suitable for use on the embankment slope shall be disposed of off-site or as directed by the Engineer. Undercutting of material unsatisfactory for subgrade foundation, roads, shoulders, or areas intended for turfing shall be considered unsuitable excavation and shall be excavated to the depth specified by the Engineer below the subgrade.***

Revise the following paragraph as noted:

152-2.2 EXCAVATION. No excavation shall be started until the work has been staked out by the Contractor and the Engineer has obtained elevations and measurements of the ground surface. All suitable excavated material shall be used in the formation of embankment, subgrade, or for other purposes shown on the plans. All unsuitable material shall be disposed of as ***described in Section 152-1.3*** ~~shown on the plans~~.

Revise the following paragraph as noted:

152-2.2 EXCAVATION.

a. Selective Grading. When ***the quality of material varies significantly*** ~~selective grading is indicated on the plans~~, the more suitable material as designated by the Engineer shall be used in constructing the embankment or in capping the pavement subgrade. If, at the time of excavation, it is not possible to place this material in its final location, it shall be stockpiled in approved areas ~~so that it can be measured for payment for rehandling as specified in paragraph 3.3~~. ***Selective grading will not be measured for separate payment but will be considered subsidiary to "Unclassified Excavation".***

Revise the following paragraph as noted:

152-2.2 EXCAVATION.

b. Undercutting. Rock, shale, hardpan, loose rock, boulders, or other material unsatisfactory for safety areas, subgrades, roads, shoulders, or any areas intended for turfing shall be excavated to a minimum depth of 12 in (300 mm), or to the depth specified by the Engineer, below the subgrade. Muck, peat, matted roots, or other yielding material, unsatisfactory for subgrade foundation, shall be removed to the depth specified. Unsuitable materials shall be disposed of ***as directed in section P-152-1.3*** ~~at locations shown on the plans~~. This excavated material shall be paid for at the contract unit price per cubic yard (per cubic meter) for ***Unsuitable Excavation***. The excavated area shall be

refilled with suitable material obtained from the grading operations or borrow areas and compacted to specified densities. The necessary refilling will constitute a part of ***Unsuitable Excavation*** ~~the embankment~~. Where rock cuts are made and refilled with selected material, any pockets created in the rock surface shall be drained ***as directed by the Engineer*** ~~in accordance with the details shown on the plans~~.

Revise the following paragraph as noted:

152-2.2 EXCAVATION.

d. Removal of Utilities. The removal of ***some*** existing structures and utilities required to permit the orderly progress of work ***may*** ~~will~~ be accomplished by someone other than the Contractor, for example, the utility unless otherwise shown on the plans. All existing foundations shall be excavated for at least 2 feet (60 cm) below the top of subgrade or as indicated on the plans, and the material disposed of as directed. All foundations thus excavated shall be backfilled with suitable material and compacted as specified herein. ***All work associated with the excavation, removal, backfill, disposal and/or stockpiling of the existing structures and culverts will not be measured for separate payment but will be considered subsidiary to "Unclassified Excavation".***

Replace the second paragraph of Section 152-2.2.e as noted:

The in-place field density shall be determined in accordance with ~~ASTM D 1556 or ASTM D 2167~~ ***ASTM D 6938, but shall be verified by the Engineer by either ASTM D1556 or ASTM D2167 using a "one-point Proctor" method for each type of soil proposed as embankment.*** Stones or rock fragments larger than 4 inches (100 mm) in their greatest dimension will not be permitted in the top 6 inches (150 mm) of the subgrade. The finished grading operations, conforming to the typical cross section, shall be completed and maintained at least 1,000 feet (300 m) ahead of the paving operations or as directed by the Engineer.

Revise the following paragraph as noted:

152-2.3 BORROW EXCAVATION. Borrow area(s) within the airport property are indicated on the plans. Borrow excavation shall be made only at these designated locations and within the horizontal and vertical limits as staked or as directed. ***Contractor is to measure volume of available borrow material by conducting surveys of the defined borrow stockpiles and compute volume based on average end-area method. Contractor is to provide calculations of borrow area to Engineer prior to beginning any earth-moving activities.***

Replace the seventh paragraph of Section 152-2.6 FORMATION OF EMBANKMENTS as noted:

The in-place field density shall be determined in accordance with ***ASTM D 6938*** ~~ASTM D 1556 or ASTM D 2167~~.

Add the following paragraph as noted:

METHOD OF MEASUREMENT

152-3.1 The quantity of excavation to be paid for shall be the number of cubic yards (cubic meters) measured in its original position.

Measurement shall not include the quantity of materials excavated without authorization beyond normal slope lines, or the quantity of material used for purposes other than those directed.

Measurement of excavation/embankment shall be based on plan quantities. These quantities are believed to be correct and shall be utilized for final excavation quantity payment not withstanding and adjustments to the project by written direction of the Engineer. Should the contractor find discrepancies and/or errors, he/she shall bring the discrepancy and/or error to

the attention of the Engineer immediately and corrections shall be made to the quantity of excavation to be paid for by change order. It is expressly understood by the contractor that upon disturbance of the existing ground and no notification to the engineer of possible errors, that the contractor accepts as final payment the quantities of excavation as detailed on the plans and laid out in the proposal. No adjustment has been made to the plan quantities for the construction or demolition of existing drainage structures. The Contractor shall make his own determination as to the amount of unsuitable excavated material which may be encountered and the resulting additional borrow material required for the construction of the embankment. There will be no adjustment for additional embankment required to construct the project if the excavated material is deemed unsuitable.

Replace the following section as noted:

152-3.4 For payment specified by the cubic yard (cubic meter), measurement for all **excavation and embankment** shall be computed by the average end area method. The end area is that bound by the original ground line established by field cross sections and the final theoretical pay line established by cross sections shown on the plans, subject to verification by the Engineer. After completion of all **excavation and embankment** operations and prior to the placing of base or subbase material, the final **excavation and embankment** shall be verified by the Engineer by means of field cross sections taken randomly at intervals not exceeding 500 linear feet (150 meters).

Final field cross sections shall be employed if the following changes have been made:

a. Plan width of embankments or excavations are changed by more than plus or minus 1.0 ft (0.3 meter); or

b. Plan elevations of embankments or excavations are changed by more than plus or minus 0.5 ft (0.15 meter).

In cut sections, the additional cut required to construct the topsoil layer to the plan grade has not been measured and will not be measured for separate payment but will be subsidiary to "Unclassified Excavation". In fill sections, the additional fill required to replace the stripped material has not been measured and will not be measured for payment but will be subsidiary to "Unclassified Excavation".

No allowance has been made in the measurement for shrink/swell. The Contractor shall make his own determination as to the amount of shrink/swell involved in the construction of the embankment.

The Contractor shall make his own determination as to the suitability of the excavated material to be placed in embankments and the resulting additional off-site material required for the construction of the embankment. Additional off-site material required for the formation of embankment shall not be measured for separate payment but shall be considered subsidiary to "Unclassified Excavation".

152-3.5 Unsuitable excavation shall be measured from the surface of the ground, after stripping has been accomplished, or from the bottom of the planned excavation, to the depth of the excavation as directed by the Engineer. Measurements will be taken by the Engineer, and the volume of excavation will be calculated by the average end area method. The necessary refilling of unsuitable areas will not be measured for separate payment but will be subsidiary to "Unsuitable Excavation". Only that amount of excavation directed by the Engineer will be measured for payment.

Replace the following section "Basis of Payment" as noted:

BASIS OF PAYMENT

152-4.1 For "Unclassified excavation" payment shall be made at the contract unit price per cubic yard (cubic meter). ***Payment will be made based on the plan quantity.*** This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

152-4.5 For "Borrow Excavation" payment shall be made at the contract unit price per cubic yard (cubic meter). ***Payment will be made based on the plan quantity.*** This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-152-4.1	**Unclassified Excavation—per Cubic Yard (cubic meter)**
Item P-152-4.2	**Borrow Excavation—per Cubic Yard (cubic meter)**

END OF MOD P-152

ITEM P-152 EXCAVATION AND EMBANKMENT

DESCRIPTION

152-1.1 This item covers excavation, disposal, placement, and compaction of all materials within the limits of the work required to construct safety areas, runways, taxiways, aprons, and intermediate as well as other areas for drainage, building construction, parking, or other purposes in accordance with these specifications and in conformity to the dimensions and typical section(s) shown on the plans.

152-1.2 CLASSIFICATION. All material excavated shall be classified as defined below:

a. Unclassified Excavation. Unclassified excavation shall consist of the excavation and disposal of all material, regardless of its nature, which is not otherwise classified and paid for under the following items.

b. Borrow Excavation. Borrow excavation shall consist of approved material required for the construction of embankment or for other portions of the work in excess of the quantity of usable material available from required excavations. Borrow material shall be obtained from areas within the limits of the airport property but outside the normal limits of necessary grading, or from areas outside the airport.

152-1.3 Unsuitable Excavation. Any material containing vegetable or organic matter, such as muck, peat, organic silt, or sod shall be considered unsuitable for use in embankment construction. Material, when approved by the Engineer as suitable to support vegetation, may be used on the embankment slope.

CONSTRUCTION METHODS

152-2.1 General. Before beginning excavation, grading, and embankment operations in any area, the area shall be completely cleared and grubbed in accordance with Item P-151.

The suitability of material to be placed in embankments shall be subject to approval by the Engineer. All unsuitable material shall be disposed of in waste areas shown on the plans. All waste areas shall be graded to allow positive drainage of the area and of adjacent areas. The surface elevation of waste areas shall not extend above the surface elevation of adjacent usable areas of the airport, unless specified on the plans or approved by the Engineer.

When the Contractor's excavating operations encounter artifacts of historical or archaeological significance, the operations shall be temporarily discontinued. At the direction of the Engineer, the Contractor shall excavate the site in such a manner as to preserve the artifacts encountered and allow for their removal. Such excavation will be paid for as extra work.

Those areas outside of the pavement areas in which the top layer of soil material has become compacted, by hauling or other activities of the Contractor shall be scarified and disked to a depth of 4 inches (100 mm), in order to loosen and pulverize the soil.

If it is necessary to interrupt existing surface drainage, sewers or under-drainage, conduits, utilities, or similar underground structures, the Contractor shall be responsible for and shall take all necessary precautions to preserve them or provide temporary services. When such facilities are encountered, the Contractor shall notify the Engineer, who shall arrange for their removal if necessary. The Contractor shall, at his/her own expense, satisfactorily repair or pay the cost of all damage to such facilities or structures that may result from any of the Contractor's operations during the period of the contract.

152-2.2 EXCAVATION. No excavation shall be started until the work has been staked out by the Contractor and the Engineer has obtained elevations and measurements of the ground surface. All suitable excavated material shall be used in the formation of embankment, subgrade, or for other purposes shown on the plans. All unsuitable material shall be disposed of as shown on the plans.

When the volume of the excavation exceeds that required to construct the embankments to the grades indicated, the excess shall be used to grade the areas of ultimate development or disposed of as directed. When the volume of excavation is not sufficient for constructing the fill to the grades indicated, the deficiency shall be obtained from borrow areas.

The grade shall be maintained so that the surface is well drained at all times. When necessary, temporary drains and drainage ditches shall be installed to intercept or divert surface water that may affect the work.

a. Selective Grading. When selective grading is indicated on the plans, the more suitable material as designated by the Engineer shall be used in constructing the embankment or in capping the pavement subgrade. If, at the time of excavation, it is not possible to place this material in its final location, it shall be stockpiled in approved areas so that it can be measured for payment for rehandling as specified in paragraph 3.3.

b. Undercutting. Rock, shale, hardpan, loose rock, boulders, or other material unsatisfactory for safety areas, subgrades, roads, shoulders, or any areas intended for turfing shall be excavated to a minimum depth of 12 inches (300 mm), or to the depth specified by the Engineer, below the subgrade. Muck, peat, matted roots, or other yielding material, unsatisfactory for subgrade foundation, shall be removed to the depth specified. Unsuitable materials shall be disposed of at locations shown on the plans. This excavated material shall be paid for at the contract unit price per cubic yard (per cubic meter) for Unclassified Excavation. The excavated area shall be refilled with suitable material obtained from the grading operations or borrow areas and compacted to specified densities. The necessary refilling will constitute a part of the embankment. Where rock cuts are made and refilled with selected material, any pockets created in the rock surface shall be drained in accordance with the details shown on the plans.

c. Overbreak. Overbreak, including slides, is that portion of any material displaced or loosened beyond the finished work as planned or authorized by the Engineer. The Engineer shall determine if the displacement of such material was unavoidable and his/her decision shall be final. All overbreak shall be graded or removed by the Contractor and disposed of as directed; however, payment will not be made for the removal and disposal of overbreak that the Engineer determines as avoidable. Unavoidable overbreak will be classified as "Unclassified Excavation."

d. Removal of Utilities. The removal of existing structures and utilities required to permit the orderly progress of work will be accomplished by someone other than the Contractor, e.g., the utility unless otherwise shown on the plans. All existing foundations shall be excavated for at least 2 feet (60 cm) below the top of subgrade or as indicated on the plans, and the material disposed of as directed. All foundations thus excavated shall be backfilled with suitable material and compacted as specified herein.

e. Compaction Requirements. The subgrade under areas to be paved shall be compacted to a depth of ***16 inches*** and to a density of not less than **95** percent of the maximum density as determined by ASTM **D 1557.** The material to be compacted shall be within +/- 2 percent of optimum moisture content before rolled to obtain the prescribed compaction (except for expansive soils).

The in-place field density shall be determined in accordance with ASTM D 1556 or ASTM D 2167. Stones or rock fragments larger than 4 inches (100 mm) in their greatest dimension will not be permitted in the top 6 inches (150 mm) of the subgrade. The finished grading operations, conforming to the typical cross section, shall be completed and maintained at least 1,000 feet (300 m) ahead of the paving operations or as directed by the Engineer.

In cuts, all loose or protruding rocks on the back slopes shall be barred loose or otherwise removed to line of finished grade of slope. All cut-and-fill slopes shall be uniformly dressed to the slope, cross section, and alignment shown on the plans or as directed by the Engineer.

Blasting will be permitted only when proper precautions are taken for the safety of all persons, the work, and the property. All damage done to the work or property shall be repaired at the Contractor's expense. All operations of the Contractor in connection with the transportation, storage, and use of explosives shall conform to all state and local regulations and explosive manufacturers' instructions, with applicable approved permits reviewed by the Engineer. Any approval given, however, will not relieve the Contractor of his/her responsibility in blasting operations.

Where blasting is approved, the Contractor shall employ a vibration consultant, approved by the Engineer, to advise on explosive charge weights per delay and to analyze records from seismograph recordings. The seismograph shall be capable of producing a permanent record of the three components of the motion in terms of particle velocity, and in addition shall be capable of internal dynamic calibration.

In each distinct blasting area, where pertinent factors affecting blast vibrations and their effects in the area remain the same, the Contractor shall submit a blasting plan of the initial blasts to the Engineer for approval. This plan must consist of hole size, depth, spacing, burden, type of explosives, type of delay sequence, maximum amount of explosive on any one delay period, depth of rock, and depth of overburden if any. The maximum explosive charge weights per delay included in the plan shall not be increased without the approval of the engineering.

The Contractor shall keep a record of each blast fired—its date, time and location; the amount of explosives used, maximum explosive charge weight per delay period, and, where necessary, seismograph records identified by instrument number and location.

These records shall be made available to the Engineer on a monthly basis or in tabulated form at other times as required.

152-2.3 BORROW EXCAVATION. Borrow area(s) within the airport property are indicated on the plans. Borrow excavation shall be made only at these designated locations and within the horizontal and vertical limits as staked or as directed.

When borrow sources are outside the boundaries of the airport property, it shall be the Contractor's responsibility to locate and obtain the supply, subject to the approval of the Engineer. The Contractor shall notify the Engineer, at least 15 days prior to beginning the excavation, so necessary measurements and tests can be made. All unsuitable material shall be disposed of by the Contractor. All borrow pits shall be opened up to expose the vertical face of various strata of acceptable material to enable obtaining a uniform product. Borrow pits shall be excavated to regular lines to permit accurate measurements, and they shall be drained and left in a neat, presentable condition with all slopes dressed uniformly.

152-2.4 DRAINAGE EXCAVATION. Drainage excavation shall consist of excavating for drainage ditches such as intercepting; inlet or outlet, for temporary levee construction; or for any other type as designed or as shown on the plans. The work shall be performed in the proper sequence with the other construction. All satisfactory material shall be placed in fills; unsuitable material shall be placed in waste areas or as directed. Intercepting ditches shall be constructed prior to starting adjacent excavation operations. All necessary work shall be performed to secure a finish true to line, elevation, and cross section.

The Contractor shall maintain ditches constructed on the project to the required cross section and shall keep them free of debris or obstructions until the project is accepted.

152-2.5 PREPARATION OF EMBANKMENT AREA. Where an embankment is to be constructed to a height of 4 feet (120 cm) or less, all sod and vegetable matter shall be removed from the surface upon which the embankment is to be placed, and the cleared surface shall be completely broken up by plowing or scarifying to a minimum depth of 6 inches (150 mm). This area shall then be compacted as indicated in paragraph 2.6. When the height of fill is greater than 4 feet (120 cm), sod not required to be removed shall be thoroughly disked and recompacted to the density of the surrounding ground before construction of embankment.

Where embankments are to be placed on natural slopes steeper than 3 to 1, horizontal benches shall be constructed as shown on the plans.

No direct payment shall be made for the work performed under this section. The necessary clearing and grubbing and the quantity of excavation removed will be paid for under the respective items of work.

152-2.6 FORMATION OF EMBANKMENTS. Embankments shall be formed in successive horizontal layers of not more than 8 inches (200 mm) in loose depth for the full width of the cross section, unless otherwise approved by the Engineer.

The grading operations shall be conducted, and the various soil strata shall be placed, to produce a soil structure as shown on the typical cross section or as directed. Materials such as brush, hedge, roots, stumps, grass and other organic matter, shall not be incorporated or buried in the embankment.

Operations on earthwork shall be suspended at any time when satisfactory results cannot be obtained because of rain, freezing, or other unsatisfactory conditions of the field. The Contractor shall drag, blade, or slope the embankment to provide proper surface drainage.

The material in the layer shall be within +/-2 percent of optimum moisture content before rolling to obtain the prescribed compaction. In order to achieve a uniform moisture content throughout the layer, wetting or drying of the material and manipulation shall be required when necessary. Should the material be too wet to permit proper compaction or rolling, all work on all of the affected portions of the embankment shall be delayed until the material has dried to the required moisture content. Sprinkling of dry material to obtain the proper moisture content shall be done with approved equipment that will sufficiently distribute the water. Sufficient equipment to furnish the required water shall be available at all times. Samples of all embankment materials for testing, both before and after placement and compaction, will be taken for each ***1,000 SY of each lift of embankment***. Based on these tests, the Contractor shall make the necessary corrections and adjustments in methods, materials or moisture content in order to achieve the correct embankment density.

Rolling operations shall be continued until the embankment is compacted to not less than 95 percent of maximum density for noncohesive soils, and 90 percent of maximum density for cohesive soils as determined by ASTM ***D 1557***. Under all areas to be paved, the embankments shall be compacted to a depth of ***16 inches*** and to a density of not less than ***95*** percent of the maximum density as determined by ASTM ***D 1557***.

On all areas outside of the pavement areas, no compaction will be required on the top 4 inches (100 mm).

The in-place field density shall be determined in accordance with ASTM D 1556 or ASTM D 2167.

Compaction areas shall be kept separate, and no layer shall be covered by another until the proper density is obtained.

During construction of the embankment, the Contractor shall route his/her equipment at all times, both when loaded and when empty, over the layers as they are placed and shall distribute the travel evenly over the entire width of the embankment. The equipment shall be operated in such a manner that hardpan, cemented gravel, clay, or other chunky soil material will be broken up into small particles and become incorporated with the other material in the layer.

In the construction of embankments, layer placement shall begin in the deepest portion of the fill; as placement progresses, layers shall be constructed approximately parallel to the finished pavement grade line.

When rock and other embankment material are excavated at approximately the same time, the rock shall be incorporated into the outer portion of the embankment and the other material shall be

incorporated under the future paved areas. Stones or fragmentary rock larger than 4 inches (100 mm) in their greatest dimensions will not be allowed in the top 6 inches (150 mm) of the subgrade. Rockfill shall be brought up in layers as specified or as directed and every effort shall be exerted to fill the voids with the finer material forming a dense, compact mass. Rock or boulders shall not be disposed of outside the excavation or embankment areas, except at places and in the manner designated by the Engineer.

When the excavated material consists predominantly of rock fragments of such size that the material cannot be placed in layers of the prescribed thickness without crushing, pulverizing or further breaking down the pieces, such material may be placed in the embankment as directed in layers not exceeding 2 feet (60 cm) in thickness. Each layer shall be leveled and smoothed with suitable leveling equipment and by distribution of spalls and finer fragments of rock. These type lifts shall not be constructed above an elevation 4 feet (120 cm) below the finished subgrade.

Frozen material shall not be placed in the embankment nor shall embankment be placed upon frozen material.

There will be no separate measurement of payment for compacted embankment, and all costs incidental to placing in layers, compacting, disking, watering, mixing, sloping, and other necessary operations for construction of embankments will be included in the contract price for excavation, borrow, or other items.

152-2.7 FINISHING AND PROTECTION OF SUBGRADE. After the subgrade has been substantially completed the full width shall be conditioned by removing any soft or other unstable material that will not compact properly. The resulting areas and all other low areas, holes or depressions shall be brought to grade with suitable select material. Scarifying, blading, rolling and other methods shall be performed to provide a thoroughly compacted subgrade shaped to the lines and grades shown on the plans.

Grading of the subgrade shall be performed so that it will drain readily. The Contractor shall take all precautions necessary to protect the subgrade from damage. He/she shall limit hauling over the finished subgrade to that which is essential for construction purposes.

All ruts or rough places that develop in a completed subgrade shall be smoothed and recompacted.

No subbase, base, or surface course shall be placed on the subgrade until the subgrade has been approved by the Engineer.

152-2.8 HAUL. All hauling will be considered a necessary and incidental part of the work. Its cost shall be considered by the Contractor and included in the contract unit price for the pay of items of work involved. No payment will be made separately or directly for hauling on any part of the work.

152-2.9 TOLERANCES. In those areas upon which a subbase or base course is to be placed, the top of the subgrade shall be of such smoothness that, when tested with a 16-foot (4.8 m) straightedge applied parallel and at right angles to the centerline, it shall not show any deviation in excess of 1/2-inch (12 mm), or shall not be more than 0.05-foot (.015 m) from true grade as established by grade hubs or pins. Any deviation in excess of these amounts shall be corrected by loosening, adding, or removing materials; reshaping; and recompacting by sprinkling and rolling.

On safety areas, intermediate and other designated areas, the surface shall be of such smoothness that it will not vary more than 0.10 foot (0.03 m) from true grade as established by grade hubs. Any deviation in excess of this amount shall be corrected by loosening, adding or removing materials, and reshaping.

152-2.10 TOPSOIL. When topsoil is specified or required as shown on the plans or under Item T-905, it shall be salvaged from stripping or other grading operations. The topsoil shall meet the requirements of Item T-905. If, at the time of excavation or stripping, the topsoil cannot be placed in its proper and final section of finished construction, the material shall be stockpiled at approved locations. Stockpiles shall not be placed within ***1,000*** feet of runway pavement or ***500*** feet of taxiway pavement and shall not be placed on areas that subsequently will require any excavation or embankment. If, in the judgment of the

Engineer, it is practical to place the salvaged topsoil at the time of excavation or stripping, the material shall be placed in its final position without stockpiling or further rehandling.

Upon completion of grading operations, stockpiled topsoil shall be handled and placed as directed, or as required in Item T-905.

No direct payment will be made for topsoil as such under Item P-152. The quantity removed and placed directly or stockpiled shall be paid for at the contract unit price per cubic yard (cubic meter) for "Unclassified Excavation."

When stockpiling of topsoil and later rehandling of such material is directed by the Engineer, the material so rehandled shall be paid for at the contract unit price per cubic yard (cubic meter) for "Topsoiling," as provided in Item T-905.

METHOD OF MEASUREMENT

152-3.1 The quantity of excavation to be paid for shall be the number of cubic yards (cubic meters) measured in its original position.

Measurement shall not include the quantity of materials excavated without authorization beyond normal slope lines, or the quantity of material used for purposes other than those directed.

152-3.2 Borrow material shall be paid for on the basis of the number of cubic yards (cubic meters) measured in its original position at the borrow pit.

152-3.3 Stockpiled material shall be paid for on the basis of the number of cubic yards (cubic meters) measured in the stockpiled position as soon as the material has been stockpiled.

152-3.4 For payment specified by the cubic yard (cubic meter), measurement for all **[excavation] [embankment]** shall be computed by the average end area method. The end area is that bound by the original ground line established by field cross sections and the final theoretical pay line established by **[excavation] [embankment]** cross sections shown on the plans, subject to verification by the Engineer. After completion of all **[excavation] [embankment]** operations and prior to the placing of base or subbase material, the final **[excavation] [embankment]** shall be verified by the Engineer by means of field cross sections taken randomly at intervals not exceeding 500 linear feet (150 meters).

Final field cross sections shall be employed if the following changes have been made:

a. Plan width of embankments or excavations are changed by more than plus or minus 1.0 foot (0.3 meter); or

b. Plan elevations of embankments or excavations are changed by more than plus or minus 0.5 foot (0.15 meter).

BASIS OF PAYMENT

152-4.1 For "Unclassified excavation" payment shall be made at the contract unit price per cubic yard (cubic meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

152-4.2 For "Rock Excavation" payment shall be made at the contract unit price per cubic yard (cubic meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

152-4.3 For "Muck Excavation" payment shall be made at the contract unit price per cubic yard (cubic meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

152-4.4 For "Drainage Excavation" payment shall be made at the contract unit price per cubic yard (cubic meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

152-4.5 For "Borrow Excavation" payment shall be made at the contract unit price per cubic yard (cubic meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

152-4.6 For "Stockpiled Material" payment shall be made at the contract unit price per cubic yard (cubic meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

152-4.7 For "Embankment in Place" payment shall be made at the contract unit price per cubic yard (cubic meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-152-4.1	Unclassified Excavation—per cubic yard (cubic meter)
Item P-152-4.2	Rock Excavation—per cubic yard (cubic meter)
Item P-152-4.3	Muck Excavation—per cubic yard (cubic meter)
Item P-152-4.4	Drainage Excavation—per cubic yard (cubic meter)
Item P-152-4.5	Borrow Excavation—per cubic yard (cubic meter)
Item P-152-4.6	Stockpiled material—per cubic yard (cubic meter)
Item P-152-4.7	Embankment in Place—per cubic yard (cubic meter)

TESTING REQUIREMENTS

ASTM D 698	Test for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5-pound (2.49 kg) Rammer and 12-inch (305 mm) Drop
ASTM D 1556	Test for Density of Soil In Place by the Sand-Cone Method
ASTM D 1557	Test for Laboratory Compaction Characteristics of Soil Using Modified Effort
ASTM D 2167	Test for Density and Unit Weight of Soil In Place by the Rubber Ballon Method.
ASTM D 6938	Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods.

END OF ITEM P-152

ITEM P-155 LIME-TREATED SUBGRADE is hereby amended with respect to the paragraphs and sections cited below.

Revise the following paragraph as noted:

155-1.1 This item shall consist of constructing one or more courses of a mixture of soil, lime, and water in accordance with this specification, and in conformity with the lines, grades, thicknesses, and typical cross sections shown on the plans. ***Dry placing of lime shall not be used. Slurry placement of lime will be the only acceptable method of placement.***

Add the following paragraph as noted:

155-2.2 COMMERCIAL LIME SLURRY.

d. Submittals. The Contractor shall submit to the Engineer certified test results or manufacturer's certification on the quicklime or lime slurry mix to be used before construction. No work shall begin nor shall any lime or lime slurry be placed for payment until the contractor has submitted samples of the materials intended for use and the materials have been approved by the Engineer.

Delete Section 155-6.2.a. There will be no dry placement of lime permitted in this project.

Replace the third and fourth paragraphs of Section 155-6.4 as noted:

In addition to the requirements specified for density, the full depth of the material shown on the plans shall be compacted to the extent necessary to remain firm and stable under construction equipment. After each section is completed, tests will be made by the Engineer, ***consisting of density tests of the in-place material. Testing shall be based on a daily basis, at a size of not more than 2,000 square yards. Each day's production shall be considered at least one lot.*** If the material fails to meet the density requirements, it shall be reworked to meet these requirements. Throughout this entire operation, the shape of the course shall be maintained by blading, and the surface upon completion shall be smooth and shall conform with the typical section shown on the plans and to the established lines and grades. Should the material, due to any reason or cause, lose the required stability, density, and finish before the next course is placed or the work is accepted, it shall be recompacted and refinished at the sole expense of the Contractor.

When nuclear gages are to be used for density determination, testing shall be done in accordance with Section 120 and ASTM D 6938 ***for P-152.***

Remove Section 155-7.2.c. There will be no pebble quicklime permitted in this project.

Revise the following paragraph as noted:

BASIS OF PAYMENT

155-8.2 Payment shall be made at the contract unit price per ***ton*** ~~pound (kg)~~ of lime. This price shall be full compensation for furnishing this material; for all delivery, placing and incorporation of this material; and for all labor, equipment, tools, and incidentals necessary to complete this item.

Payment will be made under:

Item P-155-8.1	16" Lime-treated subgrade—per **Square Yard** (square meter)
Item P-155-8.2	Lime—per ***Ton*** ~~pound (kg)~~

END OF MOD P-155

ITEM P-155 LIME-TREATED SUBGRADE

DESCRIPTION

155-1.1 This item shall consist of constructing one or more courses of a mixture of soil, lime, and water in accordance with this specification, and in conformity with the lines, grades, thicknesses, and typical cross sections shown on the plans.

MATERIALS

155-2.1 HYDRATED LIME. All lime shall be manufactured high-calcium quicklime, low-calcium quicklime, or hydrated lime, as defined by ASTM C 51, and conform to the requirements of ASTM C 977. By product lime or any form of calcium oxide (CaO), calcium hydroxide (Ca(OH)2), magnesium oxide (MgO) or magnesium hydroxide (Mg(OH)2), alone or in combination, that are not directly produced from quicklime produced from calcining limestone, shall not be permitted.

155-2.2 COMMERCIAL LIME SLURRY. Commercial lime slurry shall be a pumpable suspension of solids in water. The water or liquid portion of the slurry shall not contain dissolved material in sufficient quantity naturally injurious or objectionable for the purpose intended. The solids portion of the mixture, when considered on the basis of "solids content," shall consist principally of hydrated lime of a quality and fineness sufficient to meet the following requirements as to chemical composition and residue.

a. Chemical Composition. The "solids content" of the lime slurry shall consist of a minimum of 70%, by weight, of calcium and magnesium oxides.

b. Residue. The percent by weight of residue retained in the "solids content" of lime slurry shall conform to the following requirements:

Residue retained on a No. 6 (3360 micron) sieve ------ Max. 0.0%
Residue retained on a No. 10 (2000 micron) sieve ----- Max. 1.0%
Residue retained on a No. 30 (590 micron) sieve ------ Max. 2.5%

c. Grade. Commercial lime slurry shall conform to one of the following two grades:

Grade 1. The "dry solids content" shall be at least 31% by weight, of the slurry.

Grade 2. The ``dry solids content" shall be at least 35%, by weight, of the slurry.

155-2.3 WATER. Water used for mixing or curing shall be reasonably clean and free of oil, salt, acid, alkali, sugar, vegetable, or other substances injurious to the finished product. Water shall be tested in accordance with and shall meet the suggested requirements of AASHTO T 26. Water known to be of potable quality may be used without test.

155-2.4 SOIL. The soil for this work shall consist of materials on the site or selected materials from other sources and shall be uniform in quality and gradation, and shall be approved by the Engineer. The soil shall be free of roots, sod, weeds, and stones larger than 2-1/2 inches (60 mm).

COMPOSITION

155-3.1 LIME. Lime shall be applied at the rate specified on the plans for the depth of subgrade treatment shown.

155-3.2 TOLERANCES. At final compaction, the lime and water content for each course of subgrade treatment shall conform to the following tolerances:

Material	Tolerance
Lime	+ 0.5%
Water	+ 2%, -0%

WEATHER LIMITATIONS

155-4.1 WEATHER LIMITATION. The lime-treated subgrade shall not be mixed while the atmospheric temperature is below 40 F (4 C) or when conditions indicate that temperatures may fall below 40 F (4 C) within 24 hours, when it is foggy or rainy, or when soil or subgrade is frozen.

EQUIPMENT

155-5.1 EQUIPMENT. The equipment required shall include all equipment necessary to complete this item such as: grading and scarifying equipment, a spreader for the lime or lime slurry, mixing or pulverizing equipment, sheepsfoot and pneumatic or vibrating rollers, sprinkling equipment, and trucks.

CONSTRUCTION METHODS

155-6.1 GENERAL. It is the primary requirement of this specification to secure a completed subgrade containing a uniform lime mixture, free from loose or segregated areas, of uniform density and moisture content, well bound for its full depth, and with a smooth surface suitable for placing subsequent courses. It shall be the responsibility of the Contractor to regulate the sequence of his/her work, to use the proper amount of lime, maintain the work, and rework the courses as necessary to meet the above requirements.

Prior to beginning any lime treatment, the subgrade shall be constructed and brought to grade as specified in Item P-152 ``Excavation and Embankment'' and shall be shaped to conform to the typical sections, lines, and grades as shown on the plans. The material to be treated shall then be excavated to the secondary grade (proposed bottom of lime treatment) and removed or windrowed to expose the secondary grade. Any wet or unstable materials below the secondary grade shall be corrected, as directed by the Engineer, by scarifying, adding lime, and compacting until it is of uniform stability. The excavated material shall then be spread to the desired cross section.

If the Contractor elects to use a cutting and pulverizing machine that will remove the subgrade material accurately to the secondary grade and pulverize the material at the same time, he will not be required to expose the secondary grade nor windrow the material. However, the Contractor shall be required to roll the subgrade, as directed by the Engineer, and correct any soft areas that this rolling may reveal before using the pulverizing machine. This method will be permitted only where a machine is provided which will ensure that the material is cut uniformly to the proper depth and which has cutters that will plane the secondary grade to a smooth surface over the entire width of the cut. The machine must give visible indication at all times that it is cutting to the proper depth.

155-6.2 APPLICATION. Lime shall be spread only on that area where the first mixing operations can be completed during the same working day. The application and mixing of lime with the soil shall be accomplished by the methods hereinafter described as ``Dry Placing'' or ``Slurry Placing.'' When hydrated lime is specified, the Contractor may use either method.

a. Dry Placing. The lime shall be spread uniformly over the top of the subgrade by an approved screw-type spreader box or other approved spreading equipment. The amount of lime spread shall be the amount required for mixing to the specified depth that will result in the percentage determined in the job mix formula.

The lime shall be distributed in such manner that scattering by wind will be minimal. Lime shall not be applied when wind conditions, in the opinion of the Engineer, are detrimental to a proper application. A

motor grader shall not be used to spread the lime. The material shall be sprinkled, as directed by the Engineer, until the proper moisture content has been reached.

b. Slurry Placing. The lime shall be mixed with water in trucks with approved distributors and applied as a thin water suspension or slurry. Commercial lime slurry shall be applied with a lime percentage not less than that applicable for the grade used. The distribution of lime shall be attained by successive passes over a measured section of subgrade until the proper amount of lime has been spread. The amount of lime spread shall be the amount required for mixing to the specified depth that will result in the percentage determined in the job mix formula. The distributor truck shall continually agitate the slurry to keep the mixture uniform.

155-6.3 MIXING. The mixing procedure shall be the same for ``Dry Placing" or ``Slurry Placing" as hereinafter described:

a. First Mixing. The full depth of the treated subgrade shall be mixed with an approved mixing machine. Lime shall not be left exposed for more than 6 hours. The mixing machine shall make two coverages. Water shall be added to the subgrade during mixing to provide a moisture content above the optimum moisture of the material and to ensure chemical action of the lime and subgrade. After mixing, the subgrade shall be lightly rolled to seal the surface and help prevent evaporation of moisture. The water content of the subgrade mixture shall be maintained at a moisture content above the optimum moisture content for a minimum of 48 hours or until the material becomes friable. During the curing period, the material shall be sprinkled as directed. During the interval of time between application and mixing, lime that has been exposed to the open air for 6 hours or more, or to excessive loss due to washing or blowing will not be accepted for payment.

b. Final Mixing. After the required curing time, the material shall be uniformly mixed by approved methods. If the mixture contains clods, they shall be reduced in size by blading, discing, harrowing, scarifying, or the use of other approved pulverization methods so that the remainder of the clods shall meet the following requirements when tested dry by laboratory sieves:

	Percent
Minimum of clods passing 1-1/2\ inch sieve	100
Minimum of clods passing No. 4 sieve	60

155-6.4 COMPACTION. Compaction of the mixture shall begin immediately after final mixing. The material shall be aerated or sprinkled as necessary to provide optimum moisture. The field density of the compacted mixture shall be at least 93 percent of the maximum density of laboratory specimens prepared from samples taken from the material in place. The specimens shall be compacted and tested in accordance with ASTM D 698. The in-place field density shall be determined in accordance with ASTM D 1556 or ASTM D 6938. Any mixture that has not been compacted shall not be left undisturbed for more than 30 minutes. The moisture content of the mixture at the start of compaction shall not be below nor more than 2 percentage points above the optimum moisture content. The optimum moisture content shall be determined in accordance with ASTM D 698 and shall be less than that amount which will cause the mixture to become unstable during compaction and finishing.

The material shall be sprinkled and rolled as directed by the Engineer. All irregularities, depressions, or weak spots that develop shall be corrected immediately by scarifying the areas affected, adding or removing material as required, and reshaping and recompacting by sprinkling and rolling. The surface of the course shall be maintained in a smooth condition, free from undulations and ruts, until other work is placed thereon or the work is accepted.

In addition to the requirements specified for density, the full depth of the material shown on the plans shall be compacted to the extent necessary to remain firm and stable under construction equipment. After each section is completed, tests will be made by the Engineer. If the material fails to meet the density requirements, it shall be reworked to meet these requirements. Throughout this entire operation, the shape of the course shall be maintained by blading, and the surface upon completion shall be smooth

and shall conform with the typical section shown on the plans and to the established lines and grades. Should the material, due to any reason or cause, lose the required stability, density, and finish before the next course is placed or the work is accepted, it shall be recompacted and refinished at the sole expense of the Contractor.

When nuclear gages are to be used for density determination, testing shall be done in accordance with Section 120 and ASTM D 6938.

155-6.5 FINISHING AND CURING. After the final layer or course of lime-treated subgrade has been compacted, it shall be brought to the required lines and grades in accordance with the typical sections. The completed section shall then be finished by rolling, as directed, with a pneumatic or other suitable roller sufficiently light to prevent hair cracking. The finished surface shall not vary more than 3/8 inch (9 mm) when tested with a 16-foot (4.8 meter) straightedge applied parallel with and at right angles to the pavement centerline. Any variations in excess of this tolerance shall be corrected by the Contractor, at his/her own expense, in a manner satisfactory to the Engineer.

The completed section shall be moist-cured for a minimum of 7 days before further courses are added or any traffic is permitted, unless otherwise directed by the Engineer. Subsequent courses shall be applied within 14 days after the lime-treated subgrade is cured.

155-6.6 THICKNESS. The thickness of the lime-treated subgrade shall be determined by depth tests or cores taken at intervals so that each test shall represent no more than 300 square yards (250 square meters). When the base deficiency is more than 1/2 inch (12 mm), the Contractor shall correct such areas in a manner satisfactory to the Engineer. The Contractor shall replace, at his/her expense, the base material where borings are taken for test purposes.

155-6.7 MAINTENANCE. The Contractor shall maintain, at his/her own expense, the entire lime-treated subgrade in good condition from the start of work until all the work has been completed, cured, and accepted by the Engineer.

METHOD OF MEASUREMENT

155-7.1 The yardage of lime-treated subgrade to be paid for shall be the number of square yards (square meters) completed and accepted.

155-7.2 The amount of lime to be paid for shall be the number of tons (kg) of Hydrated Lime, or the calculated equivalent thereof, used as authorized. "Calculated Equivalent" will be determined by the Engineer as follows:

a. Hydrated lime delivered to the project in dry form will be measured according to the actual tonnage either spread on the subgrade or batched on site into a slurry, whichever is applicable.

b. Lime delivered to the project in slurry form will be paid for on the basis of certified chemical composition tickets and batch weight tickets. The owner shall reserve the right to have the dry lime content verified by an independent testing laboratory. If the chemical composition is reported on the basis of Pebble Quicklime, the equivalent hydrated lime will be determined in accordance with paragraph c. below.

c. If Pebble Quicklime is delivered to the project in dry form it will be measured for payment on the basis of the following formula:

Total Quicklime (CaO)(Tons) x %Purity x 1.32 Factor + Total Quicklime (CaO)(Tons) x % Impurities x 1.00 Factor = Equivalent Hydrated Lime $Ca(OH)_2$(Tons).

The foregoing will apply whether the quicklime is spread dry (if allowed) or batched into a slurry.

BASIS OF PAYMENT

155-8.1 Payment shall be made at the contract unit price per square yard (square meter) for the lime-treated subgrade of the thickness specified. The price shall be full compensation for furnishing all material, except the lime, and for all preparation, delivering, placing and mixing these materials, and all labor, equipment, tools and incidentals necessary to complete this item.

155-8.2 Payment shall be made at the contract unit price per pound (kg) of lime. This price shall be full compensation for furnishing this material; for all delivery, placing and incorporation of this material; and for all labor, equipment, tools, and incidentals necessary to complete this item.

Payment will be made under:

Item P-155-8.1	Lime-treated subgrade—per square yard (square meter)
Item P-155-8.2	Lime—per pound (kg)

TESTING REQUIREMENTS

ASTM D 698	Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 5.5 lb (2.49 kg) Rammer and 12-in. (305 mm) Drop
ASTM D 1556	Density of Soil in Place by the Sand-Cone Method
ASTM D 6938	In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods
AASHTO T 26	Quality of Water to be Used in Concrete

MATERIAL REQUIREMENTS

ASTM C 977	Quicklime and Hydrated Lime for Soil Stabilization

END OF ITEM P-155

ITEM P-156 TEMPORARY AIR AND WATER POLLUTION, SOIL EROSION, AND SILTATION CONTROL is hereby amended with respect to the paragraphs and sections cited below.

Add the following paragraph as noted:

156-1.2 This item covers the application of Temporary Erosion Control items at locations shown on the Plans, as directed by the Engineer, and as required for permit compliance, and the requirement of the Contractor to produce, execute, and maintain a specific Storm Water Pollution Prevention Plan (SWPPP) for the project in accordance with the requirements of the Texas Commission on Environmental Quality (TCEQ). The Contractor will be required to request and obtain all necessary federal, TCEQ, and local permits. The temporary erosion control measures shown in the Plans do not represent the extent of work and coordination by the Contractor under this item.

Replace the following paragraph as noted:

156-2.5 TEMPORARY SEDIMENT CONTROL FENCE. Provide sediment control fence for temporary use as detailed in the plans, meeting the requirements Item 506 of the specifications of the Texas Department of Transportation.

Add the following paragraph as noted:

156-2.5 OTHER. All other materials shall ~~meet commercial grade standards and shall be approved by the Engineer before being incorporated into the project~~ ***be in accordance with the Plans, except as modified or augmented herein. Heavy Duty silt fencing (with welded wire in the fabric) may be required on steep slopes if the Engineer determines that the silt fence used by the Contractor is not performing satisfactory.***

Add the following paragraph as noted:

156-3.5 CONSTRUCTION METHODS. Providing the temporary erosion control items and devices shown on the Plans is intended to minimize the erosion of soils during construction. However, the items and devices shown are not intended to represent all of the necessary items or procedures required to be implemented by the Contractor. The plans and specifications show the Engineer's estimate of a minimum effort needed to maintain proper erosion control during construction. Additional effort and materials may be required by the Contractor to minimize the erosion of soils during construction. It shall be the Contractor's responsibility to install and maintain all the items shown in the Plans and to coordinate, submit, obtain, and comply with all necessary Federal, State, and local permits. The coordination with governing agencies shall include, but not limited to the following:

- ***Filing the Notice of Intent with the Texas Commission on Environmental Quality (TCEQ), and paying fees,***
- ***Producing and maintaining an approved Storm Water Pollution Prevention Plan,***
- ***Coordinating and obtaining all local permits regarding grading operations for the proposed improvements, Contractor's staging area, spoil placement and any other grading operations related to the project as directed by the local governing agency.***
- ***Filing the Notice of Termination with the Texas Commission on Environmental Quality (TCEQ), and paying fees upon completion of the Project.***

Revise the following paragraph as noted:

156-4.1 Temporary erosion and pollution control work required which is not attributed to the Contractor's negligence, carelessness, or failure to install permanent controls will be performed as scheduled or ordered by the Engineer. Completed and accepted work will be measured as ***one complete item. This work includes obtaining all necessary federal, state, and local permits required to complete this project.*** ~~follows:~~

~~a. Temporary seeding and mulching will be measured by the square yard (square meter).~~

~~b. Temporary slope drains will be measured by the linear foot (meter).~~

~~c. Temporary benches, dikes, dams, and sediment basins will be measured by the cubic yard (cubic meter) of excavation performed, including necessary cleaning of sediment basins, and the cubic yard (cubic meter) of embankment placed at the direction of the Engineer, in excess of plan lines and elevations.~~

~~d. All fertilizing will be measured by the ton (kg).~~

Replace Section 156-5.1 in its entirety as noted:

156-5.1 Temporary erosion control acceptably completed will be paid for at the contract lump sum price bid for "TEMPORARY EROSION CONTROL," which price shall be full compensation for furnishing all materials, tools, equipment, labor, and incidentals necessary to complete the work. Periodic payments will be made under this item in proportion to the amount of work accomplished, as determined by the Engineer. Payment for "TEMPORARY EROSION CONTROL" will also include obtaining and compliance with the SWPPP, which shall include compensation for drainage-way inspections, report preparation, housekeeping practices, cleaning and maintenance, and other actions outlined in the SWPPP prepared by the Contractor necessary to execute the Plan. This item consists of all erosion control items not listed as a separate pay item in the Unit Price Schedule. Any fines issued to the Owner as a result of the Contractor's insufficient execution of the SWPPP will be assessed to the Contractor. Such deductions shall not be limited to the lump sum price of this item.

Payment will be made under:

Item P-156-5.1	***Temporary Erosion Control—per Lump Sum***

~~**156-5.1** Accepted quantities of temporary water pollution, soil erosion, and siltation control work ordered by the Engineer and measured as provided in paragraph 156-4.1 will be paid for under:~~

~~Item P-156-5.1~~	~~Temporary seeding and mulching—per square yard (square meter)~~
~~Item P-156-5.2~~	~~Temporary slope drains—per linear foot (meter)~~
~~Item P-156-5.3~~	~~Temporary benches, dikes, dams and sediment basins—per cubic yard (cubic meter)~~
~~Item P-156-5.4~~	~~Fertilizing—per ton (kilogram)~~

~~Where other directed work falls within the specifications for a work item that has a contract price, the units of work shall be measured and paid for at the contract unit price bid for the various items.~~

~~Temporary control features not covered by contract items that are ordered by the Engineer will be paid for in accordance with Section 90-05.~~

END OF MOD P-156

ITEM P-156 TEMPORARY AIR AND WATER POLLUTION, SOIL EROSION, AND SILTATION CONTROL

DESCRIPTION

156-1.1 This item shall consist of temporary control measures as shown on the plans or as ordered by the Engineer during the life of a contract to control water pollution, soil erosion, and siltation through the use of berms, dikes, dams, sediment basins, fiber mats, gravel, mulches, grasses, slope drains, and other erosion control devices or methods.

The temporary erosion control measures contained herein shall be coordinated with the permanent erosion control measures specified as part of this contract to the extent practical to assure economical, effective, and continuous erosion control throughout the construction period.

Temporary control may include work outside the construction limits such as borrow pit operations, equipment and material storage sites, waste areas, and temporary plant sites.

MATERIALS

156-2.1 GRASS. Grass that will not compete with the grasses sown later for permanent cover shall be a quick-growing species (such as ryegrass, Italian ryegrass, or cereal grasses) suitable to the area providing a temporary cover.

156-2.2 MULCHES. Mulches may be hay, straw, fiber mats, netting, bark, wood chips, or other suitable material reasonably clean and free of noxious weeds and deleterious materials.

156-2.3 FERTILIZER. Fertilizer shall be a standard commercial grade and shall conform to all Federal and state regulations and to the standards of the Association of Official Agricultural Chemists.

156-2.4 SLOPE DRAINS. Slope drains may be constructed of pipe, fiber mats, rubble, portland cement concrete, bituminous concrete, or other materials that will adequately control erosion.

156-2.5 OTHER. All other materials shall meet commercial grade standards and shall be approved by the Engineer before being incorporated into the project.

CONSTRUCTION REQUIREMENTS

156-3.1 GENERAL. In the event of conflict between these requirements and pollution control laws, rules, or regulations of other Federal, state, or local agencies, the more restrictive laws, rules, or regulations shall apply.

The Engineer shall be responsible for assuring compliance to the extent that construction practices, construction operations, and construction work are involved.

156-3.2 SCHEDULE. Prior to the start of construction, the Contractor shall submit schedules for accomplishment of temporary and permanent erosion control work, as are applicable for clearing and grubbing; grading; construction; paving; and structures at watercourses. The Contractor shall also submit a proposed method of erosion and dust control on haul roads and borrow pits and a plan for disposal of waste materials. Work shall not be started until the erosion control schedules and methods of operation for the applicable construction have been accepted by the Engineer.

156-3.3 AUTHORITY OF ENGINEER. The Engineer has the authority to limit the surface area of erodible earth material exposed by clearing and grubbing, to limit the surface area of erodible earth material exposed by excavation, borrow and fill operations, and to direct the Contractor to provide immediate permanent or temporary pollution control measures to minimize contamination of adjacent streams or other watercourses, lakes, ponds, or other areas of water impoundment.

156-3.4 CONSTRUCTION DETAILS. The Contractor will be required to incorporate all permanent erosion control features into the project at the earliest practicable time as outlined in the accepted schedule. Except where future construction operations will damage slopes, the Contractor shall perform the permanent seeding and mulching and other specified slope protection work in stages, as soon as substantial areas of exposed slopes can be made available. Temporary erosion and pollution control measures will be used to correct conditions that develop during construction that were not foreseen during the design stage; that are needed prior to installation of permanent control features; or that are needed temporarily to control erosion that develops during normal construction practices, but are not associated with permanent control features on the project.

Where erosion is likely to be a problem, clearing and grubbing operations should be scheduled and performed so that grading operations and permanent erosion control features can follow immediately thereafter if the project conditions permit; otherwise, temporary erosion control measures may be required between successive construction stages.

The Engineer will limit the area of clearing and grubbing, excavation, borrow, and embankment operations in progress, commensurate with the Contractor's capability and progress in keeping the finish grading, mulching, seeding, and other such permanent control measures current in accordance with the accepted schedule. Should seasonal limitations make such coordination unrealistic, temporary erosion control measures shall be taken immediately to the extent feasible and justified.

In the event that temporary erosion and pollution control measures are required due to the Contractor's negligence, carelessness, or failure to install permanent controls as a part of the work as scheduled or are ordered by the Engineer, such work shall be performed by the Contractor at his/her own expense.

The Engineer may increase or decrease the area of erodible earth material to be exposed at one time as determined by analysis of project conditions.

The erosion control features installed by the Contractor shall be acceptably maintained by the Contractor during the construction period.

Whenever construction equipment must cross watercourses at frequent intervals, and such crossings will adversely affect the sediment levels, temporary structures should be provided.

Pollutants such as fuels, lubricants, bitumen, raw sewage, wash water from concrete mixing operations, and other harmful materials shall not be discharged into or near rivers, streams, and impoundments or into natural or manmade channels leading thereto.

METHOD OF MEASUREMENT

156-4.1 Temporary erosion and pollution control work required which is not attributed to the Contractor's negligence, carelessness, or failure to install permanent controls will be performed as scheduled or ordered by the Engineer. Completed and accepted work will be measured as follows:

a. Temporary seeding and mulching will be measured by the square yard (square meter).

b. Temporary slope drains will be measured by the linear foot (meter).

c. Temporary benches, dikes, dams, and sediment basins will be measured by the cubic yard (cubic meter) of excavation performed, including necessary cleaning of sediment basins, and the cubic yard (cubic meter) of embankment placed at the direction of the Engineer, in excess of plan lines and elevations.

d. All fertilizing will be measured by the ton (kilogram).

156-4.2 Control work performed for protection of construction areas outside the construction limits, such as borrow and waste areas, haul roads, equipment and material storage sites, and temporary plant sites, will not be measured and paid for directly but shall be considered as a subsidiary obligation of the Contractor with costs included in the contract prices bid for the items to which they apply.

BASIS OF PAYMENT

156-5.1 Accepted quantities of temporary water pollution, soil erosion, and siltation control work ordered by the Engineer and measured as provided in paragraph 156-4.1 will be paid for under:

Item P-156-5.1	Temporary seeding and mulching—per square yard (square meter)
Item P-156-5.2	Temporary slope drains—per linear foot (meter)
Item P-156-5.3	Temporary benches, dikes, dams and sediment basins—per cubic yard (cubic meter)
Item P-156-5.4	Fertilizing—per ton (kilogram)

Where other directed work falls within the specifications for a work item that has a contract price, the units of work shall be measured and paid for at the contract unit price bid for the various items.

Temporary control features not covered by contract items that are ordered by the Engineer will be paid for in accordance with Section 90-05.

END OF ITEM P-156

ITEM P-209 CRUSHED AGGREGATE BASE COURSE is hereby amended with respect to the paragraphs and sections cited below.

Replace the fourth paragraph of Section 209-2.1.a as noted:

Samples of aggregates to check gradation shall be taken by the Engineer ~~at least two per lot~~ ***at the beginning of base course installation, and at intervals determined by the Engineer. If certified state test results have been accepted by the Engineer, sampling of aggregates shall be at the discretion of the Engineer. The sample taken by the Engineer shall be within either the tolerance limits of the submitted job mix or the allowable limits as defined in Table 1. If the sample taken is not within the allowable tolerance limits of the job mix or Table 1, the entire lot shall be removed and replaced with a conforming material at the contractor's expense.*** The lot will be consistent with acceptable sampling for density. The samples shall be taken from the in-place, compacted material. ***However, samples may be taken at the stockpile location prior to installation, at the discretion of the Engineer.*** Sampling shall be in accordance with ASTM D 75, and testing shall be in accordance with ASTM C 136 and ASTM C 117.

Replace the following paragraph of Section 209-3.5 as noted:

In lieu of the core method of field density determination, acceptance testing may be accomplished using a nuclear gage in accordance with ASTM D 6938. The gage ~~should~~ ***shall*** be field calibrated ~~in accordance with Section 120 and ASTM standards~~ ***by either ASTM D1556 or ASTM D2167 using a "one-point Proctor" method for each type of soil proposed.*** Calibration tests shall be conducted on the first lot of material placed that meets the density requirements.

Replace Section 209-5.1 as noted:

BASIS OF PAYMENT

209-5.1 Payment shall be made at the contract unit price per **square yard (square meter)** for crushed aggregate base course ***at the thickness indicated.*** This price shall be full compensation for furnishing all materials, for preparing and placing these materials, and for all labor, equipment tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-209-5.1 6" Crushed Aggregate Base Course—per Square Yard

END OF MOD P-209

ITEM P-209 CRUSHED AGGREGATE BASE COURSE

DESCRIPTION

209-1.1 This item consists of a base course composed of crushed aggregates constructed on a prepared course in accordance with these specifications and in conformity to the dimensions and typical cross sections shown on the plans.

MATERIALS

209-2.1 AGGREGATE. Aggregates shall consist of clean, sound, durable particles of crushed stone, crushed gravel, or crushed slag and shall be free from coatings of clay, silt, vegetable matter, and other objectionable materials and shall contain no clay balls. Fine aggregate passing the No. 4 (4.75 mm) sieve shall consist of fines from the operation of crushing the coarse aggregate. If necessary, fine aggregate may be added to produce the correct gradation. The fine aggregate shall be produced by crushing stone, gravel, or slag that meet the requirements for wear and soundness specified for coarse aggregate.

The crushed slag shall be an air-cooled, blast furnace slag and shall have a unit weight of not less than 70 pounds per cubic foot (1.12 Mg/cubic meter) when tested in accordance with ASTM C 29.

The coarse aggregate portion, defined as the material retained on the No. 4 (4.75 mm) sieve and larger, shall contain not more than 15 percent, by weight, of flat or elongated pieces as defined in ASTM D *4791* ~~693~~ and shall have at least 90 percent by weight of particles with at least two fractured faces and 100 percent with at least one fractured face. The area of each face shall be equal to at least 75 percent of the smallest midsectional area of the piece. When two fractured faces are contiguous, the angle between the planes of fractures shall be at least 30 to count as two fractured faces.

The percentage of wear shall not be greater than 45 percent when tested in accordance with ASTM C 131. The sodium sulfate soundness loss shall not exceed 12 percent, after 5 cycles, when tested in accordance with ASTM C 88.

The fraction passing the No. 40 (0.42 mm) sieve shall have a liquid limit no greater than 25 and a plasticity index of not more than 4 when tested in accordance with ASTM D 4318. The fine aggregate shall have a minimum sand equivalent value of 35 when tested in accordance with ASTM D 2419.

a. Sampling and Testing. Aggregates for preliminary testing shall be furnished by the Contractor prior to the start of production. All tests for initial aggregate submittals necessary to determine compliance with the specification requirements will be made by the Engineer at no expense to the Contractor.

Samples of aggregates shall be furnished by the Contractor at the start of production and at intervals during production. The sampling points and intervals will be designated by the Engineer. The samples will be the basis of approval of specific lots of aggregates from the standpoint of the quality requirements of this section.

In lieu of testing, the Engineer may accept certified state test results indicating that the aggregate meets specification requirements. Certified test results shall be less than 6 months old.

Samples of aggregates to check gradation shall be taken by the Engineer at least two per lot. The lot will be consistent with acceptable sampling for density. The samples shall be taken from the in-place, compacted material. Sampling shall be in accordance with ASTM D 75, and testing shall be in accordance with ASTM C 136 and ASTM C 117.

b. Gradation Requirements. The gradation (job mix) of the final mixture shall fall within the design range indicated in Table 1, when tested in accordance with ASTM C 117 and ASTM C 136. The final

gradation shall be continuously well graded from coarse to fine and shall not vary from the low limit on one sieve to the high limit on an adjacent sieve or vice versa. Where environmental conditions (temperature and availability of free moisture) indicate potential damage due to frost action, the maximum percent of material by weight of particles smaller than 0.02 mm shall be 3 percent when tested in accordance with ASTM D 422.

TABLE 1. REQUIREMENTS FOR GRADATION OF AGGREGATE

Sieve Size	Design Range Percentage by Weight Percentage by Weight	Job Mix Tolerances Percent
2 In (50.0 mm)	100	0
1-1/2 (37.0 mm)	95-100	+/- 5
1 In (25.0 mm)	70-95	+/- 8
3/4 In (19.0 mm)	55-85	+/- 8
No. 4 (4.75 mm)	30-60	+/- 8
No. 30 (0.60 mm)	12-30	+/- 5
No. 200 (0.075 mm)	0-8	+/- 3

The job mix tolerances in Table 1 shall be applied to the job mix gradation to establish a job control grading band. The full tolerance still will apply if application of the tolerances results in a job control grading band outside the design range.

The fraction of the final mixture that passes the No. 200 (0.075 mm) sieve shall not exceed 60 percent of the fraction passing the No. 30 (0.60 mm) sieve.

CONSTRUCTION METHODS

209-3.1 PREPARING UNDERLYING COURSE. The underlying course shall be checked and accepted by the Engineer before placing and spreading operations are started. Any ruts or soft yielding places caused by improper drainage conditions, hauling, or any other cause shall be corrected at the Contractor's expense before the base course is placed thereon. Material shall not be placed on frozen subgrade.

209-3.2 MIXING. The aggregate shall be uniformly blended during crushing operations or mixed in a plant. The plant shall blend and mix the materials to meet the specifications and to secure the proper moisture content for compaction.

209-3.3 PLACING. The crushed aggregate base material shall be placed on the moistened subgrade in layers of uniform thickness with a mechanical spreader.

The maximum depth of a compacted layer shall be 6 inches (150 mm). If the total depth of the compacted material is more than 6 inches (150 mm), it shall be constructed in two or more layers. In multi-layer construction, the base course shall be placed in approximately equal-depth layers.

The previously constructed layer should be cleaned of loose and foreign material prior to placing the next layer. The surface of the compacted material shall be kept moist until covered with the next layer.

209-3.4 COMPACTION. Immediately upon completion of the spreading operations, the crushed aggregate shall be thoroughly compacted. The number, type, and weight of rollers shall be sufficient to compact the material to the required density.

The moisture content of the material during placing operations shall not be below, nor more than 2 percentage points above, the optimum moisture content as determined by ASTM **D 1557**.

209-3.5 ACCEPTANCE SAMPLING AND TESTING FOR DENSITY. Aggregate base course shall be accepted for density on a lot basis. A lot will consist of one day's production where it is not expected to exceed 2400 square yards (2000 square meters). A lot will consist of one-half day's production where a day's production is expected to consist of between 2400 and 4800 square yards (2000 and 4000 square meters).

Each lot shall be divided into two equal sublots. One test shall be made for each sublot. Sampling locations will be determined by the Engineer on a random basis in accordance with statistical procedures contained in ASTM D 3665.

Each lot will be accepted for density when the field density is at least 100 percent of the maximum density of laboratory specimens prepared from samples of the base course material delivered to the job site. The specimens shall be compacted and tested in accordance with ASTM **D 1557**. The in-place field density shall be determined in accordance with ASTM D 1556 or D 2167. If the specified density is not attained, the entire lot shall be reworked and/or recompacted and two additional random tests made. This procedure shall be followed until the specified density is reached.

In lieu of the core method of field density determination, acceptance testing may be accomplished using a nuclear gage in accordance with ASTM D 6938. The gage should be field calibrated in accordance with Section 120 and ASTM standards. Calibration tests shall be conducted on the first lot of material placed that meets the density requirements.

When using the nuclear method ASTM D 6938 shall be used to determine the moisture content of the material. The calibration curve furnished with the nuclear gauges shall be checked in accordance with ASTM standards. The calibration checks shall be made at the beginning of a job and at regular intervals. If a nuclear gage is used for density determination, two random readings shall be made for each sublot.

209-3.6 FINISHING. The surface of the aggregate base course shall be finished by blading or with automated equipment especially designed for this purpose.

In no case will the addition of thin layers of material be added to the top layer of base course to meet grade. If the elevation of the top layer is 1/2 inch (12 mm) or more below grade, the top layer of base shall be scarified to a depth of at least 3 inches (75 mm), new material added, and the layer shall be blended and recompacted to bring it to grade. If the finished surface is above plan grade, it shall be cut back to grade and rerolled.

209-3.7 SURFACE TOLERANCES. The finished surface shall not vary more than 3/8 inch (9 mm) when tested with a 16-foot (4.8 m) straightedge applied parallel with or at right angles to the centerline. Any deviation in excess of this amount shall be corrected by the Contractor at the Contractor's expense.

209-3.8 THICKNESS CONTROL. The completed thickness of the base course shall be within 1/2 inch (12 mm) of the design thickness. Four determinations of thickness shall be made for each lot of material placed. The lot size shall be consistent with that specified in paragraph 3.5. Each lot shall be divided into four equal sublots. One test shall be made for each sublot. Sampling locations will be determined by the Engineer on a random basis in accordance with procedures contained in ASTM D 3665. Where the thickness is deficient by more than 1/2 inch (12 mm), the Contractor shall correct such areas at no additional cost by excavating to the required depth and replacing with new material. Additional test holes may be required to identify the limits of deficient areas.

209-3.9 MAINTENANCE. The base course shall be maintained in a condition that will meet all specification requirements until the work is accepted. Equipment used in the construction of an adjoining section may be routed over completed portions of the base course, provided no damage results and provided that the equipment is routed over the full width of the base course to avoid rutting or uneven compaction.

The Contractor shall remove all survey and grade hubs from the base courses prior to placing any bituminous surface course.

METHOD OF MEASUREMENT

209-4.1 The quantity of crushed aggregate base course to be paid for will be determined by measurement of the number of **square yards (square meters)** of material actually constructed and accepted by the Engineer as complying with the plans and specifications.

BASIS OF PAYMENT

209-5.1 Payment shall be made at the contract unit price per **square yard (square meter)** for crushed aggregate base course. This price shall be full compensation for furnishing all materials, for preparing and placing these materials, and for all labor, equipment tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-209-5.1	Crushed Aggregate Base Course—per **[square yard (square meter][cubic yard (cubic meter)]**

TESTING REQUIREMENTS

ASTM C 29	Unit Weight of Aggregate
ASTM C 88	Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C 117	Materials Finer than 75µm (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C 131	Resistance to Degradation of Small-Size Coarse Aggregate by abrasion and impact in the Los Angeles Machine
ASTM C 136	Sieve Analysis of Fine and Coarse Aggregates
ASTM D 75	Sampling Aggregate
ASTM D 422	Particle Size Analysis of Soils
~~ASTM D 693~~	~~Crushed Aggregate for Macadam Pavements~~
ASTM D 698	Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 5.5-lb (2.49-kg) Rammer and 12-in (305mm) Drop
ASTM D 1556	Density of Soil in Place by the Sand-Cone Method
ASTM D 1557	Test for Laboratory Compaction Characteristics of Soil Using Modified Effort
ASTM D 2167	Density and Unit Weight of Soil in Place by the Rubber Ballon Method
ASTM D 2419	Sand Equivalent Value of Soils and Fine Aggregate
ASTM D 6938	In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods

ASTM D 3017 Water Content of Soil and Rock in Place by Nuclear Methods

ASTM D 3665 Random Sampling of Construction Materials

ASTM D 4318 Liquid Limit, Plastic Limit, and Plasticity Index of Soils

ASTM D 4791 Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate

END OF P-209

ITEM P-401 PLANT MIX BITUMINOUS PAVEMENTS is hereby amended with respect to the paragraphs and sections cited below.

Revise the following paragraph as noted:

401-2.1 AGGREGATE. Aggregates shall consist of crushed stone, crushed gravel, or crushed slag with or without natural sand or other inert finely divided mineral aggregate. The portion of combined materials retained on the No. 4 (4.75 mm) sieve is coarse aggregate. The portion of combined materials passing the No. 4 (4.75 mm) sieve and retained on the No. 200 (0.075 mm) sieve is fine aggregate, and the portion passing the No. 200 (0.075 mm) sieve is mineral filler. ***Crushed slag shall not be used in this project.***

Delete Section 401-3.3 in its entirety:

Delete Section 401-3.4 in its entirety. *There will be no test section required in this project:*

Add the following paragraph to Section 401-4.4 as noted:

When stringline controls are utilized, stringlines shall be used on each side of the paver which is not abutting proposed grade.

Replace Section 401-4.10.d as noted:

d. In addition, the Contractor shall furnish portable floodlight units ***as needed to perform the work*** ~~similar or equal to [ ]~~.

Add Section 401-4.14 as noted:

401-4.14 PAVING ADJACENT TO EXISTING PAVEMENT. When paving is proposed adjacent to existing pavement, the Contractor shall saw cut a clean vertical edge in the existing pavement just prior to placing the proposed pavement. Sawcutting the existing pavement for a clean vertical edge shall not be measured for separate payment but considered subsidiary to P-401.

Revise the following paragraph as noted:

401-5.1.b(3) ACCEPTANCE SAMPLING AND TESTING, Field Placed Material, Sampling

(3) Sampling. Samples shall be neatly cut with a core drill. The cutting edge of the core drill bit shall be of hardened steel or other suitable material with diamond chips embedded in the metal cutting edge. The minimum diameter of the sample shall be 5 in. Samples that are clearly defective, as a result of sampling, shall be discarded and another sample taken. The Contractor shall furnish all tools, labor, and materials for cutting samples, cleaning, and filling the cored pavement. Cored pavement shall be cleaned and core holes shall be filled ***with non-shrink grout dyed to the color of the asphalt*** in a manner acceptable to the Engineer and within one day after sampling.

Replace Section 401-7.1 as noted:

METHOD OF MEASUREMENT

401-7.1 MEASUREMENT. Plant mix bituminous concrete pavement shall be measured by the number of ~~tons (kg)~~ ***square yards (SY)*** of ***material actually constructed and accepted by the Engineer as complying with the plans and specifications*** ~~bituminous mixture used in the accepted work. Recorded batch weights or truck scale weights will be used to determine the basis for the tonnage~~.

The Contractor's Quality Control Plan shall not be measured separately but shall be considered as incidental to this item.

Revise Section 401-8.1.b as noted:

b. Payment. Payment will be made under:

Item P-401-8.1a	**4"** Bituminous **Surface** Course – per ~~ton (kg)~~ ***Square Yard***

END OF MOD P-401

ITEM P-401 PLANT MIX BITUMINOUS PAVEMENTS

DESCRIPTION

401-1.1 This item shall consist of pavement courses composed of mineral aggregate and bituminous material mixed in a central mixing plant and placed on a prepared course in accordance with these specifications and shall conform to the lines, grades, thicknesses, and typical cross sections shown on the plans. Each course shall be constructed to the depth, typical section, and elevation required by the plans and shall be rolled, finished, and approved before the placement of the next course.

MATERIALS

401-2.1 AGGREGATE. Aggregates shall consist of crushed stone, crushed gravel, or crushed slag with or without natural sand or other inert finely divided mineral aggregate. The portion of combined materials retained on the No. 4 (4.75 mm) sieve is coarse aggregate. The portion of combined materials passing the No. 4 (4.75 mm) sieve and retained on the No. 200 (0.075 mm) sieve is fine aggregate, and the portion passing the No. 200 (0.075 mm) sieve is mineral filler.

a. Coarse Aggregate. Coarse aggregate shall consist of sound, tough, durable particles, free from adherent films of matter that would prevent thorough coating and bonding with the bituminous material and be free from organic matter and other deleterious substances. The percentage of wear shall not be greater than 40 percent when tested in accordance with ASTM C 131. The sodium sulfate soundness loss shall not exceed 10 percent, or the magnesium sulfate soundness loss shall not exceed 13 percent, after five cycles, when tested in accordance with ASTM C 88.

Aggregate shall contain at least **70** percent by weight of individual pieces having two or more fractured faces and **85** percent by weight having at least one fractured face. The area of each face shall be equal to at least 75 percent of the smallest midsectional area of the piece. When two fractured faces are contiguous, the angle between the planes of fractures shall be at least 30 degrees to count as two fractured faces. Fractured faces shall be obtained by crushing.

The aggregate shall not contain more than a total of 8 percent, by weight, of flat particles, elongated particles, and flat and elongated particles, when tested in accordance with ASTM D 4791 with a value of 5:1.

Slag shall be air-cooled, blast furnace slag, and shall have a compacted weight of not less than 70 pounds per cubic foot (1.12 mg/cubic meter) when tested in accordance with ASTM C 29.

b. Fine Aggregate. Fine aggregate shall consist of clean, sound, durable, angular shaped particles produced by crushing stone, slag, or gravel that meets the requirements for wear and soundness specified for coarse aggregate. The aggregate particles shall be free from coatings of clay, silt, or other objectionable matter and shall contain no clay balls. The fine aggregate, including any blended material for the fine aggregate, shall have a plasticity index of not more than 6 and a liquid limit of not more than 25 when tested in accordance with ASTM D 4318.

Natural (nonmanufactured) sand may be used to obtain the gradation of the aggregate blend or to improve the workability of the mix. The amount of sand to be added will be adjusted to produce mixtures conforming to requirements of this specification. **The fine aggregate shall not contain more than 15 percent natural sand by weight of total aggregates.** If used, the natural sand shall meet the requirements of ASTM D 1073 and shall have a plasticity index of not more than 6 and a liquid limit of not more than 25 when tested in accordance with ASTM D 4318.

The aggregate shall have sand equivalent values of **45** or greater when tested in accordance with ASTM D 2419.

c. Sampling. ASTM D 75 shall be used in sampling coarse and fine aggregate, and ASTM C 183 shall be used in sampling mineral filler.

401-2.2 MINERAL FILLER. If filler, in addition to that naturally present in the aggregate, is necessary, it shall meet the requirements of ASTM D 242.

401-2.3 BITUMINOUS MATERIAL. Bituminous material shall conform to the following requirements: **AASHTO M320 Performance Grade (PG) 64-22.**

The Contractor shall furnish vendor's certified test reports for each lot of bituminous material shipped to the project. The vendor's certified test report for the bituminous material can be used for acceptance or tested independently by the Engineer.

401-2.4 PRELIMINARY MATERIAL ACCEPTANCE. Prior to delivery of materials to the job site, the Contractor shall submit certified test reports to the Engineer for the following materials:

a. Coarse Aggregate.

(1) Percent of wear.
(2) Soundness.
(3) Unit weight of slag.
(4) Percent fractured faces.

b. Fine Aggregate.

(1) Liquid limit.
(2) Plasticity index.
(3) Sand equivalent.

c. Mineral Filler.

d. Bituminous Material. Test results for bituminous material shall include temperature/viscosity charts for mixing and compaction temperatures.

The certification(s) shall show the appropriate ASTM test(s) for each material, the test results, and a statement that the material meets the specification requirement.

The Engineer may request samples for testing, prior to and during production, to verify the quality of the materials and to ensure conformance with the applicable specifications.

401-2.5 ANTI-STRIPPING AGENT. Any anti-stripping agent or additive if required shall be heat stable, shall not change the asphalt cement viscosity beyond specifications, shall contain no harmful ingredients, shall be added in recommended proportion by approved method, and shall be a material approved by the Department of Transportation of the State in which the project is located.

COMPOSITION

401-3.1 COMPOSITION OF MIXTURE. The bituminous plant mix shall be composed of a mixture of well-graded aggregate, filler and anti-strip agent if required, and bituminous material. The several aggregate fractions shall be sized, handled in separate size groups, and combined in such proportions that the resulting mixture meets the grading requirements of the job mix formula (JMF).

401-3.2 JOB MIX FORMULA. No bituminous mixture for payment shall be produced until a job mix formula has been approved in writing by the Engineer. The bituminous mixture shall be designed using procedures contained in Chapter 5, MARSHALL METHOD OF MIX DESIGN, of the Asphalt Institute's Manual Series No. 2 (MS-2), Mix Design Methods for Asphalt Concrete, sixth edition.

The design criteria in Table 1 are target values necessary to meet the acceptance requirements contained in paragraph 401-5.2b. The criteria is based on a production process which has a material variability with the following standard deviations:

Stability = 270 lb
Flow (0.01 in) = 1.5 in
Air Voids = 0.65%

If material variability exceeds the standard deviations indicated, the job mix formula and subsequent production targets shall be based on a stability greater than shown in Table 1, and the flow and air voids shall be targeted close to the mid-range of the criteria in order to meet the acceptance requirements.

Tensile Strength Ratio (TSR) of the composite mixture, as determined by ASTM D 4867, shall not be less than 75. Anti-stripping agent shall be added to the asphalt, as necessary, to produce a TSR of not less than 75. If an antistrip agent is required, it will be provided by the Contractor at no additional cost to the Owner.

The job mix formula shall be submitted in writing by the Contractor to the Engineer at least **14** days prior to the start of paving operations and shall include as a minimum:

a. Percent passing each sieve size for total combined gradation, individual gradation of all aggregate stockpiles and percent by weight of each stockpile used in the job mix formula.

b. Percent of asphalt cement.

c. Asphalt performance, viscosity or penetration grade, and type of modifier if used.

d. Number of blows of hammer compaction per side of molded specimen.

e. Mixing temperature.

f. Compaction temperature.

g. Temperature of mix when discharged from the mixer.

h. Temperature-viscosity relationship of the asphalt cement.

i. Plot of the combined gradation on the Federal Highway Administration (FHWA) 45 power gradation curve.

j. Graphical plots of stability, flow, air voids, voids in the mineral aggregate, and unit weight versus asphalt content.

k. Percent natural sand.

l. Percent fractured faces.

m. Percent by weight of flat particles, elongated particles, and flat and elongated particles (and criteria).

n. Tensile Strength Ratio (TSR).

p. Antistrip agent (if required).

q. Date the job mix formula was developed.

The Contractor shall submit to the Engineer the results of verification testing of three (3) asphalt samples prepared at the optimum asphalt content. The average of the results of this testing shall indicate conformance with the job mix formula requirements specified in Tables 1, 2 and 3.

When the project requires asphalt mixtures of differing aggregate gradations, a separate job mix formula and the results of job mix formula verification testing must be submitted for each mix.

The job mix formula for each mixture shall be in effect until a modification is approved in writing by the Engineer. Should a change in sources of materials be made, a new job mix formula must be submitted within **10** days and approved by the Engineer in writing before the new material is used. After the initial production job mix formula(s) has/have been approved by the Engineer and a new or modified job mix formula is required for whatever reason, the subsequent cost of the Engineer's approval of the new or modified job mix formula will be borne by the Contractor. There will be no time extension given or considerations for extra costs associated with the stoppage of production paving or restart of production paving due to the time needed for the Engineer to approve the initial, new or modified job mix formula.

TABLE 1. MARSHALL DESIGN CRITERIA

TEST PROPERTY	**Pavements Designed for Aircraft Gross Weights of 60,000 Lbs. or More or Tire Pressures of 100 Psi or More**
Number of blows	**75**
Stability, pounds (Newtons) minimum	**2150 (9564)**
Flow, 0.01 in. (0.25 mm)	**10-14**
Air voids (%)	**2.8-4.2**
Percent voids in mineral aggregate, minimum	**See Table 2**

TABLE 2. MINIMUM PERCENT VOIDS IN MINERAL AGGREGATE

Maximum Particle Size		**Minimum Voids in Mineral Aggregate**
½ in	12.5 mm	16%
¾ in	19.0 mm	15%
1 in	25.0 mm	14%
1-½ in	37.5 mm	13%

The mineral aggregate shall be of such size that the percentage composition by weight, as determined by laboratory sieves, will conform to the gradation or gradations specified in Table 3 when tested in accordance with ASTM C 136 and C 117.

The gradations in Table 3 represent the limits that shall determine the suitability of aggregate for use from the sources of supply. The aggregate, as selected (and used in the JMF), shall have a gradation within the limits designated in Table 3 and shall not vary from the low limit on one sieve to the high limit on the adjacent sieve, or vice versa, but shall be well graded from coarse to fine.

Deviations from the final approved mix design for bitumen content and gradation of aggregates shall be within the action limits for individual measurements as specified in paragraph 401-6.5a. The limits still will apply if they fall outside the master grading band in Table 3.

The maximum size aggregate used shall not be more than one-half of the thickness of the course being constructed except where otherwise shown on the plans or ordered by the Engineer.

TABLE 3. AGGREGATE - BITUMINOUS PAVEMENTS

Sieve Size	Percentage by Weight Passing Sieve
1-½ in. (37.50 mm)	--
1 in. (25.0 mm)	--
¾ in. (19.0 mm)	**100**
½ in. (12.5 mm)	**79-99**
⅜ in. (9.5 mm)	**68-88**
No. 4 (4.75 mm)	**48-68**
No. 8 (2.36 mm)	**33-53**
No. 16 (1.18 mm)	**20-40**
No. 30 (0.60 mm)	**14-30**
No. 50 (0.30 mm)	**9-21**
No. 100 (0.15 mm)	**6-16**
No. 200 (0.075 mm)	**3-6**
Asphalt percent:	
Stone or gravel	**5.0-7.5**
Slag	**6.5-9.5**

The aggregate gradations shown are based on aggregates of uniform specific gravity. The percentages passing the various sieves shall be corrected when aggregates of varying specific gravities are used, as indicated in the Asphalt Institute Manual Series No. 2 (MS-2), Chapter 3.

401-3.3 RECYCLED ASPHALT CONCRETE. Recycled HMA shall consist of reclaimed asphalt pavement (RAP), coarse aggregate, fine aggregate, mineral filler, and asphalt cement. The RAP shall be of a consistent gradation and asphalt content and properties. When RAP is fed into the plant, the maximum RAP chunk size shall not exceed 2 inches. The recycled HMA mix shall be designed using procedures contained in AI MS-02. The recycled asphalt concrete mix shall be designed using procedures contained in the Asphalt Institute's Manual Series Number 2 (MS-2). The percentage of asphalt in the RAP shall be established for the mixture design according to ASTM D 2172 using the appropriate dust correction procedure. The job mix shall meet the requirements of paragraph 401-3.2 RAP should only be used for shoulder surface course mixes and for any intermediate courses. The amount of RAP shall be limited to **[ ]** percent.

In addition to the requirements of paragraph 401-3.2, the job mix formula shall indicate the percent of reclaimed asphalt pavement and the percent and viscosity grade of new asphalt. The Contractor shall submit documentation to the Engineer, indicating that the mixing equipment proposed for use is adequate to mix the percent of RAP shown in the job mix formula and meet all local and national environmental regulations.

The blend of new asphalt cement and the RAP asphalt binder shall meet the requirements in paragraph 401-2.3. The virgin asphalt cement shall not be more than two standard asphalt material grades different than that specified in paragraph 401-2.3

401-3.4 TEST SECTION. Prior to full production, the Contractor shall prepare and place a quantity of bituminous mixture according to the job mix formula. The amount of mixture shall be sufficient to construct a test section **300 feet** long and **25 feet** wide, placed in two lanes, with a longitudinal cold joint, and shall be of the same depth specified for the construction of the course which it represents. A cold joint is an exposed construction joint at least 4 hours old or whose mat has cooled to less than 160° F. The underlying grade or pavement structure upon which the test section is to be constructed shall be the same as the remainder of the course represented by the test section. The equipment used in construction of the test section shall be the same type and weight to be used on the remainder of the course represented by the test section.

The test section shall be evaluated for acceptance as a single lot in accordance with the acceptance criteria in paragraph 401-5.1 and 401-6.3. The test section shall be divided into equal sublots. As a minimum the test section shall consist of 3 sublots.

The test section shall be considered acceptable if; 1) stability, flow, mat density, air voids, and joint density are 90 percent or more within limits, 2) gradation and asphalt content are within the action limits specified in paragraphs 401-6.5a and 5b, and 3) the voids in the mineral aggregate are within the limits of Table 2.

If the initial test section should prove to be unacceptable, the necessary adjustments to the job mix formula, plant operation, placing procedures, and/or rolling procedures shall be made. A second test section shall then be placed. If the second test section also does not meet specification requirements, both sections shall be removed at the Contractor's expense. Additional test sections, as required, shall be constructed and evaluated for conformance to the specifications. Any additional sections that are not acceptable shall be removed at the Contractor's expense. Full production shall not begin until an acceptable section has been constructed and accepted in writing by the Engineer. Once an acceptable test section has been placed, payment for the initial test section and the section that meets specification requirements shall be made in accordance with paragraph 401-8.1.

Job mix control testing shall be performed by the Contractor at the start of plant production and in conjunction with the calibration of the plant for the job mix formula. If aggregates produced by the plant do not satisfy the gradation requirements or produce a mix that meets the JMF. It will be necessary to reevaluate and redesign the mix using plant-produced aggregates. Specimens shall be prepared and the optimum bitumen content determined in the same manner as for the original design tests.

Contractor will not be allowed to place the test section until the Contractor Quality Control Program, showing conformance with the requirements of Paragraph 401-6.1, has been approved, in writing, by the Engineer.

401-3.5 JOB MIX FORMULA (JMF) LABORATORY. The Contractor's laboratory used to develop the job mix formula shall meet the requirements of ASTM D 3666. The laboratory accreditation must be current and listed on the accrediting authority's website. All test methods required for developing the JMF must be listed on the lab accreditation. A copy of the laboratory's current accreditation and accredited test methods shall be submitted to the Engineer prior to start of construction.

CONSTRUCTION METHODS

401-4.1 WEATHER LIMITATIONS. The bituminous mixture shall not be placed upon a wet surface or when the surface temperature of the underlying course is less than specified in Table 4. The temperature requirements may be waived by the Engineer, if requested; however, all other requirements including compaction shall be met.

TABLE 4. BASE TEMPERATURE LIMITATIONS

Mat Thickness	Base Temperature (Minimum)	
	Deg. F	Deg. C
3 in. (7.5 cm) or greater	40	4
Greater than 1 in. (2.5 cm) but less than 3 in. (7.5 cm)	45	7
1 in. (2.5 cm) or less	50	10

401-4.2 BITUMINOUS MIXING PLANT. Plants used for the preparation of bituminous mixtures shall conform to the requirements of ASTM D 995 with the following changes:

a. Requirements for All Plants.

(1) Truck Scales. The bituminous mixture shall be weighed on approved scales furnished by the Contractor, or on certified public scales at the Contractor's expense. Scales shall be inspected and sealed as often as the Engineer deems necessary to assure their accuracy. Scales shall conform to the requirements of the General Provisions, Section 90-01.

In lieu of scales, and as approved by the Engineer, asphalt mixture weights may be determined by the use of an electronic weighing system equipped with an automatic printer that weighs the total paving mixture. Contractor must furnish calibration certification of the weighing system prior to mix production and as often thereafter as requested by the Engineer.

(2) Testing Facilities. The Contractor shall provide laboratory facilities at the plant for the use of the Engineer's acceptance testing and the Contractor's quality control testing. The Engineer will always have priority in the use of the laboratory. The lab shall have sufficient space and equipment so that both testing representatives (Engineer's and Contractor's) can operate efficiently. The lab shall also meet the requirements of ASTM D 3666.

The plant testing laboratory shall have a floor space area of not less than 150 square feet, with a ceiling height of not less than 7-½ feet. The laboratory shall be weather tight, sufficiently heated in cold weather, air-conditioned in hot weather to maintain temperatures for testing purposes of 70 degrees F +/- 5 degrees F. The plant testing laboratory shall be located on the plant site to provide an unobstructed view, from one of its windows, of the trucks being loaded with the plant mix materials.

Laboratory facilities shall be kept clean, and all equipment shall be maintained in proper working condition. The Engineer shall be permitted unrestricted access to inspect the Contractor's laboratory facility and witness quality control activities. The Engineer will advise the Contractor in writing of any noted deficiencies concerning the laboratory facility, equipment, supplies, or testing personnel and procedures. When the deficiencies are serious enough to be adversely affecting the test results, the incorporation of the materials into the work shall be suspended immediately and will not be permitted to resume until the deficiencies are satisfactorily corrected.

As a minimum, the plant testing laboratory shall have:

(a) Adequate artificial lighting
(b) Electrical outlets sufficient in number and capacity for operating the required testing equipment and drying samples.
(c) Fire extinguishers (2), Underwriter's Laboratories approved
(d) Work benches for testing, minimum 2-½ feet by 10 feet.
(e) Desk with 2 chairs
(f) Sanitary facilities convenient to testing laboratory
(g) Exhaust fan to outside air, minimum 12 inch blade diameter

(h) A direct telephone line and telephone including a FAX machine operating 24 hours per day, seven days per week
(i) File cabinet with lock for Engineer
(j) Sink with running water, attached drain board and drain capable of handling separate material
(k) Metal stand for holding washing sieves
(l) Two element hot plate or other comparable heating device, with dial type thermostatic controls for drying aggregates
(m) Mechanical shaker and appropriate sieves (listed in JMF, Table 3) meeting the requirements of ASTM E-11 for determining the gradation of coarse and fine aggregates in accordance with ASTM C 136
(n) Marshall testing equipment meeting ASTM D 6926, ASTM D 6927, automatic compaction equipment capable of compacting three specimens at once and other apparatus as specified in ASTM C 127, D 2172, D 2726, and D 2041
(o) Oven, thermostatically controlled, inside minimum 1 cubic foot
(p) Two volumetric specific gravity flasks, 500 cc
(q) Other necessary hand tools required for sampling and testing
(r) Library containing contract specifications, latest ASTM volumes 4.01, 4.02, 4.03 and 4.09, AASHTO standard specification parts I and II, and Asphalt Institute Publication MS-2.
(s) Equipment for Theoretical Specific Gravity testing including a 4,000 cc pycnometer, vacuum pump capable of maintaining 30 ml mercury pressure and a balance, 16-20 kilograms with accuracy of 0.5 grams
(t) Extraction equipment, centrifuge and reflux types and ROTOflex equipment
(u) A masonry saw with diamond blade for trimming pavement cores and samples
(v) Telephone

Approval of the plant and testing laboratory by the Engineer requires all facilities and equipment to be in good working order during production, sampling and testing. Failure to provide the specified facilities shall be sufficient cause for disapproving bituminous plant operations.

The Owner shall have access to the lab and the plant whenever Contractor is in production.

(3) Inspection of Plant. The Engineer, or Engineer's authorized representative, shall have access, at all times, to all areas of the plant for checking adequacy of equipment; inspecting operation of the plant: verifying weights, proportions, and material properties; and checking the temperatures maintained in the preparation of the mixtures.

(4) Storage Bins and Surge Bins. Use of surge and storage bins for temporary storage of hot bituminous mixtures will be permitted as follows:

(a) The bituminous mixture may be stored in surge bins for *a* period of time not to exceed 3 hours.

(b) The bituminous mixture may be stored in insulated storage bins for a period of time not to exceed 24 hours.

The bins shall be such that mix drawn from them meets the same requirements as mix loaded directly into trucks.

If the Engineer determines that there is an excessive amount of heat loss, segregation, or oxidation of the mixture due to temporary storage, no temporary storage will be allowed.

401-4.3 HAULING EQUIPMENT. Trucks used for hauling bituminous mixtures shall have tight, clean, and smooth metal beds. To prevent the mixture from adhering to them, the truck beds shall be lightly

coated with a minimum amount of paraffin oil, lime solution, or other approved material. Petroleum products shall not be used for coating truck beds. Each truck shall have a suitable cover to protect the mixture from adverse weather. When necessary, to ensure that the mixture will be delivered to the site at the specified temperature, truck beds shall be insulated or heated and covers shall be securely fastened.

401-4.4 BITUMINOUS PAVERS. Bituminous pavers shall be self-propelled with an activated heated screed, capable of spreading and finishing courses of bituminous plant mix material that will meet the specified thickness, smoothness, and grade. The paver shall have sufficient power to propel itself and the hauling equipment without adversely affecting the finished surface.

The paver shall have a receiving hopper of sufficient capacity to permit a uniform spreading operation. The hopper shall be equipped with a distribution system to place the mixture uniformly in front of the screed without segregation. The screed shall effectively produce a finished surface of the required evenness and texture without tearing, shoving, or gouging the mixture.

The paver shall be equipped with a control system capable of automatically maintaining the specified screed elevation. The control system shall be automatically actuated from either a reference line and/or through a system of mechanical sensors or sensor-directed mechanisms or devices that will maintain the paver screed at a predetermined transverse slope and at the proper elevation to obtain the required surface. The transverse slope controller shall be capable of maintaining the screed at the desired slope within plus or minus 0.1 percent.

The controls shall be capable of working in conjunction with any of the following attachments:

a. Ski-type device of not less than 30 feet (9.14 m) in length.

b. Taut stringline (wire) set to grade.

c. Short ski or shoe.

d. Laser control.

If, during construction, it is found that the spreading and finishing equipment in use leaves tracks or indented areas, or produces other blemishes in the pavement that are not satisfactorily corrected by the scheduled operations, the use of such equipment shall be discontinued and satisfactory equipment shall be provided by the Contractor.

401-4.5 ROLLERS. Rollers of the vibratory, steel wheel, and pneumatic-tired type shall be used. They shall be in good condition, capable of operating at slow speeds to avoid displacement of the bituminous mixture. The number, type, and weight of rollers shall be sufficient to compact the mixture to the required density while it is still in a workable condition.

All rollers shall be specifically designed and suitable for compacting hot mix bituminous concrete and shall be properly used. Rollers that impair the stability of any layer of a pavement structure or underlying soils shall not be used. Depressions in pavement surfaces caused by rollers shall be repaired by the Contractor at its own expense.

The use of equipment that causes crushing of the aggregate will not be permitted.

a. Nuclear Densometer. The Contractor shall have on site a nuclear densometer during all paving operations in order to assist in the determination of the optimum rolling pattern, type of roller and frequencies, as well as to monitor the effect of the rolling operations during production paving. The Contractor shall also supply a qualified technician during all paving operations to calibrate the nuclear densometer and obtain accurate density readings for all new bituminous concrete. These densities shall be supplied to the Engineer upon request at any time during construction. No separate payment will be made for supplying the density gauge and technician.

401-4.6 PREPARATION OF BITUMINOUS MATERIAL. The bituminous material shall be heated in a manner that will avoid local overheating and provide a continuous supply of the bituminous material to the mixer at a uniform temperature. The temperature of the bituminous material delivered to the mixer shall be sufficient to provide a suitable viscosity for adequate coating of the aggregate particles, but shall not exceed 325 degrees F (160 degrees C), unless otherwise required by the manufacturer.

401-4.7 PREPARATION OF MINERAL AGGREGATE. The aggregate for the mixture shall be heated and dried prior to introduction into the mixer. The maximum temperature and rate of heating shall be such that no damage occurs to the aggregates. The temperature of the aggregate and mineral filler shall not exceed 350 degrees F (175 degrees C) when the asphalt is added. Particular care shall be taken that aggregates high in calcium or magnesium content are not damaged by overheating. The temperature shall not be lower than is required to obtain complete coating and uniform distribution on the aggregate particles and to provide a mixture of satisfactory workability.

401-4.8 PREPARATION OF BITUMINOUS MIXTURE. The aggregates and the bituminous material shall be weighed or metered and introduced into the mixer in the amount specified by the job mix formula.

The combined materials shall be mixed until the aggregate obtains a uniform coating of bitumen and is thoroughly distributed throughout the mixture. Wet mixing time shall be the shortest time that will produce a satisfactory mixture, but not less than 25 seconds for batch plants. The wet mixing time for all plants shall be established by the Contractor, based on the procedure for determining the percentage of coated particles described in ASTM D 2489, for each individual plant and for each type of aggregate used. The wet mixing time will be set to achieve 95 percent of coated particles. For continuous mix plants, the minimum mixing time shall be determined by dividing the weight of its contents at operating level by the weight of the mixture delivered per second by the mixer. The moisture content of all bituminous mixtures upon discharge shall not exceed 0.5 percent.

401-4.9 PREPARATION OF THE UNDERLYING SURFACE. Immediately before placing the bituminous mixture, the underlying course shall be cleaned of all dust and debris. A prime coat or tack coat shall be applied in accordance with Item P-602 or P-603, if shown on the plans.

401-4.10 LAYDOWN PLAN, TRANSPORTING, PLACING, AND FINISHING. Prior to the placement of the bituminous mixture, the Contractor shall prepare a laydown plan for approval by the Engineer. This is to minimize the number of cold joints in the pavement. The laydown plan shall include the sequence of paving laydown by stations, width of lanes, temporary ramp location(s), and laydown temperature. The laydown plan shall also include estimated time of completion for each portion of the work (i.e. milling, paving, rolling, cooling, etc.). Modifications to the laydown plan shall be approved by the Engineer.

The bituminous mixture shall be transported from the mixing plant to the site in vehicles conforming to the requirements of paragraph 401-4.3. Deliveries shall be scheduled so that placing and compacting of mixture is uniform with minimum stopping and starting of the paver. Hauling over freshly placed material shall not be permitted until the material has been compacted, as specified, and allowed to cool to atmospheric temperature.

[The Contractor may elect to use a material transfer vehicle to deliver mix to the paver.]

Paving during nighttime construction shall require the following:

a. All paving machines, rollers, distribution trucks and other vehicles required by the Contractor for his operations shall be equipped with artificial illumination sufficient to safely complete the work.

b. Minimum illumination level shall be twenty (20) horizontal foot candles and maintained in the following areas:

(1) An area of 30 feet wide by 30 feet long immediately behind the paving machines during the operations of the machines.

(2) An area 15 feet wide by 30 feet long immediately in front and back of all rolling equipment, during operation of the equipment.

(3) An area 15 feet wide by 15 feet long at any point where an area is being tack coated prior to the placement of pavement.

c. As partial fulfillment of the above requirements, the Contractor shall furnish and use, complete artificial lighting units with a minimum capacity of 3,000 watt electric beam lights, affixed to all equipment in such a way to direct illumination on the area under construction.

d. In addition, the Contractor shall furnish portable floodlight units similar or equal to [ ].

The initial placement and compaction of the mixture shall occur at a temperature suitable for obtaining density, surface smoothness, and other specified requirements but not less than 250 degrees F (121 degrees C).

Edges of existing bituminous pavement abutting the new work shall be saw cut and carefully removed as shown on the drawings and painted with bituminous tack coat before new material is placed against it.

Upon arrival, the mixture shall be placed to the full width by a bituminous paver. It shall be struck off in a uniform layer of such depth that, when the work is completed, it shall have the required thickness and conform to the grade and contour indicated. The speed of the paver shall be regulated to eliminate pulling and tearing of the bituminous mat. Unless otherwise permitted, placement of the mixture shall begin along the centerline of a crowned section or on the high side of areas with a one-way slope. The mixture shall be placed in consecutive adjacent strips having a minimum width of [ ] except where edge lanes require less width to complete the area. Additional screed sections shall not be attached to widen paver to meet the minimum lane width requirements specified above unless additional auger sections are added to match. The longitudinal joint in one course shall offset the longitudinal joint in the course immediately below by at least 1 foot (30 cm); however, the joint in the surface top course shall be at the centerline of crowned pavements. Transverse joints in one course shall be offset by at least 10 feet (3 m) from transverse joints in the previous course.

Transverse joints in adjacent lanes shall be offset a minimum of 10 feet (3 m).

On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impractical, the mixture may be spread and luted by hand tools. Areas of segregation in the surface course, as determined by the Engineer, shall be removed and replaced at the Contractor's expense. The area shall be removed by saw cutting and milling a minimum of 2 inches deep. The area to be removed and replaced shall be a minimum width of the paver and a minimum of 10 feet long.

401-4.11 COMPACTION OF MIXTURE. After placing, the mixture shall be thoroughly and uniformly compacted by power rollers. The surface shall be compacted as soon as possible when the mixture has attained sufficient stability so that the rolling does not cause undue displacement, cracking or shoving. The sequence of rolling operations and the type of rollers used shall be at the discretion of the Contractor. The speed of the roller shall, at all times, be sufficiently slow to avoid displacement of the hot mixture and be effective in compaction. Any displacement occurring as a result of reversing the direction of the roller, or from any other cause, shall be corrected at once.

Sufficient rollers shall be furnished to handle the output of the plant. Rolling shall continue until the surface is of uniform texture, true to grade and cross section, and the required field density is obtained.

To prevent adhesion of the mixture to the roller, the wheels shall be equipped with a scraper and kept properly moistened but excessive water will not be permitted.

In areas not accessible to the roller, the mixture shall be thoroughly compacted with approved power driven tampers. Tampers shall weigh not less than 275 pounds, have a tamping plate width not less than 15 inches, be rated at not less than 4,200 vibrations per minute, and be suitably equipped with a standard tamping plate wetting device.

Any mixture that becomes loose and broken, mixed with dirt, contains check-cracking, or in any way defective shall be removed and replaced with fresh hot mixture and immediately compacted to conform to the surrounding area. This work shall be done at the Contractor's expense. Skin patching shall not be allowed.

401-4.12 JOINTS. The formation of all joints shall be made in such a manner as to ensure a continuous bond between the courses and obtain the required density. All joints shall have the same texture as other sections of the course and meet the requirements for smoothness and grade.

The roller shall not pass over the unprotected end of the freshly laid mixture except when necessary to form a transverse joint. When necessary to form a transverse joint, it shall be made by means of placing a bulkhead or by tapering the course. The tapered edge shall be cut back to its full depth and width on a straight line to expose a vertical face prior to placing the adjacent lane. In both methods, all contact surfaces shall be given a tack coat of bituminous material before placing any fresh mixture against the joint.

Longitudinal joints which are irregular, damaged, uncompacted, or otherwise defective [or which have been left exposed for more than 4 hours, or whose surface temperature has cooled to less than 160° F] shall be cut back [specify cutback] to expose a clean, sound surface for the full depth of the course. All contact surfaces shall be cleaned and dry prior and given a tack coat of bituminous material prior to placing any fresh mixture against the joint. The cost of this work and tack coat shall be considered incidental to the cost of the bituminous course.

401-4.13 SKID RESISTANT SURFACES/SAW-CUT GROOVING. If shown on the plans, skid resistant surfaces for asphalt pavements shall be provided by construction of saw-cut grooves. Pavement shall be sufficiently cooled prior to grooving.

Transverse grooves shall be saw-cut in the pavement forming a ¼ inch wide by ¼ inch deep by 1-½ inches center to center configuration. The grooves shall be continuous for the entire length of the pavement. They shall be saw-cut transversely in the pavement to within 10 feet of the pavement edge to allow adequate space for equipment operation. The tolerances for saw-cut grooves shall meet the following:

a. Alignment tolerance – Plus or minus 1-½ inches in alignment for 75 feet.

b. Groove tolerance – Minimum depth 3/16 inch, except that not more than 60 percent of the grooves shall be less than ¼ inch. Maximum depth 5/16 inch. Minimum width ¼ inch. Maximum width 5/16 inch.

c. Center-to-center spacing – Minimum spacing 1-⅜ inches. Maximum spacing 1-½ inches.

Grooves shall not be less than 6 inches and not more than 18 inches from in-pavement light fixtures. Cleanup of waste material shall be continuous during the grooving operation. All waste material shall be removed from the pavement surface and disposed of off-site in accordance with governing laws and regulations. All arrangements for disposal of waste material shall be made prior to the start of grooving. Waste material shall not be allowed to enter the airport storm or sanitary sewer system.

MATERIAL ACCEPTANCE

401-5.1 ACCEPTANCE SAMPLING AND TESTING. Unless otherwise specified, all acceptance sampling and testing necessary to determine conformance with the requirements specified in this section will be performed by the Engineer at no cost to the Contractor except that coring [and profilograph testing] as required in this section shall be completed and paid for by the Contractor.

Testing organizations performing these tests [except profilograph] shall meet the requirements of ASTM D 3666. The laboratory accreditation must be current and listed on the accrediting authority's website. All test methods required for acceptance sampling and testing must be listed on the lab accreditation. A copy of the laboratory's current accreditation and accredited test methods shall be submitted to the Engineer prior to start of construction. All equipment in Contractor furnished laboratories shall be calibrated by an independent testing organization prior to the start of operations at the Contractor's expense.

a. Plant-Produced Material. Plant-produced material shall be tested for stability, flow, and air voids on a lot basis. Sampling shall be from material deposited into trucks at the plant or from trucks at the job site. Samples shall be taken in accordance with ASTM D 979. A lot will consist of:

- one day or shift's production not to exceed 2,000 tons (1 814 000 kg), or
- a half day or shift's production where a day's production is expected to consist of between 2,000 and 4,000 tons (1 814 000 and 3 628 000 kg), or
- similar subdivisions for tonnages over 4,000 tons (3 628 000 kg).

Where more than one plant is simultaneously producing material for the job, the lot sizes shall apply separately for each plant.

(1) Sampling. Each lot will consist of four equal sublots. Sufficient material for preparation of test specimens for all testing will be sampled by the Engineer on a random basis, in accordance with the procedures contained in ASTM D 3665. One set of laboratory compacted specimens will be prepared for each sublot in accordance with ASTM D 6926, at the number of blows required by paragraph 401-3.2, Table 1. Each set of laboratory compacted specimens will consist of three test portions prepared from the same sample increment.

The sample of bituminous mixture may be put in a covered metal tin and placed in an oven for not less than 30 minutes nor more than 60 minutes to stabilize to compaction temperature. The compaction temperature of the specimens shall be as specified in the job mix formula.

(2) Testing. Sample specimens shall be tested for stability and flow in accordance with ASTM D 6927. Air voids will be determined by the Engineer in accordance with ASTM D 3203.

Prior to testing, the bulk specific gravity of each test specimen shall be measured by the Engineer in accordance with ASTM D 2726 using the procedure for laboratory-prepared thoroughly dry specimens, or ASTM D 1188, whichever is applicable, for use in computing air voids and pavement density.

For air voids determination, the theoretical maximum specific gravity of the mixture shall be measured one time for each sublot in accordance with ASTM D 2041, Type C, D or E container. The value used in the air voids computation for each sublot shall be based on theoretical maximum specific gravity measurement for the sublot.

The stability and flow for each sublot shall be computed by averaging the results of all test specimens representing that sublot.

(3) Acceptance. Acceptance of plant produced material for stability, flow, and air voids shall be determined by the Engineer in accordance with the requirements of paragraph 401-5.2b.

b. Field Placed Material. Material placed in the field shall be tested for mat and joint density on a lot basis.

(1) Mat Density. The lot size shall be the same as that indicated in paragraph 401-5.1a and shall be divided into four equal sublots. One core of finished, compacted materials shall be taken by the Contractor from each sublot. Core locations will be determined by the Engineer on a random basis in accordance with procedures contained in ASTM D 3665. Cores shall not be taken closer than one foot from a transverse or longitudinal joint.

(2) Joint Density. The lot size shall be the total length of longitudinal joints constructed by a lot of material as defined in paragraph 401-5.1a. The lot shall be divided into four equal sublots. One core of finished, compacted materials shall be taken by the Contractor from each sublot. Core locations will be determined by the Engineer on a random basis in accordance with procedures contained in ASTM D 3665. ALL CORING SHALL BE CENTERED ON THE JOINT. THE MINIMUM CORE DIAMETER FOR JOINT DENSITY DETERMINATION SHALL BE 5 INCHES.

(3) Sampling. Samples shall be neatly cut with a core drill. The cutting edge of the core drill bit shall be of hardened steel or other suitable material with diamond chips embedded in the metal cutting edge. The minimum diameter of the sample shall be five inches. Samples that are clearly defective, as a result of sampling, shall be discarded and another sample taken. The Contractor shall furnish all tools, labor, and materials for cutting samples, cleaning, and filling the cored pavement. Cored pavement shall be cleaned and core holes shall be filled in a manner acceptable to the Engineer and within one day after sampling.

(4) Testing. The bulk specific gravity of each cored sample will be measured by the Engineer in accordance with ASTM D 2726 or ASTM D 1188, whichever is applicable. The percent compaction (density) of each sample will be determined by dividing the bulk specific gravity of each sublot sample by the average bulk specific gravity of all laboratory prepared specimens for the lot, as determined in paragraph 401-5.1a(2). The bulk specific gravity used to determine the joint density at joints formed between different lots shall be the lowest of the bulk specific gravity values from the two different lots.

(5) Acceptance. Acceptance of field placed material for mat density will be determined by the Engineer in accordance with the requirements of paragraph 401-5.2b(1). Acceptance for joint density will be determined in accordance with the requirements of paragraph 401-5.2b(3).

c. Partial Lots — Plant-Produced Material. When operational conditions cause a lot to be terminated before the specified number of tests have been made for the lot, or when the Contractor and Engineer agree in writing to allow overages or other minor tonnage placements to be considered as partial lots, the following procedure will be used to adjust the lot size and the number of tests for the lot.

The last batch produced where production is halted will be sampled, and its properties shall be considered as representative of the particular sublot from which it was taken. In addition, an agreed to minor placement will be sampled, and its properties shall be considered as representative of the particular sublot from which it was taken. Where three sublots are produced, they shall constitute a lot. Where one or two sublots are produced, they shall be incorporated into the next lot, and the total number of sublots shall be used in the acceptance plan calculation, i.e., n = 5 or n = 6, for example. Partial lots at the end of asphalt production on the project shall be included with the previous lot.

d. Partial Lots — Field Placed Material. The lot size for field placed material shall correspond to that of the plant material, except that, in no cases, shall less than three (3) cored samples be obtained, i.e., n = 3.

401-5.2 ACCEPTANCE CRITERIA.

a. General. Acceptance will be based on the following characteristics of the bituminous mixture and completed pavement as well as the implementation of the Contractor Quality Control Program and test results:

(1) Stability
(2) Flow
(3) Air voids
(4) Mat density
(5) Joint density
(6) Thickness
(7) Smoothness
(8) Grade

Mat density and air voids will be evaluated for acceptance in accordance with paragraph 401-5.2b(1). Stability and flow will be evaluated for acceptance in accordance with paragraph 401-5.2b(2). Joint density will be evaluated for acceptance in accordance with paragraph 401-5.2b(3).

Thickness will be evaluated by the Engineer for compliance in accordance with paragraph 401-5.2b(4). Acceptance for smoothness will be based on the criteria contained in paragraph 401-5.2b(5). Acceptance for grade will be based on the criteria contained in paragraph 401-5.2b(6).

The Engineer may at any time, notwithstanding previous plant acceptance, reject and require the Contractor to dispose of any batch of bituminous mixture which is rendered unfit for use due to contamination, segregation, incomplete coating of aggregate, or improper mix temperature. Such rejection may be based on only visual inspection or temperature measurements. In the event of such rejection, the Contractor may take a representative sample of the rejected material in the presence of the Engineer, and if it can be demonstrated in the laboratory, in the presence of the Engineer, that such material was erroneously rejected, payment will be made for the material at the contract unit price.

b. Acceptance Criteria.

(1) Mat Density and Air Voids. Acceptance of each lot of plant produced material for mat density and air voids shall be based on the percentage of material within specification limits (PWL). If the PWL of the lot equals or exceeds 90 percent, the lot shall be acceptable. Acceptance and payment shall be determined in accordance with paragraph 401-8.1.

(2) Stability and Flow. Acceptance of each lot of plant produced material for stability and flow shall be based on the percentage of material within specification limits (PWL). If the PWL of the lot equals or exceeds 90 percent, the lot shall be acceptable. If the PWL is less than 90 percent, the Contractor shall determine the reason and take corrective action. If the PWL is below 80 percent, the Contractor must stop production until the reason for poor stability and/or flow has been determined and adjustments to the mix are made

(3) Joint Density. Acceptance of each lot of plant produced material for joint density shall be based on the percentage of material within specification limits (PWL). If the PWL of the lot is equal to or exceeds 90 percent, the lot shall be considered acceptable. If the PWL is less than 90 percent, the Contractor shall evaluate the reason and act accordingly. If the PWL is less than 80 percent, the Contractor shall cease operations and until the reason for poor compaction has been determined. IF THE PWL IS LESS THAN 71 PERCENT, THE PAY FACTOR FOR THE LOT USED TO COMPLETE THE JOINT SHALL BE REDUCED BY 5 PERCENTAGE POINTS. This lot pay factor reduction shall be incorporated and evaluated in accordance with paragraph 401-8.1.

(4) Thickness. Thickness of each lift of surface course shall be evaluated by the Engineer for compliance to the requirements shown on the plans. Measurements of thickness shall be made by

the Engineer using the cores extracted for each sublot for density measurement. The maximum allowable deficiency at any point shall not be more than ¼ inch less than the thickness indicated for the lift. Average thickness of lift, or combined lifts, shall not be less than the indicated thickness. Where the thickness tolerances are not met, the lot or sublot shall be corrected by the Contractor at his expense by removing the deficient area and replacing with new pavement. The Contractor, at his expense, may take additional cores as approved by the Engineer to circumscribe the deficient area.

(5) Smoothness. The final surface shall be free from roller marks. The finished surfaces of each course of the pavement, except the finished surface of the final course, shall not vary more than ⅜ inch when evaluated with a 16 foot straightedge. The finished surface of the final course of pavement shall not vary more than ¼ inch when evaluated with a 16 foot straightedge. The lot size shall be [ ] square yards (square meters). Smoothness measurements shall be made at 50 foot intervals and as determined by the Engineer. In the longitudinal direction, a smoothness reading shall be made at the center of each paving lane. In the transverse direction, smoothness readings shall be made continuously across the full width of the pavement. However, transverse smoothness readings shall not be made across designed grade changes. At warped transition areas, straightedge position shall be adjusted to measure surface smoothness and not design grade transitions. When more than 15 percent of all measurements within a lot exceed the specified tolerance, the Contractor shall remove the deficient area to the depth of the final course of pavement and replace with new material. Skin patching shall not be permitted. Isolated high points may be ground off providing the course thickness complies with the thickness specified on the plans. High point grinding will be limited to 15 square yards. Areas in excess of 15 square yards will require removal and replacement of the pavement in accordance with the limitations noted above.

(6) Grade. The finished surface of the pavement shall not vary from the gradeline elevations and cross sections shown on the plans by more than ½ inch (12.70 mm). The finished grade of each lot will be determined by running levels at intervals of 50 feet (15.2 m) or less longitudinally and all breaks in grade transversely (not to exceed 50 feet) to determine the elevation of the completed pavement. The Contractor shall pay the cost of surveying of the level runs that shall be performed by a licensed surveyor. The documentation, stamped and signed by a licensed surveyor, shall be provided by the Contractor to the Engineer. The lot size shall be [ ] square yards (square meters). When more than 15 percent of all the measurements within a lot are outside the specified tolerance, or if any one shot within the lot deviates ¾ inch or more from planned grade, the Contractor shall remove the deficient area to the depth of the final course of pavement and replace with new material. Skin patching shall not be permitted. Isolated high points may be ground off providing the course thickness complies with the thickness specified on the plans. The surface of the ground pavement shall have a texture consisting of grooves between 0.090 and 0.130 inches wide. The peaks and ridges shall be approximately 1/32 inch higher than the bottom of the grooves. The pavement shall be left in a clean condition. The removal of all of the slurry resulting form the grinding operation shall be continuous The grinding operation should be controlled so the residue from the operation does not flow across other lanes of pavement. High point grinding will be limited to 15 square yards. Areas in excess of 15 square yards will require removal and replacement of the pavement in accordance with the limitations noted above.

c. Percentage of Material Within Specification Limits (PWL). The percentage of material within specification limits (PWL) shall be determined in accordance with procedures specified in Section 110 of the General Provisions. The specification tolerance limits (L) for lower and (U) for upper are contained in Table 5.

d. Outliers. All individual tests for mat density and air voids shall be checked for outliers (test criterion) in accordance with ASTM E 178, at a significance level of 5 percent. Outliers shall be discarded, and the PWL shall be determined using the remaining test values.

TABLE 5. MARSHALL ACCEPTANCE LIMITS FOR STABILITY, FLOW, AIR VOIDS, DENSITY

TEST PROPERTY	**Pavements Designed for Aircraft Gross Weights of 60,000 Lbs. or More or Tire Pressures of 100 Psi or More**	
Number of Blows	**75**	
	Specification Tolerance	
	L	U
Stability, minimum, pounds	1800	-
Flow, 0.01-inch	8	16
Air Voids Total Mix, percent	2	5
Mat Density, percent	96.3	101.3
Joint density, percent	93.3	-

The criteria in Table 5 is based on production processes which have a variability with the following standard deviations:

Surface Course Mat Density (%), 1.30
Base Course Mat Density (%), 1.55
Joint Density (%), 2.1

The Contractor should note that (1) 90 PWL is achieved when consistently producing a surface course with an average mat density of at least 98 percent with 1.30% or less variability, (2) 90 PWL is achieved when consistently producing a base course with an average mat density of at least 97.5 percent with 1.55% or less variability, and (3) 90 PWL is achieved when consistently producing joints with an average joint density of at least 96 percent with 2.1% or less variability.

401-5.3 RESAMPLING PAVEMENT FOR MAT DENSITY.

a. General. Resampling of a lot of pavement will only be allowed for mat density, and then, only if the Contractor requests same, in writing, within 48 hours after receiving the written test results from the Engineer. A retest will consist of all the sampling and testing procedures contained in paragraphs 401-5.1b and 401-5.2b(1). Only one resampling per lot will be permitted.

(1) A redefined PWL shall be calculated for the resampled lot. The number of tests used to calculate the redefined PWL shall include the initial tests made for that lot plus the retests.

(2) The cost for resampling and retesting shall be borne by the Contractor.

b. Payment for Resampled Lots. The redefined PWL for a resampled lot shall be used to calculate the payment for that lot in accordance with Table 6.

c. Outliers. Check for outliers in accordance with ASTM E 178, at a significance level of 5 percent.

[401-5.4 LEVELING COURSE. Any course used for truing and leveling shall meet the requirements of paragraph 401-3.2, 401-5.2b(1) for air voids and 401-5.2b(2), but shall not be subject to the density requirements of paragraph 401-5.2b(1) for mat density and 401-5.2b(3). The leveling course shall be compacted with the same effort used to achieve density of the test section. The truing and leveling course shall not exceed a nominal thickness of 1-½ inches (37.5 mm). The leveling course is the first variable thickness lift of an overlay placed prior to subsequent courses.]

CONTRACTOR QUALITY CONTROL

401-6.1 GENERAL. The Contractor shall develop a Quality Control Program in accordance with Section 100 of the General Provisions. The program shall address all elements that affect the quality of the pavement including, but not limited to:

a. Mix Design
b. Aggregate Grading
c. Quality of Materials
d. Stockpile Management
e. Proportioning
f. Mixing and Transportation
g. Placing and Finishing
h. Joints
i. Compaction
j. Surface Smoothness
k. Personnel
l. Laydown Plan

The Contractor shall perform quality control sampling, testing, and inspection during all phases of the work and shall perform them at a rate sufficient to ensure that the work conforms to the contract requirements, and at minimum test frequencies required by paragraph 401-6.3 and Section 100 of the General Provisions. As a part of the process for approving the Contractor's plan, the Engineer may require the Contractor's technician to perform testing of samples to demonstrate an acceptable level of performance.

No partial payment will be made for materials that are subject to specific quality control requirements without an approved plan.

401-6.2 TESTING LABORATORY. The Contractor shall provide a fully equipped asphalt laboratory meeting the requirements of paragraph 401-3.5 and 401-4.2a(2) located at the plant or job site. The Contractor shall provide the Engineer with certification stating that all of the testing equipment to be used is properly calibrated and will meet the specifications applicable for the specified test procedures.

401-6.3 QUALITY CONTROL TESTING. The Contractor shall perform all quality control tests necessary to control the production and construction processes applicable to these specifications and as set forth in the approved Quality Control Program. The testing program shall include, but not necessarily be limited to, tests for the control of asphalt content, aggregate gradation, temperatures, aggregate moisture, field compaction, and surface smoothness. A Quality Control Testing Plan shall be developed as part of the Quality Control Program.

a. Asphalt Content. A minimum of two tests shall be performed per lot in accordance with ASTM D 6307 or ASTM D 2172 for determination of asphalt content. The weight of ash portion of the test, as described in ASTM D 2172, shall be determined as part of the first test performed at the beginning of plant production; and as part of every tenth test performed thereafter, for the duration of plan production. The last weight of ash value obtained shall be used in the calculation of the asphalt content for the mixture. The asphalt content for the lot will be determined by averaging the test results.

The use of the nuclear method for determining asphalt content in accordance with ASTM D 4125 is permitted, provided that it is calibrated for the specific mix being used.

b. Gradation. Aggregate gradations shall be determined a minimum of twice per lot from mechanical analysis of extracted aggregate in accordance with ASTM D 5444 and ASTM C 136 (Dry Sieve). When asphalt content is determined by the nuclear method, aggregate gradation shall be determined from hot bin samples on batch plants, or from the cold feed on drum mix or continuous mix plants, and tested in accordance with ASTM C 136 (dry sieve) using actual batch weights to determine the combined aggregate gradation of the mixture.

c. Moisture Content of Aggregate. The moisture content of aggregate used for production shall be determined a minimum of once per lot in accordance with ASTM C 566.

d. Moisture Content of Mixture. The moisture content of the mixture shall be determined once per lot in accordance with ASTM D 1461 [or AASHTO T110].

e. Temperatures. Temperatures shall be checked, at least four times per lot, at necessary locations to determine the temperatures of the dryer, the bitumen in the storage tank, the mixture at the plant, and the mixture at the job site.

f. In-Place Density Monitoring. The Contractor shall conduct any necessary testing to ensure that the specified density is being achieved. A nuclear gauge may be used to monitor the pavement density in accordance with ASTM D 2950.

g. Additional Testing. Any additional testing that the Contractor deems necessary to control the process may be performed at the Contractor's option.

h. Monitoring. The Engineer reserves the right to monitor any or all of the above testing.

401-6.4 SAMPLING. When directed by the Engineer, the Contractor shall sample and test any material that appears inconsistent with similar material being sampled, unless such material is voluntarily removed and replaced or deficiencies corrected by the Contractor. All sampling shall be in accordance with standard procedures specified.

401-6.5 CONTROL CHARTS. The Contractor shall maintain linear control charts both for individual measurements and range (i.e., difference between highest and lowest measurements) for aggregate gradation and asphalt content.

Control charts shall be posted in a location satisfactory to the Engineer and shall be kept current. As a minimum, the control charts shall identify the project number, the contract item number, the test number, each test parameter, the Action and Suspension Limits applicable to each test parameter, and the Contractor's test results. The Contractor shall use the control charts as part of a process control system for identifying potential problems and assignable causes before they occur. If the Contractor's projected data during production indicates a problem and the Contractor is not taking satisfactory corrective action, the Engineer may suspend production or acceptance of the material.

a. Individual Measurements. Control charts for individual measurements shall be established to maintain process control within tolerance for aggregate gradation and asphalt content. The control charts shall use the job mix formula target values as indicators of central tendency for the following test parameters with associated Action and Suspension Limits:

CONTROL CHART LIMITS FOR INDIVIDUAL MEASUREMENTS

Sieve	Action Limit	Suspension Limit
¾ inch (19.0 mm)	0%	0%
½ inch (12.5 mm)	+/-6%	+/-9%
⅜ inch (9.5 mm)	+/-6%	+/-9%
No. 4 (4.75 mm)	+/-6%	+/-9%
No. 16 (1.18 mm)	+/-5%	+/-7.5%
No. 50 (0.30 mm)	+/-3%	+/-4.5%
No. 200 (0.075 mm)	+/-2%	+/-3%
Asphalt Content	+/-0.45%	+/-0.70%

b. Range. Control charts for range shall be established to control process variability for the test parameters and Suspension Limits listed below. The range shall be computed for each lot as the difference between the two test results for each control parameter. The Suspension Limits specified below are based on a sample size of n = 2. Should the Contractor elect to perform more than two tests per lot, the Suspension Limits shall be adjusted by multiplying the Suspension Limit by 1.18 for n = 3 and by 1.27 for n = 4.

CONTROL CHART LIMITS BASED ON RANGE (Based on n = 2)	
Sieve	Suspension Limit
½ inch (12.5 mm)	11 percent
⅜ inch (9.5 mm)	11 percent
No. 4 (4.75 mm)	11 percent
No. 16 (1.18 mm)	9 percent
No. 50 (0.30 mm)	6 percent
No. 200 (0.075 mm)	3.5 percent
Asphalt Content	0.8 percent

c. Corrective Action. The Contractor Quality Control Program shall indicate that appropriate action shall be taken when the process is believed to be out of tolerance. The Plan shall contain sets of rules to gauge when a process is out of control and detail what action will be taken to bring the process into control. As a minimum, a process shall be deemed out of control and production stopped and corrective action taken, if:

(1) One point falls outside the Suspension Limit line for individual measurements or range; or

(2) Two points in a row fall outside the Action Limit line for individual measurements.

401-6.6 QUALITY CONTROL REPORTS. The Contractor shall maintain records and shall submit reports of quality control activities daily, in accordance with the Contractor Quality Control Program described in General Provisions, Section 100.

METHOD OF MEASUREMENT

401-7.1 MEASUREMENT. Plant mix bituminous concrete pavement shall be measured by the number of tons (kg) of bituminous mixture used in the accepted work. Recorded batch weights or truck scale weights will be used to determine the basis for the tonnage.

Saw-cut grooving of bituminous pavement shall be measured by the number of square yards of saw-cut grooving as specified in-place, completed and accepted.

BASIS OF PAYMENT

401-8.1 PAYMENT. Payment for a lot of bituminous concrete pavement meeting all acceptance criteria as specified in Paragraph 401-5.2 shall be made based on results of tests for [smoothness,] mat density and air voids. Payment for acceptable lots shall be adjusted according to paragraph 401-8.1a for mat density and air voids and 401-8.1c for smoothness, subject to the limitation that:

> The total project payment for plant mix bituminous concrete pavement shall not exceed [ ] percent of the product of the contract unit price and the total number of tons (kg) of bituminous mixture used in the accepted work (See Note 2 under Table 6).

The price shall be compensation for furnishing all materials, for all preparation, mixing, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

a. Basis of Adjusted Payment. The pay factor for each individual lot shall be calculated in accordance with Table 6. A pay factor shall be calculated for both mat density and air voids. The lot pay factor shall be the higher of the two values when calculations for both mat density and air voids are 100 percent or higher. The lot pay factor shall be the product of the two values when only one of the calculations for either mat density or air voids is 100 percent or higher. The lot pay factor shall be the lower of the two values when calculations for both mat density and air voids are less than 100 percent.

TABLE 6. PRICE ADJUSTMENT SCHEDULE [1]

Percentage of Material Within Specification Limits (PWL)	Lot Pay Factor (Percent of Contract Unit Price)
96 – 100	106
90 – 95	PWL + 10
75 – 89	0.5 PWL + 55
55 – 74	1.4PWL – 12
Below 55	Reject [2]

[1] ALTHOUGH IT IS THEORETICALLY POSSIBLE TO ACHIEVE A PAY FACTOR OF 106 PERCENT FOR EACH LOT, ACTUAL PAYMENT ABOVE 100 PERCENT SHALL BE SUBJECT TO THE TOTAL PROJECT PAYMENT LIMITATION SPECIFIED IN PARAGRAPH 401-8.1.

[2] The lot shall be removed and replaced. However, the Engineer may decide to allow the rejected lot to remain. In that case, if the Engineer and Contractor agree in writing that the lot shall not be removed, it shall be paid for at 50 percent of the contract unit price and the total project payment shall be reduced by the amount withheld for the rejected lot.

For each lot accepted, the adjusted contract unit price shall be the product of the lot pay factor for the lot and the contract unit price. Payment shall be subject to the total project payment limitation specified in paragraph 401-8.1. Payment in excess of 100 percent for accepted lots of bituminous concrete pavement shall be used to offset payment for accepted lots of bituminous concrete pavement that achieve a lot pay factor less than 100 percent.

b. Payment. Payment will be made under:

Item P-401-8.1a	Bituminous **[Surface] [Base] [Binder] [Leveling]** Course—per ton (kg)
Item P-401-8.1b	Saw-Cut Grooving—per square yard

TESTING REQUIREMENTS

ASTM C 29	Bulk Density ("Unit Weight") and Voids in Aggregate
ASTM C 88	Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C 117	Materials Finer than 75µm (No.200) Sieve in Mineral Aggregates by Washing
ASTM C 127	Specific Gravity and Absorption of Coarse Aggregate
ASTM C 131	Resistance to Degradation of Small Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine

ASTM C 136	Sieve Analysis of Fine and Coarse Aggregates
ASTM C 183	Sampling and the Amount of Testing of Hydraulic Cement
ASTM C 566	Total Evaporable Moisture Content of Aggregate by Drying
ASTM D 75	Sampling Aggregates
ASTM D 979	Sampling Bituminous Paving Mixtures
ASTM D 995	Mixing Plants for Hot-Mixed Hot-Laid Bituminous Paving Mixtures
ASTM D 1073	Fine Aggregate for Bituminous Paving Mixtures
ASTM D 1188	Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Paraffin-Coated Specimens
ASTM D 1461	Moisture or Volatile Distillates in Bituminous Paving Mixtures
ASTM D 2041	Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
ASTM D 2172	Quantitative Extraction of Bitumen from Bituminous Paving Mixtures
ASTM D 2419	Sand Equivalent Value of Soils and Fine Aggregate
ASTM D 2489	Estimating Degree of Particle Coating of Bituminous-Aggregate Mixtures
ASTM D 2726	Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures
ASTM D 2950	Density of Bituminous Concrete in Place by Nuclear Methods
ASTM D 3203	Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures
ASTM D 3665	Random Sampling of Construction Materials
ASTM D 3666	Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials
ASTM D 4125	Asphalt Content of Bituminous Mixtures by the Nuclear Method
ASTM D 4318	Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D 4791	Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM D 4867	Effect of Moisture on Asphalt Concrete Paving Mixtures
ASTM D 5444	Mechanical Size Analysis of Extracted Aggregate
ASTM D 6307	*Standard Test Method for Asphalt Content of Hot-Mix Asphalt by Ignition Method*

ASTM D 6926	Preparation of Bituminous Specimens Using MARSHALL Apparatus
ASTM D 6927	MARSHALL Stability and Flow of Bituminous Mixtures
ASTM E 11	Wire-Cloth Sieves for Testing Purposes
ASTM E 178	Dealing with Outlying Observations
ASTM E 1274	Measuring Pavement Roughness Using a Profilograph
AASHTO T 30	Mechanical Analysis of Extracted Aggregate
AASHTO T 110	Moisture or Volatile Distillates in Bituminous Paving Mixtures
The Asphalt Institute's Manual No. 2 (MS-2)	Mix Design Methods for Asphalt Concrete

MATERIAL REQUIREMENTS

ASTM D 242	Mineral Filler for Bituminous Paving Mixtures
ASTM D 946	Penetration Graded Asphalt Cement for Use in Pavement Construction
ASTM D 3381	Viscosity-Graded Asphalt Cement for Use in Pavement Construction
ASTM D 4552	Classifying Hot-Mix Recycling Agents
AASHTO M320	Performance Graded Asphalt Binder

END OF ITEM P-401

ITEM P-501 PORTLAND CEMENT CONCRETE PAVEMENT is hereby amended with respect to the paragraphs and sections cited below.

Modify Section 501-2.3 CEMENTITIOUS MATERIALS as noted:

Remove all references to Class N Fly Ash. Class N Fly Ash will not be permitted.

Modify the second paragraph of Section 501-4.10.f as noted:

Dowel bars at ~~contraction~~ ***construction*** joints may be placed in the full thickness of pavement by a mechanical device approved by the Engineer. ***Inserting bars at contraction joints in plastic concrete will not be permitted.*** The device shall be capable of installing dowel bars within the maximum permissible alignment tolerances ***without marring the finished surface or creating voids around the inserted bars.*** Dowels bars at longitudinal construction joints shall be ***epoxy*** bonded in drilled holes ***when bars are inserted after concrete placement.***

Delete Section 501-4.10.d JOINTS, Keyways in its entirety.

Delete Section 501-4.12.a SURFACE TEXTURE, Brush or Broom Finish in its entirety.

Delete Section 501-4.12.c SURFACE TEXTURE, Artificial Turf Finish in its entirety.

Delete Section 501-4.13. SKID-RESISTANT SURFACES SAW-CUT GROOVING in its entirety.

Delete Section 501-4.14.e CURING, Water Method in its entirety.

Modify Section 501-5.1.b(1) Sampling as noted:

(1) Sampling. Each lot shall be divided into four equal sublots and one core shall be taken by the Contractor ***and turned over to the Engineer for measuring*** for each sublot. Sampling locations shall be determined by the Engineer in accordance with random sampling procedures contained in ASTM D 3665. Areas, such as thickened edges, with planned variable thickness, shall be excluded from sample locations.

Insert the following as a third paragraph to Section 501-5.2.e.(3) ACCEPTANCE CRITERIA, Smoothness:

Contractor is to provide a 16-foot straightedge for use by the Engineer in evaluating smoothness. There will be no separate pay for providing straightedge; straightedge to remain property of the Contractor upon completion of the project.

Modify Section 501-7.1 as noted:

501-7.1 Portland cement concrete pavement shall be measured by the number of **square yards (square meters)** of ~~either plain or~~ reinforced pavement ***at the thickness indicated*** as specified in-place, completed and accepted. ~~Saw-cut grooving shall be measured by the number of square yards (square meters) of saw-cut grooving as specified in-place, completed and accepted.~~

The Contractor's Quality Control Plan shall not be measured separately but shall be considered an incidental aspect of the pavement construction.

Delete Section 501-8.1.c Basis of adjusted payment for Smoothness in its entirety.

END OF MOD P-501

ITEM P-501 PORTLAND CEMENT CONCRETE PAVEMENT

DESCRIPTION

501-1.1 This work shall consist of pavement composed of Portland cement concrete, **with reinforcement** constructed on a prepared underlying surface in accordance with these specifications and shall conform to the lines, grades, thickness, and typical cross sections shown on the plans.

MATERIALS

501-2.1 AGGREGATES.

a. Reactivity. Aggregates shall be tested for deleterious reactivity with alkalis in the cement, which may cause excessive expansion of the concrete. Separate tests of coarse and fine aggregate shall be made in accordance with ASTM C 1260. If the expansion of coarse or fine aggregate test specimens, tested in accordance with ASTM C 1260, does not exceed 0.10 % at 28 days (30 days from casting), the coarse or fine aggregates shall be accepted.

If the expansion of any aggregate, coarse or fine, at 28 days is greater than 0.10%, tests of combined materials shall be made in accordance with ASTM C 1567 using the aggregates, cementitious materials, and/or specific reactivity reducing chemicals in the proportions proposed for the mixture design. If the expansion of the proposed combined materials test specimens, tested in accordance with ASTM C 1567, does not exceed 0.10 % at 28 days, the proposed combined materials will be accepted. If the expansion of the proposed combined materials test specimens is greater than 0.10% at 28 days, the aggregates will not be accepted unless adjustments to the combined materials mixture can reduce the expansion to less than 0.10 % at 28 days, or new aggregates shall be evaluated and tested.

b. Fine Aggregate. Fine aggregate shall conform to the requirements of ASTM C 33. Gradation shall meet the requirements of Table 1 when tested in accordance with ASTM C 136, except as may otherwise be qualified under Section 6 of ASTM C 33.

TABLE 1. GRADATION FOR FINE AGGREGATE (ASTM C 33)

Sieve Designation (Square Openings)	Percentage by Weight Passing Sieves
3/8 in. (9.5 mm)	100
No. 4 (4.75 mm)	95-100
No. 8 (2.36 mm)	80-100
No. 16 (1.18 mm)	50-85
No. 30 (600 micro-m)	25-60
No. 50 (300 micro-m)	10-30
No. 100 (150 micro-m)	2-10

c. Coarse Aggregate. Coarse aggregate shall conform to the requirements of ASTM C 33. Gradation, within the separated size groups, shall meet the requirements of Table 2 when tested in accordance with ASTM C 136. When the nominal maximum size of the aggregate is greater than 1 inch, the aggregates shall be furnished in two size groups.

Aggregates delivered to the mixer shall consist of crushed stone, crushed or uncrushed gravel, air-cooled blast furnace slag, crushed recycled concrete pavement, or a combination thereof. The aggregate shall be composed of clean, hard, uncoated particles and shall meet the requirements for deleterious substances contained in ASTM C 33, Class **4S**. Dust and other coating shall be removed from the aggregates by washing. The aggregate in any size group shall not contain more than 8 percent by weight of flat or elongated pieces when tested in accordance with ASTM D 4791. A flat or elongated

particle is one having a ratio between the maximum and the minimum dimensions of a circumscribing rectangular prism exceeding 5 to 1.

The percentage of wear shall be no more than **35** when tested in accordance with ASTM C 131 or ASTM C 535.

TABLE 2. GRADATION FOR COARSE AGGREGATE ASTM C 33

Sieve Designations (square openings)		Percentage by Weight Passing Sieves	
		#4	#67
in.	mm	1-1/2" – 3/4"*	3/4" – No. 4
2-1/2	63	---	---
2	50.8	100	---
1-1/2	38.1	90-100	---
1	25.0	20-55	100
3/4	19.0	0-15	90-100
1/2½	12.5	---	---
3/8	9.5	0-5	20-55
No. 4	4.75	---	0-10
No. 8	2.36	---	0-5

d. Aggregate susceptibility to Disintegration (D) Cracking. Aggregates that have a history of D-cracking shall not be used. Prior to approval of mixture design and production of Portland cement concrete the Contractor shall submit written certification that the aggregate does not have a history of D-Cracking and that the aggregate meets the specified State requirements.

(1) Other sources of crushed stone aggregate shall be approved if the durability factor as determined by ASTM C 666 is greater than or equal to 95 and all other quality test requirements within these specifications are fulfilled. The FAA will consider and reserves final approval of other State classification procedures.

(2) Crushed gravel and sand-gravel aggregates shall not be required to meet freeze-thaw durability ratings. These aggregates shall be approved for use in concrete by the state highway agency in the state from which the aggregate originates and the state in which they are to be used and shall meet all other criteria within these specifications.

501-2.2 CEMENT. Cement shall conform to the requirements of ASTM **C 150** Type **I or II**.

If for any reason, cement becomes partially set or contains lumps of caked cement, it shall be rejected. Cement salvaged from discarded or used bags shall not be used.

Only cements containing less than 0.6% equivalent alkali or cements that can demonstrate a positive reduction in the expansion created by alkali-silica reactions shall be used.

501-2.3 CEMENTITIOUS MATERIALS.

a. Fly Ash or Natural Pozzolan. Flyash shall meet the requirements of ASTM C 618, Class F or N with the exception of loss of ignition, where the maximum shall be less than 6 percent. Class F or N flyash for use in mitigating alkali-silica reactivity shall have a Calcium Oxide (CaO) content of less than

13 percent and a total equivalent alkali content less than 3 percent. Flyash such as is produced in furnace operations using liming materials or soda ash (sodium carbonate) as an additive shall not be acceptable. The Contractor shall furnish the previous three most recent, consecutive ASTM C-618 reports for each source of flyash proposed in the mix design, and shall furnish each additional report as they become available during the project. The reports can be used for acceptance or the material may be tested independently by the Engineer.

b. Blast Furnace Slag (Slag Cement). Ground Granulated Blast Furnace (GGBF) slag shall conform to ASTM C 989, Grade 100 or 120. GGBF shall be used only at a rate between 25 and 55 percent of the total cementitious material by mass.

501-2.4 PREMOLDED JOINT FILLER. Premolded joint filler for expansion joints shall conform to the requirements of **ASTM D 1752, Type III** and shall be punched to admit the dowels where called for on the plans. The filler for each joint shall be furnished in a single piece for the full depth and width required for the joint, unless otherwise specified by the Engineer. When the use of more than one piece is required for a joint, the abutting ends shall be fastened securely and held accurately to shape by stapling or other positive fastening means satisfactory to the Engineer.

501-2.5 JOINT SEALER. The joint sealer for the joints in the concrete pavement shall meet the requirements of Item P-605 and shall be of the type(s) specified in the plans.

501-2.6 STEEL REINFORCEMENT. Reinforcing shall consist of **Welded deformed steel fabric** conforming to the requirements of **ASTM A 497.**

501-2.7 DOWEL AND TIE BARS. Tie bars shall be deformed steel bars and conform to the requirements of ASTM A 615 or ASTM A 996, except that rail steel bars, Grade 50 or 60, shall not be used for tie bars that are to be bent or restraightened during construction. Tie bars designated as Grade 40 in ASTM A 615 can be used for construction requiring bent bars.

Dowel bars shall be plain steel bars conforming to ASTM A 615 or ASTM A 966 and shall be free from burring or other deformation restricting slippage in the concrete. High strength dowel bars shall conform to ASTM A 714, Class 2, Type S, Grade I, II or III, Bare Finish. Before delivery to the construction site each dowel bar shall be painted with one coat of paint conforming to MIL-DTL-24441/20A.SSPC Paint 5 or SSPC Paint 25.Metal or plastic collars shall be full circular device supporting the dowel until the epoxy hardens.

The sleeves for dowel bars used in expansion joints shall be metal or other type of an approved design to cover 2 to 3 inches (50 mm to 75 mm) of the dowel, with a closed end and with a suitable stop to hold the end of the bar at least 1 inch (25 mm) from the closed end of the sleeve. Sleeves shall be of such design that they will not collapse during construction.

501-2.8 WATER. Water used in mixing or curing shall be clean and free of oil, salt, acid, alkali, sugar, vegetable, or other substances injurious to the finished product. Water will be tested in accordance with the requirements of AASHTO T 26. Water known to be of potable quality may be used without testing.

501-2.9 COVER MATERIAL FOR CURING. Curing materials shall conform to one of the following specifications:

a. Liquid membrane-forming compounds for curing concrete shall conform to the requirements of ASTM C 309, Type 2, Class B, or Class A if wax base only.

b. White polyethylene film for curing concrete shall conform to the requirements of ASTM C 171.

c. White burlap-polyethylene sheeting for curing concrete shall conform to the requirements of ASTM C 171.

d. Waterproof paper for curing concrete shall conform to the requirements of ASTM C 171.

501-2.10 ADMIXTURES. The use of any material added to the concrete mix shall be approved by the Engineer. The Contractor shall submit certificates indicating that the material to be furnished meets all of the requirements indicated below. In addition, the Engineer may require the Contractor to submit complete test data from an approved laboratory showing that the material to be furnished meets all of the requirements of the cited specifications. Subsequent tests may be made of samples taken by the Engineer from the supply of the material being furnished or proposed for use on the work to determine whether the admixture is uniform in quality with that approved.

a. **Air-Entraining Admixtures.** Air-entraining admixtures shall meet the requirements of ASTM C 260 and shall consistently entrain the air content in the specified ranges under field conditions. The air-entrainment agent and any water reducer admixture shall be compatible.

b. **Chemical Admixtures.** Water-reducing, set retarding, and set-accelerating admixtures shall meet the requirements of ASTM C 494, including the flexural strength test.

501-2.11 EPOXY-RESIN. Epoxy-resin used to anchor dowels and tie bars in pavements shall conform to the requirements of ASTM C 881, Type I, Grade 3, Class C. Class A or B shall be used when the surface temperature of the hardened concrete is below 60 degrees F (16 degrees C).

501-2.12 MATERIAL ACCEPTANCE. Prior to use of materials, the Contractor shall submit certified test reports to the Engineer for those materials proposed for use during construction. The certification shall show the appropriate ASTM test(s) for each material, the test results, and a statement that the material passed or failed.

The Engineer may request samples for testing, prior to and during production, to verify the quality of the materials and to ensure conformance with the applicable specifications.

MIX DESIGN

501-3.1 PROPORTIONS. Concrete shall be designed to achieve a 28-day flexural strength that meets or exceeds the acceptance criteria contained in paragraph 501-5.2 for a flexural strength of **650 psi**. The mix shall be designed using the procedures contained in Chapter 9 of the Portland Cement Association's manual, "Design and Control of Concrete Mixtures".

The Contractor shall note that to ensure that the concrete actually produced will meet or exceed the acceptance criteria for the specified strength, the mix design average strength must be higher than the specified strength. The amount of overdesign necessary to meet specification requirements depends on the producer's standard deviation of flexural test results and the accuracy that that value can be estimated from historic data for the same or similar materials.

The minimum cementitious material (cement plus fly ash, or GGBFS) shall be **564** pounds per cubic yard **335** kg per cubic meter). The ratio of water to cementitious material, including free surface moisture on the aggregates but not including moisture absorbed by the aggregates shall not be more than **0.45** by weight.

Prior to the start of paving operations and after approval of all material to be used in the concrete, the Contractor shall submit a mix design showing the proportions and flexural strength obtained from the concrete at 7 and 28 days. The mix design shall include copies of test reports, including test dates, and a complete list of materials including type, brand, source, and amount of cement, fly ash, ground slag, coarse aggregate, fine aggregate, water, and admixtures. The fineness modulus of the fine aggregate and the air content shall also be shown. The mix design shall be submitted to the Engineer at least **15 working** days prior to the start of operations. The submitted mix design shall not be more than 90 days old. Production shall not begin until the mix design is approved in writing by the Engineer.

Should a change in sources be made, or admixtures added or deleted from the mix, a new mix design must be submitted to the Engineer for approval.

Flexural strength test specimens shall be prepared in accordance with ASTM C 192 and tested in accordance with ASTM C 78. The mix determined shall be workable concrete having a slump for side-form concrete between 1 and 2 inches (25 mm and 50 mm) as determined by ASTM C 143. For vibrated slip-form concrete, the slump shall be between 1/2 inch (13 mm) and 1 1/2 inches (38 mm).

501-3.2 CEMENTITIOUS MATERIALS.

a. Fly Ash. Fly ash may be used in the mix design. When fly ash is used as a partial replacement for cement, the minimum cement content may be met by considering Portland cement plus fly ash as the total cementitious material. The replacement rate shall be determined from laboratory trial mixes, but shall be between 20 and 30 percent by weight of the total cementitious material. If fly ash is used in conjunction with ground granular blast furnace slag the maximum replacement rate shall not exceed 10 percent by weight of total cementitious material.

b. Ground Slag. Ground blast-furnace slag may be used in a mix design containing Type I or Type II cement. The slag, or slag plus fly ash if both are used, may constitute between 25 to 55 percent of the total cementitious material by weight. If the concrete is to be used for slipforming operations and the air temperature is expected to be lower than 55 degrees F (13 degrees C) the percent slag shall not exceed 30 percent by weight.

501-3.3 ADMIXTURES.

a. Air-Entraining. Air-entraining admixture shall be added in such a manner that will insure uniform distribution of the agent throughout the batch. The air content of freshly mix air-entrained concrete shall be based upon trial mixes with the materials to be used in the work adjusted to produce concrete of the required plasticity and workability. The percentage of air in the mix shall be **4.5**. Air content shall be determined by testing in accordance with ASTM C 231 for gravel and stone coarse aggregate and ASTM C 173 for slag and other highly porous coarse aggregate.

b. Chemical. Water-reducing, set-controlling, and other approved admixtures shall be added to the mix in the manner recommended by the manufacturer and in the amount necessary to comply with the specification requirements. Tests shall be conducted on trial mixes, with the materials to be used in the work, in accordance with ASTM C 494.

501-3.4 CONCRETE MIX DESIGN LABORATORY. The Contractor's laboratory used to develop the concrete mix design shall meet the requirements of ASTM C 1077. The laboratory accreditation must be current and listed on the accrediting authority's website. All test methods required for developing the concrete mix design must be listed on the lab accreditation. A copy of the laboratory's current accreditation and accredited test methods shall be submitted to the Engineer prior to start of construction.

CONSTRUCTION METHODS

501-4.1 EQUIPMENT. Equipment necessary for handling materials and performing all parts of the work shall be approved by the engineer as to design, capacity, and mechanical conditions. The equipment shall be at the jobsite sufficiently ahead of the start of paving operations to be examined thoroughly and approved.

a. Batch Plant and Equipment. The batch plant and equipment shall conform to the requirements of ASTM C 94.

b. Mixers and Transportation Equipment.

(1) **General.** Concrete may be mixed at a central plant, or wholly or in part in truck mixers. Each mixer shall have attached in a prominent place a manufacturer's nameplate showing the capacity of the drum in terms of volume of mixed concrete and the speed of rotation of the mixing drum or blades.

(2) **Central plant mixer.** Central plant mixers shall conform to the requirements of ASTM C 94.

The mixer shall be examined daily for changes in condition due to accumulation of hard concrete or mortar or wear of blades. The pickup and throwover blades shall be replaced when they have worn down 3/4 inch (19 mm) or more. The Contractor shall have a copy of the manufacturer's design on hand showing dimensions and arrangement of blades in reference to original height and depth.

(3) **Truck mixers and truck agitators.** Truck mixers used for mixing and hauling concrete and truck agitators used for hauling central-mixed concrete shall conform to the requirements of ASTM C 94.

(4) **Nonagitator trucks.** Nonagitating hauling equipment shall conform to the requirements of ASTM C 94.

c. Finishing Equipment. The standard method of constructing concrete pavements on FAA projects shall be with an approved slip-form paving equipment designed to spread, consolidate, screed, and float-finish the freshly placed concrete in one complete pass of the machine so a dense and homogeneous pavement is achieved with a minimum of hand finishing. The paver-finisher shall be a heavy duty, self-propelled machine designed specifically for paving and finishing high quality concrete pavements. It shall weigh at least 2200 lbs. per foot of paving lane width and powered by an engine having at least 6.0 horsepower per foot of lane width.

On projects requiring less than 500 square yards of cement concrete pavement or requiring individual placement areas of less than 500 square yards, or irregular areas at locations inaccessible to slip-form paving equipment, cement concrete pavement may be placed with approved placement and finishing equipment utilizing stationary side forms. Hand screeding and float finishing may only be utilized on small irregular areas as allowed by the Engineer.

d. Vibrators. Vibrator shall be the internal type. Operating frequency for internal vibrators shall be between 8,000 and 12,000 vibrations per minute. Average amplitude for internal vibrators shall be 0.025-0.05 inches (0.06-0.13 cm).

The number, spacing, and frequency shall be as necessary to provide a dense and homogeneous pavement and meet the recommendations of ACI 309, Guide for Consolidation of Concrete. Adequate power to operate all vibrators shall be available on the paver. The vibrators shall be automatically controlled so that they shall be stopped as forward motion ceases. The contractor shall provide an electronic or mechanical means to monitor vibrator status. The checks on vibrator status shall occur a minimum of two times per day or when requested by the Engineer.

Hand held vibrators may be used in irregular areas only, but shall meet the recommendations of ACI 309, Guide for Consolidation of Concrete.

e. Concrete Saws. The Contractor shall provide sawing equipment adequate in number of units and power to complete the sawing to the required dimensions. The Contractor shall provide at least one standby saw in good working order and a supply of saw blades at the site of the work at all times during sawing operations.

f. Side Forms. Straight side forms shall be made of steel and shall be furnished in sections not less than 10 feet (3 m) in length. Forms shall have a depth equal to the pavement thickness at the edge, and a base width equal to or greater than the depth. Flexible or curved forms of proper radius shall be

used for curves of 100-foot (31 m) radius or less. Forms shall be provided with adequate devices for secure settings so that when in place they will withstand, without visible spring or settlement, the impact and vibration of the consolidating and finishing equipment. Forms with battered top surfaces and bent, twisted or broken forms shall not be used. Built-up forms shall not be used, except as approved by the Engineer. The top face of the form shall not vary from a true plane more than 1/8 inch (3 mm) in 10 feet (3 m), and the upstanding leg shall not vary more than 1/4 inch (6 mm). The forms shall contain provisions for locking the ends of abutting sections together tightly for secure setting. Wood forms may be used under special conditions, when approved by the Engineer.

g. Pavers. The paver shall be fully energized, self-propelled, and designed for the specific purpose of placing, consolidating, and finishing the concrete pavement, true to grade, tolerances, and cross section. It shall be of sufficient weight and power to construct the maximum specified concrete paving lane width as shown in the plans, at adequate forward speed, without transverse, longitudinal or vertical instability or without displacement. The paver shall be equipped with electronic or hydraulic horizontal and vertical control devices.

501-4.2 FORM SETTING. Forms shall be set sufficiently in advance of the concrete placement to insure continuous paving operation. After the forms have been set to correct grade, the underlying surface shall be thoroughly tamped, either mechanically or by hand, at both the inside and outside edges of the base of the forms. Forms shall be staked into place sufficiently to maintain the form in position for the method of placement.

Form sections shall be tightly locked and shall be free from play or movement in any direction. The forms shall not deviate from true line by more than 1/8 inch (3 mm) at any joint. Forms shall be so set that they will withstand, without visible spring or settlement, the impact and vibration of the consolidating and finishing equipment. Forms shall be cleaned and oiled prior to the placing of concrete.

The alignment and grade elevations of the forms shall be checked and corrections made by the Contractor immediately before placing the concrete.

501-4.3 CONDITIONING OF UNDERLYING SURFACE. The compacted underlying surface on which the pavement will be placed shall be widened approximately 3 feet (1 m) to extend beyond the paving machine track to support the paver without any noticeable displacement. After the underlying surface has been placed and compacted to the required density, the areas that will support the paving machine and the area to be paved shall be trimmed or graded to the plan grade elevation and profile by means of a properly designed machine. The grade of the underlying surface shall be controlled by a positive grade control system using lasers, stringlines, or guide wires. If the density of the underlying surface is disturbed by the trimming operations, it shall be corrected by additional compaction and retested at the option of the Engineer before the concrete is placed except when stabilized subbases are being constructed. If damage occurs on a stabilized subbase, it shall be corrected full depth by the Contractor. If traffic is allowed to use the prepared grade, the grade shall be checked and corrected immediately before the placement of concrete. The prepared grade shall be moistened with water, without saturating, immediately ahead of concrete placement to prevent rapid loss of moisture from concrete. The underlying surface shall be protected so that it will be entirely free of frost when concrete is placed.

501-4.4 CONDITIONING OF UNDERLYING SURFACE, SIDE-FORM AND FILL-IN LANE CONSTRUCTION. The prepared underlying surface shall be moistened with water, without saturating, immediately ahead of concrete placement to prevent rapid loss of moisture from the concrete. Damage caused by hauling or usage of other equipment shall be corrected and retested at the option of the Engineers. If damage occurs to a stabilized subbase, it shall be corrected full depth by the Contractor. A template shall be provided and operated on the forms immediately in advance of the placing of all concrete. The template shall be propelled only by hand and not attached to a tractor or other power unit. Templates shall be adjustable so that they may be set and maintained at the correct contour of the underlying surface. The adjustment and operation of the templates shall be such as will provide an accurate retest of the grade before placing the concrete thereon. All excess material shall be removed and wasted. Low areas shall be filled and compacted to a condition similar to that of the surrounding

grade. The underlying surface shall be protected so that it will be entirely free from frost when the concrete is placed. The use of chemicals to eliminate frost in the underlying surface shall not be permitted.

The template shall be maintained in accurate adjustment, at all times by the Contractor, and shall be checked daily.

501-4.5 HANDLING, MEASURING, AND BATCHING MATERIAL. The batch plant site, layout, equipment, and provisions for transporting material shall assure a continuous supply of material to the work. Stockpiles shall be constructed in such a manner that prevents segregation and intermixing of deleterious materials.

Aggregates that have become segregated or mixed with earth or foreign material shall not be used. All aggregates produced or handled by hydraulic methods, and washed aggregates, shall be stockpiled or binned for draining at least 12 hours before being batched. Rail shipments requiring more than 12 hours will be accepted as adequate binning only if the car bodies permit free drainage.

Batching plants shall be equipped to proportion aggregates and bulk cement, by weight, automatically using interlocked proportioning devices of an approved type. When bulk cement is used, the Contractor shall use a suitable method of handling the cement from weighing hopper to transporting container or into the batch itself for transportation to the mixer, such as a chute, boot, or other approved device, to prevent loss of cement. The device shall be arranged to provide positive assurance that the cement content specified is present in each batch.

501-4.6 MIXING CONCRETE. The concrete may be mixed at the work site, in a central mix plant or in truck mixers. The mixer shall be of an approved type and capacity. Mixing time shall be measured from the time all materials, except water, are emptied into the drum. All concrete shall be mixed and delivered to the site in accordance with the requirements of ASTM C 94.

Mixed concrete from the central mixing plant shall be transported in truck mixers, truck agitators, or nonagitating trucks. The elapsed time from the addition of cementitious material to the mix until the concrete is deposited in place at the work site shall not exceed 30 minutes when the concrete is hauled in nonagitating trucks, nor 90 minutes when the concrete is hauled in truck mixers or truck agitators. Retempering concrete by adding water or by other means will not be permitted. With transit mixers additional water may be added to the batch materials and additional mixing performed to increase the slump to meet the specified requirements provided the addition of water is performed within 45 minutes after the initial mixing operations and provided the water/cementitious ratio specified in the approved mix design is not exceeded, and approved by the Engineer.

501-4.7 LIMITATIONS ON MIXING AND PLACING. No concrete shall be mixed, placed, or finished when the natural light is insufficient, unless an adequate and approved artificial lighting system is operated.

a. Cold Weather. Unless authorized in writing by the Engineer, mixing and concreting operations shall be discontinued when a descending air temperature in the shade and away from artificial heat reaches 40 degrees F (4 degrees C) and shall not be resumed until an ascending air temperature in the shade and away from artificial heat reaches 35 degrees F (2 degrees C).

The aggregate shall be free of ice, snow, and frozen lumps before entering the mixer. The temperature of the mixed concrete shall not be less than 50 degrees F (10 degrees C) at the time of placement. Concrete shall not be placed on frozen material nor shall frozen aggregates be used in the concrete.

When concreting is authorized during cold weather, water and/or the aggregates may be heated to not more than 150 degrees F (66 degrees C). The apparatus used shall heat the mass uniformly and shall be arranged to preclude the possible occurrence of overheated areas which might be detrimental to the materials.

b. Hot Weather. During periods of hot weather when the maximum daily air temperature exceeds 85 degrees F (30 degrees C), the following precautions shall be taken.

The forms and/or the underlying surface shall be sprinkled with water immediately before placing the concrete. The concrete shall be placed at the coolest temperature practicable, and in no case shall the temperature of the concrete when placed exceed 90 degrees F (35 degrees C). The aggregates and/or mixing water shall be cooled as necessary to maintain the concrete temperature at or not more than the specified maximum.

The finished surfaces of the newly laid pavement shall be kept damp by applying a water-fog or mist with approved spraying equipment until the pavement is covered by the curing medium. If necessary, wind screens shall be provided to protect the concrete from an evaporation rate in excess of 0.2 psf per hour as determined in accordance with Figure 2.1.5 in ACI 305R, Hot Weather Concreting, which takes into consideration relative humidity, wind velocity, and air temperature.

When conditions are such that problems with plastic cracking can be expected, and particularly if any plastic cracking begins to occur, the Contractor shall immediately take such additional measures as necessary to protect the concrete surface. Such measures shall consist of wind screens, more effective fog sprays, and similar measures commencing immediately behind the paver. If these measures are not effective in preventing plastic cracking, paving operations shall be immediately stopped.

c. Temperature Management Program. Prior to the start of paving operation for each day of paving, the contractor shall provide the engineer with a Temperature Management Program for the concrete to be placed to assure that uncontrolled cracking is avoided. As a minimum the program shall address the following items:

(1) Anticipated tensile strains in the fresh concrete as related to heating and cooling of the concrete material.

(2) Anticipated weather conditions such as ambient temperatures, wind velocity, and relative humidity.

(3) Anticipated timing of initial sawing of joint.

501-4.8 PLACING CONCRETE. The Contractor has the option of placing the concrete with either side (fixed) forms or slip-forms. At any point in concrete conveyance, the free vertical drop of the concrete from one point to another or to the underlying surface shall not exceed 3 feet (1 m). Backhoes and Grading equipment shall not be used to distribute the concrete in front of the paver. Front end loaders will not be used unless the contractor demonstrates that they can be used without contaminating the concrete and base course and it is approved by the Engineer.

Hauling equipment or other mechanical equipment can be permitted on adjoining previously constructed pavement when the concrete strength reaches **a flexural strength of 550 psi (3 792 kPa)** based on the average of four field cured specimens per 2,000 cubic yards (1,530 cubic meters) of concrete placed. Also, subgrade and subbase planers, concrete pavers, and concrete finishing equipment may be permitted to ride upon the edges of previously constructed pavement when the concrete has attained a minimum flexural strength of 400 psi.

a. Slip-Form Construction. The concrete shall be distributed uniformly into final position by a self propelled slip-form paver without delay. The alignment and elevation of the paver shall be regulated from outside reference lines established for this purpose. The paver shall vibrate the concrete for the full width and depth of the strip of pavement being placed and the vibration shall be adequate to provide a consistency of concrete that will stand normal to the surface with sharp well defined edges. The sliding forms shall be rigidly held together laterally to prevent spreading of the forms.

The plastic concrete shall be effectively consolidated by internal vibration with transverse vibrating units for the full width of the pavement and/or a series of equally placed longitudinal vibrating units. The space from the outer edge of the pavement to longitudinal unit shall not exceed 9 inches. The spacing of internal units shall be uniform and shall not exceed 18 inches.

The term internal vibration means vibrating units located within the specified thickness of pavement section.

The rate of vibration of each vibrating unit shall be within 8000 to 12000 cycles per minute and the amplitude of vibration shall be sufficient to be perceptible on the surface of the concrete along the entire length of the vibrating unit an for a distance of at least one foot. The frequency of vibration or amplitude shall vary proportionately with the rate of travel to result in a uniform density and air content. The paving machine shall be equipped with a tachometer or other suitable device for measuring and indicating the actual frequency of vibrations.

The concrete shall be held at a uniform consistency. The slip-form paver shall be operated with as nearly a continuous forward movement as possible. And all operations of mixing, delivering, and spreading concrete shall be coordinated to provide uniform progress with stopping and starting of the paver held to a minimum. If for any reason, it is necessary to stop the forward movement of the paver, the vibratory and tamping elements shall also be stopped immediately. No tractive force shall be applied to the machine, except that which is controlled from the machine.

When concrete is being placed adjacent to an existing pavement, that part of the equipment which is supported on the existing pavement shall be equipped with protective pads on crawler tracks or rubber-tired wheels on which the bearing surface is offset to run a sufficient distance from the edge of the pavement to avoid breaking the pavement edge.

b. Side-Form Construction. Side form sections shall be straight, free from warps, bends, indentations, or other defects. Defective forms shall be removed from the work. Metal side forms shall be used except at end closures and transverse construction joints where straight forms of other suitable material may be used.

Side forms may be built up by rigidly attaching a section to either top or bottom of forms. If such build-up is attached to the top of metal forms, the build-up shall also be metal.

Width of the base of all forms shall be equal to at least 80 percent of the specified pavement thickness.

Side forms shall be of sufficient rigidity, both in the form and in the interlocking connection with adjoining forms, that springing will not occur under the weight of subgrading and paving equipment or from the pressure of the concrete. The Contractor shall provide sufficient forms so that there will be no delay in placing concrete due to lack of forms.

Before placing side forms, the underlying material shall be at the proper grade. Side forms shall have full bearing upon the foundation throughout their length and width of base and shall be placed to the required grade and alignment of the finished pavement. They shall be firmly supported during the entire operation of placing, compacting, and finishing the pavement.

Forms shall be drilled in advance of being placed to line and grade to accommodate tie bars where these are specified.

Immediately in advance of placing concrete and after all subbase operations are completed, side forms shall be trued and maintained to the required line and grade for a distance sufficient to prevent delay in placing.

Side forms shall remain in place at least 12 hours after the concrete has been placed, and in all cases until the edge of the pavement no longer requires the protection of the forms. Curing compound shall be applied to the concrete immediately after the forms have been removed.

Side forms shall be thoroughly cleaned and oiled each time they are used and before concrete is placed against them.

Concrete shall be spread, screeded, shaped and consolidated by one or more self-propelled machines. These machines shall uniformly distribute and consolidate concrete without segregation so that the completed pavement will conform to the required cross section with a minimum of handwork.

The number and capacity of machines furnished shall be adequate to perform the work required at a rate equal to that of concrete delivery.

Concrete for the full paving width shall be effectively consolidated by internal vibrators without causing segregation. Internal type vibrators' rate of vibration shall be not less than 7,000 cycles per minute. Amplitude of vibration shall be sufficient to be perceptible on the surface of the concrete more than one foot from the vibrating element. The Contractor shall furnish a tachometer or other suitable device for measuring and indicating frequency of vibration.

Power to vibrators shall be connected so that vibration ceases when forward or backward motion of the machine is stopped.

The provisions relating to the frequency and amplitude of internal vibration shall be considered the minimum requirements and are intended to ensure adequate density in the hardened concrete.

c. Consolidation Testing. The provisions relating to the frequency and amplitude of internal vibration shall be considered the minimum requirements and are intended to ensure adequate density in the hardened concrete. If a lack of consolidation of the concrete is suspected by the Engineer, additional referee testing may be required. Referee testing of hardened concrete will be performed by cutting cores from the finished pavement after a minimum of 24 hours curing. Density determinations will be made based on the water content of the core as taken. ASTM C 642 shall be used for the determination of core density in the saturated-surface dry condition. Referee cores will be taken at the minimum rate of one for each 500 cubic yards of pavement, or fraction thereof.

The average density of the cores shall be at least 97 percent of the original mix design density, with no cores having a density of less than 96 percent of the original mix design density.

Failure to meet the above requirements will be considered as evidence that the minimum requirements for vibration are inadequate for the job conditions, and additional vibrating units or other means of increasing the effect of vibration shall be employed so that the density of the hardened concrete as indicated by further referee testing shall conform to the above listed requirements.

501-4.9 STRIKE-OFF OF CONCRETE AND PLACEMENT OF REINFORCEMENT. Following the placing of the concrete, it shall be struck off to conform to the cross section shown on the plans and to an elevation such that when the concrete is properly consolidated and finished, the surface of the pavement shall be at the elevation shown on the plans. When reinforced concrete pavement is placed in two layers, the bottom layer shall be struck off to such length and depth that the sheet of reinforcing steel fabric or bar mat may be laid full length on the concrete in its final position without further manipulation. The reinforcement shall then be placed directly upon the concrete, after which the top layer of the concrete shall be placed, struck off, and screeded. If any portion of the bottom layer of concrete has been placed more than 30 minutes without being covered with the top layer or if initial set has taken place, it shall be removed and replaced with freshly mixed concrete at the Contractor's expense. When reinforced concrete is placed in one layer, the reinforcement may be positioned in advance of concrete placement or it may be placed in plastic concrete by mechanical or vibratory means after spreading.

Reinforcing steel, at the time concrete is placed, shall be free of mud, oil, or other organic matter that may adversely affect or reduce bond. Reinforcing steel with rust, mill scale or a combination of both will be considered satisfactory, provided the minimum dimensions, weight, and tensile properties of a hand wire-brushed test specimen are not less than the applicable ASTM specification requirements.

501-4.10 JOINTS. Joints shall be constructed as shown on the plans and in accordance with these requirements. All joints shall be constructed with their faces perpendicular to the surface of the pavement and finished or edged as shown on the plans. Joints shall not vary more than 1/2 inch (13 mm) from their designated position and shall be true to line with not more than 1/4-inch (6 mm) variation in 10 feet (3 m). The surface across the joints shall be tested with a 10-foot (3 m) straightedge as the joints are finished and any irregularities in excess of 1/4 inch (6 mm) shall be corrected before the concrete has hardened. All joints shall be so prepared, finished, or cut to provide a groove of uniform width and depth as shown on the plans.

a. Construction. Longitudinal construction joints shall be slip-formed or formed against side forms with or without keyways, as shown in the plans.

Transverse construction joints shall be installed at the end of each day's placing operations and at any other points within a paving lane when concrete placement is interrupted for more than 30 minutes or it appears that the concrete will obtain its initial set before fresh concrete arrives. The installation of the joint shall be located at a planned contraction or expansion joint. If placing of the concrete is stopped, the Contractor shall remove the excess concrete back to the previous planned joint.

b. Contraction. Contraction joints shall be installed at the locations and spacing as shown on the plans. Contraction joints shall be installed to the dimensions required by forming a groove or cleft in the top of the slab while the concrete is still plastic or by sawing a groove into the concrete surface after the concrete has hardened. When the groove is formed in plastic concrete the sides of the grooves shall be finished even and smooth with an edging tool. If an insert material is used, the installation and edge finish shall be according to the manufacturer's instructions. The groove shall be finished or cut clean so that spalling will be avoided at intersections with other joints. Grooving or sawing shall produce a slot at least 1/8 inch (3 mm) wide and to the depth shown on the plans.

c. Expansion. Expansion joints shall be installed as shown on the plans. The premolded filler of the thickness as shown on the plans, shall extend for the full depth and width of the slab at the joint, except for space for sealant at the top of the slab. The filler shall be securely staked or fastened into position perpendicular to the proposed finished surface. A cap shall be provided to protect the top edge of the filler and to permit the concrete to be placed and finished. After the concrete has been placed and struck off, the cap shall be carefully withdrawn leaving the space over the premolded filler. The edges of the joint shall be finished and tooled while the concrete is still plastic. Any concrete bridging the joint space shall be removed for the full width and depth of the joint.

d. Keyways. Keyways (only female keys permitted) shall be formed in the plastic concrete by means of side forms or the use of keyway liners that are inserted during the slip-form operations. The keyway shall be formed to a tolerance of 1/4 inch (6 m) in any dimension and shall be of sufficient stiffness to support the upper keyway flange without distortion or slumping of the top of the flange. The dimensions of the keyway forms shall not vary more than plus or minus 1/4 inch (6 mm) from the mid-depth of the pavement. Liners that remain in place permanently and become part of the keyed joint shall be made of galvanized, copper clad, or of similar rust-resistant material compatible with plastic and hardened concrete and shall not interfere with joint reservoir sawing and sealing.

e. Tie bars. Tie bars shall consist of deformed bars installed in joints as shown on the plans. Tie bars shall be placed at right angles to the centerline of the concrete slab and shall be spaced at intervals shown on the plans. They shall be held in position parallel to the pavement surface and in the middle of the slab depth. When tie bars extend into an unpaved lane, they may be bent against the form at longitudinal construction joints, unless threaded bolt or other assembled tie bars are specified. These bars shall not be painted, greased, or enclosed in sleeves. When slip-form operations call for tie bars,

two-piece hook bolts can be installed in the female side of the keyed joint provided the installation is made without distorting the keyed dimensions or causing edge slump. If a bent tie bar installation is used, the tie bars shall be inserted through the keyway liner only on the female side of the joint. In no case shall a bent tie bar installation for male keyways be permitted.

f. Dowel bars. Dowel bars or other load-transfer units of an approved type shall be placed across joints in the manner as shown on the plans. They shall be of the dimensions and spacings as shown and held rigidly in the middle of the slab depth in the proper horizontal and vertical alignment by an approved assembly device to be left permanently in place. The dowel or load-transfer and joint devices shall be rigid enough to permit complete assembly as a unit ready to be lifted and placed into position. A metal, or other type, dowel expansion cap or sleeve shall be furnished for each dowel bar used with expansion joints. These caps shall be substantial enough to prevent collapse and shall be placed on the ends of the dowels as shown on the plans. The caps or sleeves shall fit the dowel bar tightly and the closed end shall be watertight. The portion of each dowel painted with rust preventative paint, as required under paragraph 501-2.7 and shown on the plans to receive a debonding lubricant, shall be thoroughly coated with asphalt MC-70, or an approved lubricant, to prevent the concrete from bonding to that portion of the dowel. If free-sliding plastic-coated or epoxy-coated steel dowels are used, a lubrication bond breaker shall be used except when approved pullout tests indicate it is not necessary. Where butt-type joints with dowels are designated, the exposed end of the dowel shall be oiled.

Dowel bars at contraction joints may be placed in the full thickness of pavement by a mechanical device approved by the Engineer. The device shall be capable of installing dowel bars within the maximum permissible alignment tolerances. Dowels bars at longitudinal construction joints shall be bonded in drilled holes.

g. Installation. All devices used for the installation of expansion joints shall be approved by the Engineer.

The top of an assembled joint device shall be set at the proper distance below the pavement surface and the elevation shall be checked. Such devices shall be set to the required position and line and shall be securely held in place by stakes or other means to the maximum permissible tolerances during the pouring and finishing of the concrete. The premolded joint material shall be placed and held in a vertical position; if constructed in sections, there shall be no offsets between adjacent units.

Dowel bars and assemblies shall be checked for position and alignment. The maximum permissible tolerances on dowel bar alignment shall be in accordance with paragraph 501-5.2e(6). During the concrete placement operation, it is advisable to place plastic concrete directly on dowel assemblies immediately prior to passage of the paver to help maintain dowel position and alignment within maximum permissible tolerances.

When concrete is placed using slip-form pavers, dowels and tie bars shall be placed in longitudinal construction joints by bonding the dowels or tie bars into holes drilled into the hardened concrete. Holes approximately 1/8-inch to 1/4-inch (3 to 6 mm) greater in diameter than the dowel or tie bar shall be drilled with rotary-type core drills that must be held securely in place to drill perpendicularly into the vertical face of the pavement slab. Rotary-type percussion drills may be used provided that spalling of concrete does not occur. Any damage of the concrete shall be repaired by the Contractor in a method approved by the Engineer. Dowels or tie bars shall be bonded in the drilled holes using an epoxy resin material. Installation procedures shall be adequate to insure that the area around dowels is completely filled with epoxy grout. Epoxy shall be injected into the back of the hole and displaced by the insertion of the dowel bar. Bars shall be completely inserted into the hole and shall not be withdrawn and reinserted creating air pockets in the epoxy around the bar. The Contractor shall furnish a template for checking the position and alignment of the dowels. Dowel bars shall not be less than 10 inches (25 cm) from a transverse joint and shall not interfere with dowels in the transverse direction.

h. Sawing of Joints. Joints shall be cut as shown on the plans. Equipment shall be as described in paragraph 501-4.1. The circular cutter shall be capable of cutting a groove in a straight line

and shall produce a slot at least 1/8 inch (3 mm) wide and to the depth shown on the plans. The top portion of the slot shall be widened by sawing to provide adequate space for joint sealers as shown on the plans. Sawing shall commence as soon as the concrete has hardened sufficiently to permit cutting without chipping, spalling, or tearing and before uncontrolled shrinkage cracking of the pavement occurs. Sawing shall be carried on both during the day and night as required. The joints shall be sawed at the required spacing, consecutively in sequence of the concrete placement. Curing compound, if being used as the cure type, shall be reapplied in the initial sawcut and maintained for the remaining cure period. Curing compound shall not be applied, and used as the cure method, to any final concrete face that is to receive a sealant. All slurry and debris produced in the sawing of joints shall be removed by vacuuming and washing.

501-4.11 FINAL STRIKE-OFF, CONSOLIDATION, AND FINISHING.

a. Sequence. The sequence of operations shall be the strike-off, floating and removal of laitance, straightedging, and final surface finish. The addition of superficial water to the surface of the concrete to assist in finishing operations will not be permitted.

b. Finishing at Joints. The concrete adjacent to joints shall be compacted or firmly placed without voids or segregation against the joint material; it shall be firmly placed without voids or segregation under and around all load-transfer devices, joint assembly units, and other features designed to extend into the pavement. Concrete adjacent to joints shall be mechanically vibrated as required in paragraph 501-4.8.a. After the concrete has been placed and vibrated adjacent to the joints, the finishing machine shall be operated in a manner to avoid damage or misalignment of joints. If uninterrupted operations of the finishing machine, to, over, and beyond the joints, cause segregation of concrete, damage to, or misalignment of the joints, the finishing machine shall be stopped when the screed is approximately 8 inches (20 cm) from the joint. Segregated concrete shall be removed from the front of and off the joint; and the forward motion of the finishing machine shall be resumed. Thereafter, the finishing machine may be run over the joint without lifting the screed, provided there is no segregated concrete immediately between the joint and the screed or on top of the joint.

c. Machine Finishing. The concrete shall be spread as soon as it is placed, and it shall be struck off and screeded by a finishing machine. The machine shall go over each area as many times and at such intervals as necessary to give to proper consolidation and to leave a surface of uniform texture. Excessive operation over a given area shall be avoided. When side forms are used, the tops of the forms shall be kept clean by an effective device attached to the machine, and the travel of the machine on the forms shall be maintained true without lift, wobbling, or other variation tending to affect the precision finish. During the first pass of the finishing machine, a uniform ridge of concrete shall be maintained ahead of the front screed for its entire length. When in operation, the screed shall be moved forward with a combined longitudinal and transverse shearing motion, always moving in the direction in which the work is progressing, and so manipulated that neither end is raised from the side forms during the striking-off process. If necessary, this shall be repeated until the surface is of uniform texture, true to grade and cross section, and free from porous areas.

d. Hand Finishing. Hand finishing methods will not be permitted, except under the following conditions: in the event of breakdown of the mechanical equipment, hand methods may be used to finish the concrete already deposited on the grade; in areas of narrow widths or of irregular dimensions where operation of the mechanical equipment is impractical. Concrete, as soon as placed, shall be struck off and screeded. An approved portable screed shall be used. A second screed shall be provided for striking off the bottom layer of concrete when reinforcement is used.

The screed for the surface shall be a least 2 feet (0.6 m) longer than the maximum width of the slab to be struck off. It shall be of approved design, sufficiently rigid to retain its shape, and shall be constructed either of metal or of other suitable material covered with metal. Consolidation shall be attained by the use of suitable vibrators.

e. Floating. After the concrete has been struck off and consolidated, it shall be further smoothed and trued by means of a longitudinal float using one of the following methods:

(1) Hand Method. Long-handled floats shall not be less than 12 feet (3.6 m) in length and 6 inches (15 cm) in width, stiffened to prevent flexibility and warping. The float shall be operated from foot bridges spanning but not touching the concrete or from the edge of the pavement. Floating shall pass gradually from one side of the pavement to the other. Forward movement along the centerline of the pavement shall be in successive advances of not more than one-half the length of the float. Any excess water or laitance in excess of 1/8-inch (3 mm) thick shall be removed and wasted.

(2) Mechanical method. The Contractor may use a machine composed of a cutting and smoothing float(s), suspended from and guided by a rigid frame and constantly in contact with, the side forms or underlying surface. If necessary, long-handled floats having blades not less than 5 feet (1.5 m) in length and 6 inches (15 cm) in width may be used to smooth and fill in open-textured areas in the pavement. When the crown of the pavement will not permit the use of the mechanical float, the surface shall be floated transversely by means of a long-handled float. Care shall be taken not to work the crown out of the pavement during the operation. After floating, any excess water and laitance in excess of 1/8-inch (3 mm) thick shall be removed and wasted. Successive drags shall be lapped one-half the length of the blade.

f. Straight-edge Testing and Surface Correction. After the pavement has been struck off and while the concrete is still plastic, it shall be tested for trueness with a Contractor furnished 16-foot (5 m) straightedge swung from handles 3 feet (1 m) longer than one-half the width of the slab. The straightedge shall be held in contact with the surface in successive positions parallel to the centerline and the whole area gone over from one side of the slab to the other, as necessary. Advancing shall be in successive stages of not more than one-half the length of the straightedge. Any excess water and laitance in excess of 1/8-inch (3 mm) thick shall be removed from the surface of the pavement and wasted. Any depressions shall be immediately filled with freshly mixed concrete, struck off, consolidated, and refinished. High areas shall be cut down and refinished. Special attention shall be given to assure that the surface across joints meets the smoothness requirements of paragraph 501-5.2e(3). Straightedge testing and surface corrections shall continue until the entire surface is found to be free from observable departures from the straightedge and until the slab conforms to the required grade and cross section. The use of long-handled wood floats shall be confined to a minimum; they may be used only in emergencies and in areas not accessible to finishing equipment.

501-4.12 SURFACE TEXTURE. The surface of the pavement shall be finished with either a brush or broom, burlap drag, or artificial turf finish for all newly constructed concrete pavements. It is important that the texturing equipment not tear or unduly roughen the pavement surface during the operation. Any imperfections resulting from the texturing operation shall be corrected to the satisfaction of the Engineer.

a. Brush or Broom Finish. If the pavement surface texture is to be a type of brush or broom finish, it shall be applied when the water sheen has practically disappeared. The equipment shall operate transversely across the pavement surface, providing corrugations that are uniform in appearance and approximately 1/16 of an inch (2 mm) in depth.

b. Burlap Drag Finish. If a burlap drag is used to texture the pavement surface, it shall be at least 15 ounces per square yard (555 grams per square meter). To obtain a textured surface, the transverse threads of the burlap shall be removed approximately 1 foot (0.3 m) from the trailing edge. A heavy buildup of grout on the burlap threads produces the desired wide sweeping longitudinal striations on the pavement surface. The corrugations shall be uniform in appearance and approximately 1/16 of an inch (2 mm) in depth.

c. Artificial Turf Finish. If artificial turf is used to texture the surface, it shall be applied by dragging the surface of the pavement in the direction of concrete placement with an approved full-width drag made with artificial turf. The leading transverse edge of the artificial turf drag will be securely fastened to a lightweight pole on a traveling bridge. At least 2 feet of the artificial turf shall be in contact

with the concrete surface during dragging operations. A variety of different types of artificial turf are available and approval of any one type will be done only after it has been demonstrated by the Contractor to provide a satisfactory texture. One type that has provided satisfactory texture consists of 7,200 approximately 0.85-inches-long polyethylene turf blades per square foot. The corrugations shall be uniform in appearance and approximately 1/16 of an inch (2 mm) in depth.

501-4.13 SKID-RESISTANT SURFACES SAW-CUT GROOVING. If shown on the plans, skid resistant surfaces for asphalt pavements shall be provided by construction of saw-cut grooves. Saw-cut grooves must meet the requirements of Item P-621.

501-4.14 CURING. Immediately after finishing operations are completed and marring of the concrete will not occur, the entire surface of the newly placed concrete shall be cured for a 7-day cure period in accordance with one of the methods below. Failure to provide sufficient cover material of whatever kind the Contractor may elect to use, or lack of water to adequately take care of both curing and other requirements, shall be cause for immediate suspension of concreting operations. The concrete shall not be left exposed for more than 1/2 hour during the curing period.

When a two-sawcut method is used to construct the contraction joint, the curing compound shall be applied to the sawcut immediately after the initial cut has been made. The sealant reservoir shall not be sawed until after the curing period has been completed. When the one cut method is used to construct the contraction joint, the joint shall be cured with wet rope, wet rags, or wet blankets. The rags, ropes, or blankets shall be kept moist for the duration of the curing period.

a. Impervious Membrane Method. The entire surface of the pavement shall be sprayed uniformly with white pigmented curing compound immediately after the finishing of the surface and before the set of the concrete has taken place. The curing compound shall not be applied during rainfall. Curing compound shall be applied by mechanical sprayers under pressure at the rate of 1 gallon (4 liters) to not more than 150 square feet (14 square meters). The spraying equipment shall be of the fully atomizing type equipped with a tank agitator. At the time of use, the compound shall be in a thoroughly mixed condition with the pigment uniformly dispersed throughout the vehicle. During application the compound shall be stirred continuously by mechanical means. Hand spraying of odd widths or shapes and concrete surfaces exposed by the removal of forms will be permitted. When hand spraying is approved by the Engineer, a double application rate shall be used to insure coverage. The curing compound shall be of such character that the film will harden within 30 minutes after application. Should the film become damaged from any cause, including sawing operations, within the required curing period, the damaged portions shall be repaired immediately with additional compound or other approved means. Upon removal of side forms, the sides of the exposed slabs shall be protected immediately to provide a curing treatment equal to that provided for the surface.

b. Polyethylene Films. The top surface and sides of the pavement shall be entirely covered with polyethylene sheeting. The units shall be lapped at least 18 inches (457 mm). The sheeting shall be placed and weighted to cause it to remain in contact with the surface and sides. The sheeting shall have dimensions that will extend at least twice the thickness of the pavement beyond the edges of the pavement. Unless otherwise specified, the sheeting shall be maintained in place for 7 days after the concrete has been placed.

c. Waterproof Paper. The top surface and sides of the pavement shall be entirely covered with waterproofed paper. The units shall be lapped at least 18 inches (457 mm). The paper shall be placed and weighted to cause it to remain in contact with the surface covered. The paper shall have dimensions that will extend at least twice the thickness of the pavement beyond the edges of the slab. The surface of the pavement shall be thoroughly saturated prior to placing of the paper. Unless otherwise specified, the paper shall be maintained in place for 7 days after the concrete has been placed.

d. White Burlap-Polyethylene Sheets. The surface of the pavement shall be entirely covered with the sheeting. The sheeting used shall be such length (or width) that it will extend at least twice the thickness of the pavement beyond the edges of the slab. The sheeting shall be placed so that the entire

surface and both edges of the slab are completely covered. The sheeting shall be placed and weighted to remain in contact with the surface covered, and the covering shall be maintained fully saturated and in position for 7 days after the concrete has been placed.

(1) Curing in Cold Weather. The concrete shall be maintained at a temperature of at least 50 degrees F (10 degrees C) for a period of 72 hours after placing and at a temperature above freezing for the remainder of the curing time. The Contractor shall be responsible for the quality and strength of the concrete placed during cold weather, and any concrete injured by frost action shall be removed and replaced at the Contractor's expense.

e. Water Method. The entire area shall be covered with burlap or other water absorbing material. The material shall be of sufficient thickness to retain water for adequate curing without excessive runoff. The material shall be kept wet at all times and maintained for 7 days. When the forms are stripped, the vertical walls shall also be kept moist. It shall be the responsibility of the Contractor to prevent ponding of the curing water on the subbase.

501-4.15 REMOVING FORMS. Unless otherwise specified, forms shall not be removed from freshly placed concrete until it has hardened sufficiently to permit removal without chipping, spalling, or tearing. After the forms have been removed, the sides of the slab shall be cured as outlined in one of the methods indicated in paragraph 501-4.14. Major honeycombed areas shall be considered as defective work and shall be removed and replaced in accordance with paragraph 501-5.2(f).

501-4.16 SEALING JOINTS. The joints in the pavement shall be sealed in accordance with Item **P-605.**

501-4.17 PROTECTION OF PAVEMENT. The Contractor shall protect the pavement and its appurtenances against both public traffic and traffic caused by the Contractor's employees and agents. This shall include watchmen to direct traffic and the erection and maintenance of warning signs, lights, pavement bridges, crossovers, and protection of unsealed joints from intrusion of foreign material, etc. Any damage to the pavement occurring prior to final acceptance shall be repaired or the pavement replaced at the Contractor's expense. The Contractor shall have available at all times, materials for the protection of the edges and surface of the unhardened concrete. Such protective materials shall consist of rolled polyethylene sheeting at least 4 mils (0.1 mm) thick of sufficient length and width to cover the plastic concrete slab and any edges. The sheeting may be mounted on either the paver or a separate movable bridge from which it can be unrolled without dragging over the plastic concrete surface. When rain appears imminent, all paving operations shall stop and all available personnel shall begin covering the surface of the unhardened concrete with the protective covering.

501-4.18 OPENING TO TRAFFIC. The pavement shall not be opened to traffic until test specimens molded and cured in accordance with ASTM C 31 have attained a flexural strength of 550 pounds per square inch (3,792 kPa) when tested in accordance with ASTM C 78. If such tests are not conducted, the pavement shall not be opened to traffic until 14 days after the concrete was placed. Prior to opening the pavement to construction traffic, all joints shall either be sealed or protected from damage to the joint edge and intrusion of foreign materials into the joint. As a minimum, backer rod or tape may be used to protect the joints from foreign matter intrusion. The pavement shall be cleaned before opening for normal operations.

501-4.19 REPAIR, REMOVAL, REPLACEMENT OF SLABS.

a. General. New pavement slabs that are broken or contain cracks shall be removed and replaced or repaired, as specified hereinafter at no cost to the owner. Spalls along joints shall be repaired as specified. Removal of partial slabs is not permitted. Removal and replacement shall be full depth, shall be full width of the slab, and the limit of removal shall be normal to the paving lane and to each original transverse joint. The engineer will determine whether cracks extend full depth of the pavement and may require cores to be drilled on the crack to determine depth of cracking. Such cores shall be 4-inch (100 mm) diameter, shall be drilled by the Contractor and shall be filled by the Contractor with a well consolidated concrete mixture bonded to the walls of the hole with epoxy resin, using approved

procedures. Drilling of cores and refilling holes shall be at no expense to the owner. All epoxy resin used in this work shall conform to ASTM C 881, Type V.

b. Shrinkage Cracks. Shrinkage cracks, which do not exceed 4 inches in depth, shall be cleaned and then pressure injected with epoxy resin, Type IV, Grade 1, using procedures as approved. Care shall be taken to assure that the crack is not widened during epoxy resin injection. All epoxy resin injection shall take place in the presence of the Engineer. Shrinkage cracks, which exceed 4 inches in depth, shall be treated as full depth cracks in accordance with paragraphs 4.19b and 4.19c.

c. Slabs With Cracks through Interior Areas. Interior area is defined as that area more than 6 inches (600 mm) from either adjacent original transverse joint. The full slab shall be removed and replaced at no cost to the owner, when there are any full depth cracks, or cracks greater than 4" in depth, that extend into the interior area.

d. Cracks Close To and Parallel To Joints. All cracks essentially parallel to original joints, extending full depth of the slab, and lying wholly within 6 inches either side of the joint shall be treated as specified hereinafter. Any crack extending more than 6 inches (600 mm) from the joint shall be treated as specified above in subparagraph "Slabs With Cracks Through Interior Area."

(1) Full Depth Cracks Present, Original Joint Not Opened. When the original uncracked joint has not opened, the crack shall be sawed and sealed, and the original joint filled with epoxy resin as specified below. The crack shall be sawed with equipment specially designed to follow random cracks. The reservoir for joint sealant in the crack shall be formed by sawing to a depth of 3/4 inch (19 mm), plus or minus 1/16 inch (1.6 mm), and to a width of 5/8 inch (16 mm), plus or minus 1/8 inch (3.2 mm). Any equipment or procedure which causes raveling or spalling along the crack shall be modified or replaced to prevent such raveling or spalling. The joint sealant shall be a liquid sealant as specified. Installation of joint seal shall be as specified for sealing joints or as directed. If the joint sealant reservoir has been sawed out, the reservoir and as much of the lower saw cut as possible shall be filled with epoxy resin, Type IV, Grade 2, thoroughly tooled into the void using approved procedures. If only the original narrow saw cut has been made, it shall be cleaned and pressure injected with epoxy resin, Type IV, Grade 1, using approved procedures. If filler type material has been used to form a weakened plane in the transverse joint, it shall be completely sawed out and the saw cut pressure injected with epoxy resin, Type IV, Grade 1, using approved procedures. Where a parallel crack goes part way across paving lane and then intersects and follows the original joint which is cracked only for the remained of the width, it shall be treated as specified above for a parallel crack, and the cracked original joint shall be prepared and sealed as originally designed.

(2) Full Depth Cracks Present, Original Joint Also Cracked. At a joint, if there is any place in the lane width where a parallel crack and a cracked portion of the original joint overlap, the entire slab containing the crack shall be removed and replaced for the full lane width and length.

e. Removal and Replacement of Full Slabs. Where it is necessary to remove full slabs, unless there are keys or dowels present, all edges of the slab shall be cut full depth with a concrete saw. All saw cuts shall be perpendicular to the slab surface. If keys, dowels, or tie bars are present along any edges, these edges shall be sawed full depth 24 inches (150 mm) from the edge if only keys are present, or just beyond the end of the dowels or tie bars if they are present. These joints shall then be carefully sawed on the joint line to within 1 inch (25 mm) of the depth of the dowel or key.

The main slab shall be further divided by sawing full depth, at appropriate locations, and each piece lifted out and removed. Suitable equipment shall be used to provide a truly vertical lift, and approved safe lifting devices used for attachment to the slabs. The narrow strips along keyed or doweled edges shall be carefully broken up and removed using light, hand-held jackhammers, 30 LB (14 kg) or less, or other approved similar equipment.

Care shall be taken to prevent damage to the dowels, tie bars, or keys or to concrete to remain in place. The joint face below keys or dowels shall be suitably trimmed so that there is not abrupt offset in any

direction greater than 1/2 inch (12 mm) and no gradual offset greater than 1 inch (25 mm) when tested in a horizontal direction with a 12-foot (3.6 m) straightedge.

No mechanical impact breakers, other than the above hand-held equipment shall be used for any removal of slabs. If underbreak between 1-1/2 and 4 inches (37 and 100 mm) deep occurs at any point along any edge, the area shall be repaired as directed before replacing the removed slab. Procedures directed will be similar to those specified for surface spalls, modified as necessary.

If underbreak over 4 inches (100 mm) deep occurs, the entire slab containing the underbreak shall be removed and replaced. Where there are no dowels, tie bars, or keys on an edge, or where they have been damaged, dowels of the size and spacing as specified for other joints in similar pavement shall be installed by epoxy grouting them into holes drilled into the existing concrete using procedures as specified. Original damaged dowels or tie bars shall be cut off flush with the joint face. Protruding portions of dowels shall be painted and lightly oiled. All 4 edges of the new slab shall thus contain dowels or original keys or original tie bars.

Placement of concrete shall be as specified for original construction. Prior to placement of new concrete, the underlying material (unless it is stabilized) shall be re-compacted and shaped as specified in the appropriate SECTION of these specifications. The surfaces of all four joint faces shall be cleaned of all loose material and contaminants and coated with a double application of membrane forming curing compound as bond breaker. Care shall be taken to prevent any curing compound from contacting dowels or tie bars. The resulting joints around the new slab shall be prepared and sealed as specified for original construction.

f. Repairing Spalls Along Joints. Where directed, spalls along joints of new slabs, and along parallel cracks used as replacement joints, shall be repaired by first making a vertical saw cut at least 1 inch (25 mm) outside the spalled area and to a depth of at least 2 inches (50 mm). Saw cuts shall be straight lines forming rectangular areas. The concrete between the saw cut and the joint, or crack, shall be chipped out to remove all unsound concrete and at least 1/2 inch (12 mm) of visually sound concrete. The cavity thus formed shall be thoroughly cleaned with high-pressure water jets supplemented with compressed air to remove all loose material. Immediately before filling the cavity, a prime coat of epoxy resin, Type III, Grade I, shall be applied to the dry cleaned surface of all sides and bottom of the cavity, except any joint face. The prime coat shall be applied in a thin coating and scrubbed into the surface with a stiff-bristle brush. Pooling of epoxy resin shall be avoided. The cavity shall be filled with low slump Portland cement concrete or mortar or with epoxy resin concrete or mortar. Concrete shall be used for larger spalls, generally those more than 1/2 cu. ft. (0.014 m3) in size, and mortar SHALL BE USED FOR THE SMALLER ONES. ANY SPALL LESS THAN 0.1 CU. FT. (O.OO3 m3) shall be repaired only with epoxy resin mortar or a Grade III epoxy resin. Portland cement concrete and mortar mixtures shall be proportioned as directed and shall be mixed, placed, consolidated, and cured as directed. Epoxy resin mortars shall be made with Type III, Grade 1, epoxy resin, using proportions and mixing and placing procedures as recommended by the manufacturer and approved by the Engineer. The epoxy resin materials shall be placed in the cavity in layers not over 2 inches (50 mm) thick. The time interval between placement of additional layers shall be such that the temperature of the epoxy resin material does not exceed 140oF (60oC) at any time during hardening. Mechanical vibrators and hand tampers shall be used to consolidate the concrete or mortar. Any repair material on the surrounding surfaces of the existing concrete shall be removed before it hardens. Where the spalled area abuts a joint, an insert or other bond-breaking medium shall be used to prevent bond at the joint face. A reservoir for the joint sealant shall be sawed to the dimensions required for other joints, or as required to be routed for cracks. The reservoir shall be thoroughly cleaned and sealed with the sealer specified for the joints. If any spall penetrates half the depth of the slab or more, the entire slab shall be removed and replaced as previously specified.

501-4.20 EXISTING CONCRETE PAVEMENT REMOVAL AND REPAIR.

All operations shall be carefully controlled to prevent damage to the concrete pavement and to the underlying material to remain in place. All saw cuts shall be made perpendicular to the slab surface.

a. Removal of Existing Pavement Slab.

When it is necessary to remove existing concrete pavement and leave adjacent concrete in place, the joint between the removal area and adjoining pavement to stay in place, **including dowels, tie bars or keys**, shall first be cut full depth with a standard diamond-type concrete saw. **If dowels are present at this joint, the saw cut shall be made full depth just beyond the end of dowels. The edge shall then be carefully sawed on the joint line to within 1 inch (25 mm) of the top of the dowel.** Next, a full depth saw cut shall be made parallel to the joint at least 24 inches (600 mm) from the joint and at least 12 inches (300 mm) from the end of any dowels. All pavement between this last saw cut and the joint line shall be carefully broken up and removed using hand-held jackhammers, 30 lb. (14 kg) or less, or the approved light-duty equipment which will not cause stress to propagate across the joint saw cut and cause distress in the pavement which is to remain in place. **Where dowels are present, care shall be taken to produce an even, vertical joint face below the dowels. If the Contractor is unable to produce such a joint face, or if underbreak or other distress occurs, the Contractor shall saw the dowels flush with the joint. The Contractor shall then install new dowels, of the size and spacing used for other similar joints, by epoxy resin bonding them in holes drilled in the joint face as specified in paragraph "Placing dowels and Tie-bars. All this shall be at no additional cost to the Owner.** The joint face shall be sawed or otherwise trimmed so that there is no abrupt offset in any direction greater than 1/2-inch (12 mm) and no gradual offset greater than 1 inch (25 mm) when tested in a horizontal direction with a 12 ft. (3.6 m) straightedge.

b. Edge Repair.

The edge of existing concrete pavement against which new pavement abuts shall be protected from damage at all times. Areas that are damaged during construction shall be repaired at not cost to the Owner; repair of previously existing damage areas **will be considered a subsidiary part of concrete pavement construction**.

(1) Spall Repair. Spalls shall be repaired where indicated and where directed. Repair materials and procedures shall be as previously specified in subparagraph "Repairing Spalls Along Joints."

(2) Underbreak Repair. All underbreak shall be repaired. First, all delaminated and loose material shall be carefully removed. Next, the underlying material shall be recompacted, without addition of any new material. Finally, the void shall be completely filled with paving concrete, thoroughly consolidated. Care shall be taken to produce an even joint face from top to bottom. Prior to placing concrete, the underlying material shall be thoroughly moistened. After placement, the exposed surface shall be heavily coated with curing compound.

(3) Underlying Material. The underlying material adjacent to the edge of an under the existing pavement which is to remain in place shall be protected from damage or disturbance during removal operations and until placement of new concrete, and shall be shaped as shown on the drawings or as directed. Sufficient material shall be kept in place outside the joint line to prevent disturbance (or sloughing) of material under the pavement that is to remain in place. Any material under the portion of the concrete pavement to remain in place, which is disturbed or loses its compaction shall be carefully removed and replaced with concrete as specified in paragraph "Underbreak Repair." The underlying material outside the joint line shall be thoroughly compacted and moist when new concrete is placed.

MATERIAL ACCEPTANCE

501-5.1 ACCEPTANCE SAMPLING AND TESTING. All acceptance sampling and testing necessary to determine conformance with the requirements specified in this section, with the exception of coring for thickness determination, will be performed by the Engineer at no cost to the Contractor. The Contractor

shall bear the cost of providing curing facilities for the strength specimens, per paragraph 501-5.1a(3), and coring and filling operations, per paragraph 501-5.1b(1).

Testing organizations performing these tests shall meet the requirements of ASTM C 1077. The laboratory accreditation must be current and listed on the accrediting authority's website. All test methods required for acceptance sampling and testing must be listed on the lab accreditation. A copy of the laboratory's current accreditation and accredited test methods shall be submitted to the Engineer prior to start of construction.

Concrete shall be accepted for strength and thickness on a lot basis.

A lot shall consist of:

a day's production not to exceed 4,000 square yards (3,350 square meters).

a. Flexural Strength.

(1) Sampling. Each lot shall be divided into four equal sublots. One sample shall be taken for each sublot from the plastic concrete delivered to the job site. Sampling locations shall be determined by the Engineer in accordance with random sampling procedures contained in ASTM D 3665. The concrete shall be sampled in accordance with ASTM C 172.

(2) Testing. Two (2) specimens shall be made from each sample. Specimens shall be made in accordance with ASTM C 31 and the flexural strength of each specimen shall be determined in accordance with ASTM C 78. The flexural strength for each sublot shall be computed by averaging the results of the two test specimens representing that sublot.

Immediately prior to testing for flexural strength, the beam shall be weighed and measured for determination of a sample unit weight. Measurements shall be made for each dimension; height, depth, and length, at the mid-point of the specimen and reported to the nearest tenth of an inch. The weight of the specimen shall be reported to the nearest 0.1 pound. The sample unit weight shall be calculated by dividing the sample weight by the calculated volume of the sample. This information shall be reported as companion information to the measured flexural strength for each specimen.

The samples will be transported while in the molds. The curing, except for the initial cure period, will be accomplished using the immersion in saturated lime water method.

Slump, air content, and temperature tests will also be conducted by the quality assurance laboratory for each set of strength test samples, per ASTM C 31.

(3) Curing. The Contractor shall provide adequate facilities for the initial curing of beams. During the 24 hours after molding, the temperature immediately adjacent to the specimens must be maintained in the range of 60 to 80 degrees F (16 to 27 degrees C), and loss of moisture from the specimens must be prevented. The specimens may be stored in tightly constructed wooden boxes, damp sand pits, temporary buildings at construction sites, under wet burlap in favorable weather, or in heavyweight closed plastic bags, or using other suitable methods, provided the temperature and moisture loss requirements are met.

(4) Acceptance. Acceptance of pavement for flexural strength will be determined by the Engineer in accordance with paragraph 501-5.2b.

b. Pavement Thickness.

(1) Sampling. Each lot shall be divided into four equal sublots and one core shall be taken by the Contractor for each sublot. Sampling locations shall be determined by the Engineer in accordance

with random sampling procedures contained in ASTM D 3665. Areas, such as thickened edges, with planned variable thickness, shall be excluded from sample locations.

Cores shall be neatly cut with a core drill. The Contractor shall furnish all tools, labor, and materials for cutting samples and filling the cored hole. Core holes shall be filled by the Contractor with a non-shrink grout approved by the Engineer within one day after sampling.

(2) Testing. The thickness of the cores shall be determined by the Engineer by the average caliper measurement in accordance with ASTM C 174.

(3) Acceptance. Acceptance of pavement for thickness shall be determined by the Engineer in accordance with paragraph 501-5.2c.

c. Partial Lots. When operational conditions cause a lot to be terminated before the specified number of tests have been made for the lot, or when the Contractor and Engineer agree in writing to allow overages or minor placements to be considered as partial lots, the following procedure will be used to adjust the lot size and the number of tests for the lot.

Where three sublots have been produced, they shall constitute a lot. Where one or two sublots have been produced, they shall be incorporated into the next lot or the previous lot and the total number of sublots shall be used in the acceptance criteria calculation, i.e., n=5 or n=6.

d. Outliers. All individual flexural strength tests within a lot shall be checked for an outlier (test criterion) in accordance with ASTM E 178, at a significance level of 5 percent. Outliers shall be discarded, and the PWL shall be determined using the remaining test values.

501-5.2 ACCEPTANCE CRITERIA.

a. General. Acceptance will be based on the following characteristics of the completed pavement:

(1) Flexural strength
(2) Thickness
(3) Smoothness
(4) Grade
(5) Edge slump
(6) Dowel bar alignment

Flexural strength and thickness shall be evaluated for acceptance on a lot basis using the method of estimating percentage of material within specification limits (PWL). Acceptance using PWL considers the variability (standard deviation) of the material and the testing procedures, as well as the average (mean) value of the test results to calculate the percentage of material that is above the lower specification tolerance limit (L).

Acceptance for flexural strength will be based on the criteria contained in accordance with paragraph 501-5.2e(1). Acceptance for thickness will be based on the criteria contained in paragraph 501-5.2e(2). Acceptance for smoothness will be based on the criteria contained in paragraph 501-5.2e(3). Acceptance for grade will be based on the criteria contained in paragraph 501-5.2e(4).

The Engineer may at any time, not withstanding previous plant acceptance, reject and require the Contractor to dispose of any batch of concrete mixture which is rendered unfit for use due to contamination, segregation, or improper slump. Such rejection may be based on only visual inspection. In the event of such rejection, the Contractor may take a representative sample of the rejected material in the presence of the Engineer, and if it can be demonstrated in the laboratory, in the presence of the Engineer, that such material was erroneously rejected, payment will be made for the material at the contract unit price.

b. Flexural Strength. Acceptance of each lot of in-place pavement for flexural strength shall be based on PWL. The Contractor shall target production quality to achieve 90 PWL or higher.

c. Pavement Thickness. Acceptance of each lot of in-place pavement shall be based on PWL. The Contractor shall target production quality to achieve 90 PWL or higher.

d. Percentage of Material Within Limits (PWL). The percentage of material within limits (PWL) shall be determined in accordance with procedures specified in Section 110 of the General Provisions.

The lower specification tolerance limit (L) for flexural strength and thickness shall be:

Lower Specification Tolerance Limit (L)

Flexural Strength	0.93 × strength specified in paragraph 501-3.1
Thickness	Lot Plan Thickness in Inches – 0.50 inches

e. Acceptance Criteria.

(1) Flexural Strength. If the PWL of the lot equals or exceeds 90 percent, the lot shall be acceptable. Acceptance and payment for the lot shall be determined in accordance with paragraph 501-8.1.

(2) Thickness. If the PWL of the lot equals or exceeds 90 percent, the lot shall be acceptable. Acceptance and payment for the lot shall be determined in accordance with paragraph 501-8.1.

(3) Smoothness. As soon as the concrete has hardened sufficiently, the pavement surface shall be tested with a 16-foot (5 m) straightedge or other specified device. Surface smoothness deviations shall not exceed 1/4 inch (6 mm) from a 16-foot (5 m) straightedge placed in any direction, including placement along and spanning any pavement joint edge.

Areas in a slab showing high spots of more than 1/4 inch (6 mm) but not exceeding 1/2 inch (13 mm) in 16 feet (5 m) shall be marked and immediately ground down with an approved grinding machine to an elevation that will fall within the tolerance of 1/4 inch (6 mm) or less. Where the departure from correct cross section exceeds 1/2 inch (13 mm), the pavement shall be removed and replaced at the expense of the Contractor when so directed by the Engineer.

(4) Grade. An evaluation of the surface grade shall be made by the Engineer for compliance to the tolerances contained below. The finish grade will be determined by running levels at intervals of 50 ft (15.2 m) or less longitudinally and all breaks in grade transversely (not to exceed 50 ft) to determine the elevation of the completed pavement. The Contractor shall pay the costs of surveying the level runs, and this work shall be performed by a licensed surveyor. The documentation, stamped and signed by a licensed surveyor, shall be provided by the Contractor to the Engineer.

Lateral Deviation. Lateral deviation from established alignment of the pavement edge shall not exceed plus or minus 0.10 foot (30 mm) in any lane.

Vertical Deviation. Vertical deviation from established grade shall not exceed plus or minus 0.04 foot (12 mm) at any point.

(5) Edge Slump. When slip-form paving is used, not more than 15 percent of the total free edge of each 500 foot (150 m) segment of pavement, or fraction thereof, shall have an edge slump exceeding 1/4-inch (6 mm), and none of the free edge of the pavement shall have an edge slump exceeding 3/8-inch (10 mm). (The total free edge of 500 feet (150 m) of pavement will be considered the

cumulative total linear measurement of pavement edge originally constructed as nonadjacent to any existing pavement; i.e., 500 feet (150 m) of paving lane originally constructed as a separate lane will have 1,000 feet (300 m) of free edge, 500 feet (150 m) of fill-in lane will have no free edge, etc.). The area affected by the downward movement of the concrete along the pavement edge shall be limited to not more than 18 inches (457 mm) from the edge. When excessive edge slump cannot be corrected before the concrete has hardened, the area with excessive edge slump shall be removed and replaced at the expense of the Contractor when so directed by the Engineer.

(6) Dowel Bar Alignment. Dowel bars and assemblies shall be checked for position and alignment. The maximum permissible tolerance on dowel bar alignment in each plane, horizontal and vertical, shall not exceed 2 percent or 1/4 inch per foot (20 mm per meter) of a dowel bar. Vertical alignment of dowels shall be measured parallel to the designed top surface of the pavement, except for those across the crown or other grade change joints. Dowels across crowns and other joints at grade changes, shall be measured to a level surface. Horizontal alignment shall be checked perpendicular to the joint edge.

f. Removal and Replacement of Concrete. Any area or section of concrete that is removed and replaced shall be removed and replaced back to planned joints. The Contractor shall replace damaged dowels and the requirements for doweled longitudinal construction joints in paragraph 501-4.10 shall apply to all contraction joints exposed by concrete removal. Removal and replacement shall be in accordance with paragraph 501-4.19 of this specification.

CONTRACTOR QUALITY CONTROL

501-6.1 QUALITY CONTROL PROGRAM. The Contractor shall develop a Quality Control Program in accordance with Section 100 of the General Provisions. The program shall address all elements that effect the quality of the pavement including but not limited to:

a. Mix Design	**e.** Proportioning	**i.** Dowel Placement and Alignment
b. Aggregate Gradation	**f.** Mixing and Transportation	**j.** Flexural or Compressive Strength
c. Quality of Materials	**g.** Placing and Consolidation	**k.** Finishing and Curing
d. Stockpile Management	**h.** Joints	**l.** Surface Smoothness

501-6.2 QUALITY CONTROL TESTING. The Contractor shall perform all quality control tests necessary to control the production and construction processes applicable to this specification and as set forth in the Quality Control Program. The testing program shall include, but not necessarily be limited to, tests for aggregate gradation, aggregate moisture content, slump, and air content.

A Quality Control Testing Plan shall be developed as part of the Quality Control Program.

a. Fine Aggregate.

(1) Gradation. A sieve analysis shall be made at least twice daily in accordance with ASTM C 136 from randomly sampled material taken from the discharge gate of storage bins or from the conveyor belt.

(2) Moisture Content. If an electric moisture meter is used, at least two direct measurements of moisture content shall be made per week to check the calibration. If direct measurements are made in lieu of using an electric meter, two tests shall be made per day. Tests shall be made in accordance with ASTM C 70 or ASTM C 566.

b. Coarse Aggregate.

(1) Gradation. A sieve analysis shall be made at least twice daily for each size of aggregate. Tests shall be made in accordance with ASTM C 136 from randomly sampled material taken from the discharge gate of storage bins or from the conveyor belt.

(2) Moisture Content. If an electric moisture meter is used, at least two direct measurements of moisture content shall be made per week to check the calibration. If direct measurements are made in lieu of using an electric meter, two tests shall be made per day. Tests shall be made in accordance with ASTM C 566.

c. Slump. Four slump tests shall be performed for each lot of material produced in accordance with the lot size defined in Section 501-5.1. One test shall be made for each sublot. Slump tests shall be performed in accordance with ASTM C 143 from material randomly sampled from material discharged from trucks at the paving site. Material samples shall be taken in accordance with ASTM C 172.

d. Air Content. Four air content tests, shall be performed for each lot of material produced in accordance with the lot size defined in Section 501-5.1. One test shall be made for each sublot. Air content tests shall be performed in accordance with ASTM C 231 for gravel and stone coarse aggregate and ASTM C 173 for slag or other porous coarse aggregate, from material randomly sampled from trucks at the paving site. Material samples shall be taken in accordance with ASTM C 172.

e. Four unit weight and yield tests shall be made in accordance with ASTM C 138. The samples shall be taken in accordance with ASTM C 172 and at the same time as the air content tests.

501-6.3 CONTROL CHARTS. The Contractor shall maintain linear control charts for fine and coarse aggregate gradation, slump, and air content.

Control charts shall be posted in a location satisfactory to the Engineer and shall be kept up to date at all times. As a minimum, the control charts shall identify the project number, the contract item number, the test number, each test parameter, the Action and suspension Limits, or Specification limits, applicable to each test parameter, and the Contractor's test results. The Contractor shall use the control charts as part of a process control system for identifying potential problems and assignable causes before they occur. If the Contractor's projected data during production indicates a potential problem and the Contractor is not taking satisfactory corrective action, the Engineer may halt production or acceptance of the material.

a. Fine and Coarse Aggregate Gradation. The Contractor shall record the running average of the last five gradation tests for each control sieve on linear control charts. Specification limits contained in Tables 1 and 2 shall be superimposed on the Control Chart for job control.

b. Slump and Air Content. The Contractor shall maintain linear control charts both for individual measurements and range (i.e. difference between highest and lowest measurements) for slump and air content in accordance with the following Action and Suspension Limits.

CONTROL CHART LIMITS			
Control Parameter	Individual Measurements		Range Suspension Limit
	Action Limit	Suspension Limit	
Slip Form:			
Slump	+0 to -1 inch (0-25mm)	+0.5 to -1.5 inch (13-38mm)	+/- 1.5 inch (38 mm)
Air Content	+/- 1.2%	+/- 1.8%	+/- 2.5%
Fixed Form			
Slump	+ 0.5 to -1 inch (13-25mm)	+1 to -1.5 inch (25-38mm)	+/- 1.5 inch (38mm)
Air Content	+/- 1.2%	+/- 1.8%	+/- 2.5%

The individual measurement control charts shall use the mix design target values as indicators of central tendency.

501-6.4 CORRECTIVE ACTION. The Contractor Quality Control Program shall indicate that appropriate action shall be taken when the process is believed to be out of control. The Contractor Quality Control Program shall detail what action will be taken to bring the process into control and shall contain sets of rules to gauge when a process is out of control. As a minimum, a process shall be deemed out of control and corrective action taken if any one of the following conditions exists.

a. Fine and Coarse Aggregate Gradation. When two consecutive averages of five tests are outside of the Tables 1 or 2 specification limits, immediate steps, including a halt to production, shall be taken to correct the grading.

b. Fine and Coarse Aggregate Moisture Content. Whenever the moisture content of the fine or coarse aggregate changes by more than 0.5 percent, the scale settings for the aggregate batcher(s) and water batcher shall be adjusted.

c. Slump. The Contractor shall halt production and make appropriate adjustments whenever:

(1) one point falls outside the Suspension Limit line for individual measurements or range; or
(2) two points in a row fall outside the Action Limit line for individual measurements.

d. Air Content. The Contractor shall halt production and adjust the amount of air-entraining admixture whenever:

(1) one point falls outside the Suspension Limit line for individual measurements or range; or
(2) two points in a row fall outside the Action Limit line for individual measurements.

Whenever a point falls outside the Action Limits line, the air-entraining admixture dispenser shall be calibrated to ensure that it is operating correctly and with good reproducibility.

METHOD OF MEASUREMENT

501-7.1 Portland cement concrete pavement shall be measured by the number of **square yards (square meters)** of either plain or reinforced pavement as specified in-place, completed and accepted. Saw-cut grooving shall be measured by the number of square yards (square meters) of saw-cut grooving as specified in-place, completed and accepted.

BASIS OF PAYMENT

501-8.1 PAYMENT. Payment for concrete pavement meeting all acceptance criteria as specified in paragraph 501-5.2 Acceptance Criteria shall be based on results of strength and thickness tests.

Payment for acceptable lots of concrete pavement shall be adjusted in accordance with paragraph 501-8.1a for strength and thickness and 501-8.1c for smoothness, subject to the limitation that:

The total project payment for concrete pavement shall not exceed **100** percent of the product of the contract unit price and the total number of **square yards (square meters)** of concrete pavement used in the accepted work (See Note 2 under Table 3).

Payment shall be full compensation for all labor, materials, tools, equipment, and incidentals required to complete the work as specified herein and on the drawings, except for saw-cut grooving.

a. Basis of Adjusted Payment. The pay factor for each individual lot shall be calculated in accordance with Table 3. A pay factor shall be calculated for both flexural strength and thickness. The lot pay factor shall be the higher of the two values when calculations for both flexural strength and thickness are 100 percent or higher. The lot pay factor shall be the product of the two values when only one of the calculations for either flexural strength or thickness is 100 percent or higher. The lot pay factor shall be the lower of the two values when calculations for both flexural strength and thickness are less than 100 percent .

TABLE 3. PRICE ADJUSTMENT SCHEDULE [1]

Percentage of Material Within Specification Limits (PWL)	Lot Pay Factor (Percent of Contract Unit Price)
96 – 100	106
90 – 95	PWL + 10
75 – 90	0.5PWL + 55
55 – 74	1.4PWL – 12
Below 55	Reject [2]

[1] ALTHOUGH IT IS THEORETICALLY POSSIBLE TO ACHIEVE A PAY FACTOR OF 106 PERCENT FOR EACH LOT, ACTUAL PAYMENT IN EXCESS OF 100 PERCENT SHALL BE SUBJECT TO THE TOTAL PROJECT PAYMENT LIMITATION SPECIFIED IN PARAGRAPH 501-8.1.

[2] The lot shall be removed and replaced. However, the Engineer may decide to allow the rejected lot to remain. In that case, if the Engineer and Contractor agree in writing that the lot shall not be removed, it shall be paid for at 50 percent of the contract unit price AND THE TOTAL PROJECT PAYMENT LIMITATION SHALL BE REDUCED BY THE AMOUNT WITHHELD FOR THE REJECTED LOT.

For each lot accepted, the adjusted contract unit price shall be the product of the lot pay factor for the lot and the contract unit price. Payment shall be subject to the total project payment limitation specified in paragraph 501-8.1. Payment in excess of 100 percent for accepted lots of concrete pavement shall be used to offset payment for accepted lots of concrete pavement that achieve a lot pay factor less than 100 percent.

b. Payment. Payment shall be made under:

Item P-501-8.1a	**13"** Portland Cement Concrete Pavement—**per square yard (square meter)**

c. Basis of adjusted payment for Smoothness. Price adjustment for pavement smoothness will apply to the total area of concrete within a section of pavement and shall be applied in accordance the following equation and schedule:

(Sq yds in section) x (original unit price per sq yds) x PFm =

= reduction in payment for area within section

Average Profile Index (Inches per mile) pavement strength rating			Contract Unit Price Adjustment
over 30,000 lb	30,000 lb or less	Short Sections	PFm
0 - 7	0 - 10	0 - 15	0.00
7.1 - 9	10.1 - 11	15.1 - 16	0.02
9.1 - 11	11.1 - 12	16.1 - 17	0.04
11.1 - 13	12.1 - 13	17.1 - 18	0.06
13.1 - 14	13.1 - 14	18.1 - 20	0.08
14.1 - 15	14.1 - 15	20.1 - 22	0.10
15.1 & up	15.1 & up	22.1 & up	corrective work required

TESTING REQUIREMENTS

ASTM C 31	Making and Curing Concrete Test Specimens in the Field
ASTM C 39	Compressive Strength of Cylindrical Concrete Specimens
ASTM C 70	Surface Moisture in Fine Aggregate
ASTM C 78	Test for Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)
ASTM C 88	Test for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C 131	Test for Resistance to Abrasion of Small Size Coarse Aggregate by Use of the Los Angeles Machine
ASTM C 136	Sieve Analysis of Fine and Coarse Aggregates
ASTM C 138	Test for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
ASTM C 143	Test for Slump of Hydraulic Cement Concrete
ASTM C 172	Sampling Freshly Mixed Concrete
ASTM C 173	Test for Air Content of Freshly Mixed Concrete by the Volumetric Method
ASTM C 174	Measuring Thickness of Concrete Elements Using Drilled Concrete Cores
ASTM C 227	Potential Alkali Reactivity of Cement-Aggregate Combinations (Mortar-Bar Method)
ASTM C 231	Test for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C 289	Potential Alkali-Silica Reactivity of Aggregates (Chemical Method)
ASTM C 295	Petrographic Examination of Aggregates for Concrete
ASTM C 114	Chemical Analysis of Hydraulic Cement
ASTM C 535	Test for Resistance to Degradation of Large-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine

ASTM C 566	Total Evaporable Moisture Content of Aggregates by Drying
ASTM C 642	Test for Density, Absorption, and Voids in Hardened Concrete
ASTM C 666	Resistance of Concrete to Rapid Freezing and Thawing
ASTM C 1077	Standard Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction And Criteria for Laboratory Evaluation
ASTM C 1260	Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)
ASTM D 3665	Random Sampling of Paving Materials
ASTM D 4791	Test Method for Flat or Elongated Particles in Coarse Aggregate
ASTM E 178	Practice for Dealing With Outlying Observations
ASTM E 1274	Test for Measuring Pavement Roughness Using a Profilograph
AASHTO T 26	Quality of Water to be Used in Concrete

MATERIAL REQUIREMENTS

ASTM A 184	Specification for Fabricated Deformed Steel Bar Mats for Concrete Reinforcement
ASTM A 185	Specification for Steel Welded Wire Fabric, Plain, for Concrete Reinforcement
ASTM A 497	Specification for Steel Welded Wire Fabric, Deformed, for Concrete Reinforcement
ASTM A 615	Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
ASTM A 704	Specification for Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement
ASTM A 714	Specification for High-Strength Low-Alloy Welded and Seamless Steel Pipe
ASTM A 996	Specification for Rail-Steel and Axle Steel Deformed Bars for Concrete Reinforcement
ASTM C 33	Specification for Concrete Aggregates
ASTM C 94	Specification for Ready-Mixed Concrete
ASTM C 150	Specification for Portland Cement
ASTM C 171	Specification for Sheet Materials for Curing Concrete
ASTM C 260	Specification for Air-Entraining Admixtures for Concrete
ASTM C 309	Specification for Liquid Membrane-Forming Compounds for Curing Concrete
ASTM C 494	Specification for Chemical Admixtures for Concrete
ASTM C 595	Specification for Blended Hydraulic Cements

ASTM C 618	Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete
ASTM C 881	Specification for Epoxy-Resin Base Bonding System for Concrete
ASTM C 989	Specification for Ground Granulated Blast-Furnace Slag for Use in Concrete and Mortars
ASTM D 1751	Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types)
ASTM D 1752	Specification for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving And Structural Construction
ACI 305R	Hot Weather Concreting
ACI 306R	Cold Weather Concreting
ACI 309	Guide for Consolidation of Concrete

MIL-DTL-24441/20a(1999)_Paint, Epoxy-Polyamide, Green Primer, Formula 150, Type III
Department of Defense

END ITEM P-501

ITEM P-602 BITUMINOUS PRIME COAT is hereby amended with respect to the paragraphs and sections sited below.

Replace to the following paragraph as noted:

602-4.1 The bituminous material for prime coat shall not be measured for separate payment.

Replace to the following paragraph as noted:

602-5.1 The bituminous material for prime coat shall not be paid for separately but shall be considered subsidiary to the item in which it is contained: Item P-209 ".Crushed Aggregate Base Course (6")"

END OF MOD P-602

ITEM P-602 BITUMINOUS PRIME COAT

DESCRIPTION

602-1.1 This item shall consist of an application of bituminous material on the prepared base course in accordance with these specifications and in reasonably close conformity to the lines shown on the plans.

MATERIALS

602-2.1 BITUMINOUS MATERIAL. The types, grades, controlling specifications, and application temperatures for the bituminous materials are given in Table 1. The Engineer shall designate the specific material to be used.

TABLE 1. BITUMINOUS MATERIAL

		Application Temperatures \1\	
Type and Grade	Specification	Deg. F	Deg. C
Emulsified Asphalt			
SS-1, SS-1h	ASTM D 977	70-160	20-70
MS-2, HFMS-1	ASTM D 977	70-160	20-70
CSS-1, CSS-1h	ASTM D 2397	70-160	20-70
CMS-2	ASTM D 2397	70-160	20-70
Cutback Asphalt			
RC-30	ASTM D 2028	80+	30+
RC-70	ASTM D 2028	120+	50+
RC-250	ASTM D 2028	165+	75+

\1\ The maximum temperature for cutback asphalt shall be that at which fogging occurs.

CONSTRUCTION METHODS

602-3.1 WEATHER LIMITATIONS. The prime coat shall be applied only when the existing surface is dry or contains sufficient moisture to get uniform distribution of the bituminous material, when the atmospheric temperature is above 60°F (15°C), and when the weather is not foggy or rainy. The temperature requirements may be waived, but only when so directed by the Engineer.

602-3.2 EQUIPMENT. The equipment used by the Contractor shall include a self-powered pressure bituminous material distributor and equipment for heating bituminous material.

The distributor shall be designed, equipped, maintained, and operated so that bituminous material at even heat may be applied uniformly on variable widths of surface at the specified rate. The allowable variation from the specified rate shall not exceed 10 percent. Distributor equipment shall include a tachometer, pressure gages, volume-measuring devices or a calibrated tank, and a thermometer for measuring temperatures of tank contents. The distributor shall be self-powered and shall be equipped with a power unit for the pump and full circulation spray bars adjustable laterally and vertically.

If the distributor is not equipped with an operable quick shut off valve, the prime operations shall be started and stopped on building power. The Contractor shall remove blotting sand prior to asphalt concrete lay down operations at no additional expense to the owner.

A power broom and/or blower shall be provided for any required cleaning of the surface to be treated.

602-3.3 APPLICATION OF BITUMINOUS MATERIAL. Immediately before applying the prime coat, the full width of the surface to be primed shall be swept with a power broom to remove all loose dirt and other objectionable material.

The bituminous material including solvent shall be uniformly applied with a bituminous distributor at the rate of 0.25 to 0.50 gallons per square yard (1.20 to 2.40 liters per square meter) depending on the base course surface texture. The type of bituminous material and application rate shall be approved by the Engineer prior to application.

Following the application, the primed surface shall be allowed to dry not less than 48 hours without being disturbed or for such additional time as may be necessary to permit the drying out of the prime coat until it will not be picked up by traffic or equipment. This period shall be determined by the Engineer. The surface shall then be maintained by the Contractor until the surfacing has been placed. Suitable precautions shall be taken by the Contractor to protect the primed surface against damage during this interval, including supplying and spreading any sand necessary to blot up excess bituminous material.

602-3.4 BITUMINOUS MATERIAL CONTRACTOR'S RESPONSIBILITY. Samples of the bituminous materials that the Contractor proposes to use, together with a statement as to their source and character, must be submitted and approved before use of such material begins. The Contractor shall require the manufacturer or producer of the bituminous materials to furnish material subject to this and all other pertinent requirements of the contract. Only satisfactory materials, so demonstrated by service tests, shall be acceptable.

The Contractor shall furnish vendor's certified test reports for each carload, or equivalent, of bituminous material shipped to the project. The test reports shall contain all the data required by the applicable specification. If the Contractor applies the prime material prior to receipt of the tests reports, payment for the material shall be withheld until they are received. If the material does not pass the specifications it shall be replaced at the contractor's expense. The report shall be delivered to the Engineer before permission is granted for use of the material. The furnishing of the vendor's certified test report for the bituminous material shall not be interpreted as basis for final acceptance. All such test reports shall be subject to verification by testing samples of materials received for use on the project.

602-3.5 FREIGHT AND WEIGH BILLS. Before the final estimate is allowed, the Contractor shall file with the Engineer receipted bills when railroad shipments are made, and certified weigh bills when materials are received in any other manner, of the bituminous materials actually used in the construction covered by the contract. The Contractor shall not remove bituminous material from the tank car or storage tank until the initial outage and temperature measurements have been taken by the Engineer, nor shall the car or tank be released until the final outage has been taken by the Engineer.

Copies of freight bills and weigh bills shall be furnished to the Engineer during the progress of the work.

METHOD OF MEASUREMENT

602-4.1 The bituminous material for prime coat shall be measured by the [] . Volume shall be corrected to the volume at 60°F (15°C) in accordance with ASTM D 1250 for cutback asphalt, and Table IV-3 of The Asphalt Institute's Manual MS-6 for emulsified asphalt.

BASIS OF PAYMENT

602-5.1 Payment shall be made at the contract unit price per [] for bituminous prime coat. This price shall be full compensation for furnishing all materials and for all preparation, delivering, and applying the materials, and for all labor, equipment, tools, and incidentals necessary to complete this item.

Payment will be made under:

Item P-602-5.1	Bituminous Prime Coat—per []

MATERIAL REQUIREMENTS

ASTM D 977	Emulsified Asphalt
ASTM D 2028	Cutback Asphalt (Rapid Curing Type)
ASTM D 2397	Cationic Emulsified Asphalt

TESTING REQUIREMENTS

ASTM D 1250	Petroleum Measurement Tables
Asphalt Institute Manual MS-6 Table IV-3	Asphalt Pocketbook of Useful Information (Temperature-Volume Corrections for Emulsified Asphalts)

END OF ITEM P-602

ITEM P-603 BITUMINOUS TACK COAT is hereby amended with respect to the paragraphs and sections cited below.

Replace Section 603-4.1 as noted:

603-4.1 Tack coat shall not be measured for separate payment.

Replace Section 603-5.1 as noted:

603-5.1 Tack coat shall not be paid for separately but shall be considered subsidiary to Item P-401 "Bituminous Surface Course".

END OF MOD P-603

ITEM P-603 BITUMINOUS TACK COAT

DESCRIPTION

603-1.1 This item shall consist of preparing and treating a bituminous or concrete surface with bituminous material in accordance with these specifications and in reasonably close conformity to the lines shown on the plans.

MATERIALS

603-2.1 BITUMINOUS MATERIALS. The bituminous material shall be either cutback asphalt, emulsified asphalt, or tar and shall conform to the requirements of Table 1. The type, grade, controlling specification, and application temperature of bituminous material to be used shall be specified by the Engineer.

TABLE 1. BITUMINOUS MATERIAL

		Application Temperature	
Type and Grade	Specification	Deg. F	Deg. C
Emulsified Asphalt			
SS-1, SS-1h	ASTM D 977	75-130	25-55
CSS-1, CSS-1h	ASTM D 2397	75-130	25-55
Cutback Asphalt			
RC-70	ASTM D 2028	120-160	50-70
Tar			
RTCB 5, RTCB 6	AASHTO M 52	60-120	15-50

CONSTRUCTION METHODS

603-3.1 WEATHER LIMITATIONS. The tack coat shall be applied only when the existing surface is dry and the atmospheric temperature is above 60°F (15°C). The temperature requirements may be waived, but only when so directed by the Engineer.

603-3.2 EQUIPMENT. The Contractor shall provide equipment for heating and applying the bituminous material.

The distributor shall be designed, equipped, maintained, and operated so that bituminous material at even heat may be applied uniformly on variable widths of surface at the specified rate. The allowable variation from the specified rate shall not exceed 10 percent. Distributor equipment shall include a tachometer, pressure gages, volume-measuring devices or a calibrated tank, and a thermometer for measuring temperatures of tank contents. The distributor shall be self-powered and shall be equipped with a power unit for the pump and full circulation spray bars adjustable laterally and vertically.

If the distributor is not equipped with an operable quick shut off valve, the tack operations shall be started and stopped on building paper. The Contractor shall remove blotting sand prior to asphalt concrete lay down operations at no additional expense to the owner.

A power broom and/or blower shall be provided for any required cleaning of the surface to be treated.

603-3.3 APPLICATION OF BITUMINOUS MATERIAL. Immediately before applying the tack coat, the full width of surface to be treated shall be swept with a power broom and/or airblast to remove all loose dirt and other objectionable material.

Emulsified asphalt shall be diluted by the addition of water when directed by the Engineer and shall be applied a sufficient time in advance of the paver to ensure that all water has evaporated before any of the overlying mixture is placed on the tacked surface.

The bituminous material including vehicle or solvent shall be uniformly applied with a bituminous distributor at the rate of 0.05 to 0.15 gallons per square yard (0.24 to 0.72 liters per square meter) depending on the condition of the existing surface. The type of bituminous material and application rate shall be approved by the Engineer prior to application.

Following the application, the surface shall be allowed to cure without being disturbed for such period of time as may be necessary to permit drying out and setting of the tack coat. This period shall be determined by the Engineer. The surface shall then be maintained by the Contractor until the next course has been placed. Suitable precautions shall be taken by the Contractor to protect the surface against damage during this interval.

603-3.4 BITUMINOUS MATERIAL CONTRACTOR'S RESPONSIBILITY. Samples of the bituminous material that the Contractor proposes to use, together with a statement as to its source and character, must be submitted and approved before use of such material begins. The Contractor shall require the manufacturer or producer of the bituminous material to furnish material subject to this and all other pertinent requirements of the contract. Only satisfactory materials so demonstrated by service tests, shall be acceptable.

The Contractor shall furnish the vendor's certified test reports for each carload, or equivalent, of bituminous material shipped to the project. The tests reports shall contain all the data required by the applicable specification. If the Contractor applies the material prior to receipt of the tests reports, payment for the material shall be withheld until they are received. If the material does not pass the specifications it shall be replaced at the contractor's expense. The report shall be delivered to the Engineer before permission is granted for use of the material. The furnishing of the vendor's certified test report for the bituminous material shall not be interpreted as a basis for final acceptance. All such test reports shall be subject to verification by testing samples of material received for use on the project.

603-3.5 FREIGHT AND WEIGH BILLS. Before the final estimate is allowed, the Contractor shall file with the Engineer receipted bills when railroad shipments are made, and certified weigh bills when materials are received in any other manner, of the bituminous materials actually used in the construction covered by the contract. The Contractor shall not remove bituminous material from the tank car or storage tank until the initial outage and temperature measurements have been taken by the Engineer, nor shall the car or tank be released until the final outage has been taken by the Engineer. Copies of freight bills and weigh bills shall be furnished to the Engineer during the progress of the work.

METHOD OF MEASUREMENT

603-4.1 The bituminous material for tack coat shall be measured by the []. Volume shall be corrected to the volume at 60°F (15°C) in accordance with ASTM D 1250 for cutback asphalt, ASTM D 633 for tar, and Table IV-3 of The Asphalt Institute's Manual MS-6 for emulsified asphalt. Water added to emulsified asphalt will not be measured for payment.

BASIS OF PAYMENT

603.5-1 Payment shall be made at the contract unit price per [] of bituminous material. This price shall be full compensation for furnishing all materials, for all preparation, delivery, and application of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-603-5.1	Bituminous Tack Coat—per []

MATERIAL REQUIREMENTS

ASTM D 633	Volume Correction Table for Road Tar
ASTM D 977	Emulsified Asphalt
ASTM D 1250	Petroleum Measurement Tables
ASTM D 2028	Cutback Asphalt (Rapid-Curing Type)
ASTM D 2397	Cationic Emulsified Asphalt
Asphalt Institute Manual MS-6 Table IV-3	Asphalt Pocketbook of Useful Information (Temperature-Volume Corrections for Emulsified Asphalts)

END OF ITEM P-603

ITEM P-605 JOINT SEALING FILLER is hereby amended with respect to the paragraphs and sections cited below.

Add the following to Section 605-1.1 as noted:

This item shall also consist of the cleaning and sealing of cracks and joints in existing concrete pavement, at the locations shown in the plans or as directed by the Engineer.

Add the following to Section 605-2 as noted:

605-2.2 CRACK SEALERS. ***Crack sealing materials shall meet the requirements of*** **ASTM D 5893, Type SL.**

605-2.3 ***BACKER ROD. Backer rod shall meet the requirements of ASTM D 5249 and shall be both non-reactive and non-adhesive to the concrete and the sealant material..***

Add the following to the end of Section 605-3.1 as noted:

Prior to beginning the sealing operation, the Contractor shall have the sealant supplier demonstrate, to the satisfaction of the Engineer, the cleaning and installation procedures for the joint sealant to be installed on the project.

Replace the title of Section 605-3.2 PREPARATION OF JOINTS as noted:

605-3.2-1 PREPARATION OF JOINTS IN NEW PAVEMENT

Add the following to the end of Section 605-3.2 as noted:

605-3.2-2 PREPARATION OF JOINT/CRACK REPAIRS IN EXISTING PAVEMENT

a. Cleaning and Sealing of Cracks. ***Removal of any vegetation, dirt, loose materials, and deteriorated sealant from the cracks shall be accomplished by routing. Cracks shall be routed so that the exposed face of the crack is enlarged to a width of 1/2" and to a depth as detailed in the sealant manufacturer's recommendations. Other methods of crack cleaning and preparation may be used with the approval of the Engineer.***

b. Cleaning and Sealing of Joints. ***Removal of any vegetation, dirt, loose materials, and deteriorated sealant from existing joints shall be accomplished via the use of a high temperature compressed air lance. Existing joint sealant which is deteriorated shall be removed as directed by the Engineer. The high velocity hot air shall be not less than 2,000 °F in temperature. The air lance shall operate in a no flame impingment condition and shall have a directional controlled velocity of 330-fps minimum and a combustion temperature at ignition of no less than 2,000 °F. Other methods of joint cleaning and preparation may be used with the approval of the Engineer.***

If vegetation is a problem a soil sterilant shall be applied. Soil sterilants shall contain Bromacil or Prometone and shall be approved by the Engineer. Application rates shall be in accordance with the manufacturer's recommendations.

When the cracks/joints are thoroughly dry, and just prior to sealant placement, both vertical faces shall be cleaned by sandblasting with a nozzle attached to an aiming device that directs the sand blast at approximately a 45 degree angle and a maximum of two inches from the face of the crack/joint. Each crack/joint face shall be sandblasted individually. After sandblasting, compressed air shall be used to blow out the crack/joint and remove all residual dust. Air compressors shall be equipped with suitable traps capable of removing all free water and oil from

the compressed air and shall be capable of furnishing air with a pressure greater than 90 psi. The cracks/joints shall be thoroughly dry before the sealant is placed.

All cracks/joints shall be sealed the same day of the final sandblasting. Cleaned cracks/joints left open overnight or cracks/joints which become contaminated before sealing shall be re-cleaned as specified above.

Replace Section 605-4.1 as noted:

605-4.1 Concrete Crack Repair will be measured by the linear foot acceptably cleaned and sealed at the locations shown in the plans and as directed by the Engineer.

605-4.2 Concrete Joint Repair will be measured by the linear foot acceptably cleaned and sealed at the locations shown in the plans and as directed by the Engineer.

Replace Section 605-5.1 as noted:

605-5.1 Work completed and accepted under this item will be paid for at the contract unit price per linear foot, which price shall be full compensation for furnishing all labor, tools, equipment, materials, and incidentals necessary to complete the work.

Payment will be made under:

Item P-605-1 Concrete Joint Clean and Seal – per Linear Foot

When used as a component of new concrete pavement, payment for joint sealing material shall be considered subsidiary to the items in which it is a component.

END OF MOD P-605

ITEM P-605 JOINT SEALING FILLER

DESCRIPTION

605-1.1 This item shall consist of providing and installing a resilient and adhesive joint sealing filler capable of effectively sealing joints and cracks in pavements.

MATERIALS

605-2.1 JOINT SEALERS. Joint sealing materials shall meet the requirements of **ASTM D 5893, Type SL.**

Each lot or batch of sealing compound shall be delivered to the jobsite in the manufacturer's original sealed container. Each container shall be marked with the manufacturer's name, batch or lot number, the safe heating temperature, and shall be accompanied by the manufacturer's certification stating that the compound meets the requirements of this specification.

CONSTRUCTION METHODS

605-3.1 TIME OF APPLICATION. Joints shall be sealed as soon after completion of the curing period as feasible and before the pavement is opened to traffic, including construction equipment. The pavement temperature shall be above **50°F (10°C)** at the time of installation of the **poured joint sealing material.**

605-3.2 PREPARATION OF JOINTS.

a. Sawing. All joints shall be sawed in accordance with specifications and plan details. Immediately after sawing the joint, the resulting slurry shall be completely removed from joint and adjacent area by flushing with a jet of water, and by use of other tools as necessary.

b. Sealing. Immediately before sealing, the joints shall be thoroughly cleaned of all remaining laitance, curing compound, and other foreign material. Cleaning shall be accomplished by sandblasting. Sandblasting shall be accomplished in a minimum of two passes. One pass per joint face with the nozzle held at an angle directly toward the joint face and not more that 3 inches from it. Upon completion of cleaning, the joints shall be blown out with compressed air free of oil and water. Only air compressors with operable oil and water traps shall be used to prepare the joints for sealing. The joint faces shall be surface dry when the seal is applied.

605-3.3 INSTALLATION OF SEALANTS. Joints shall be inspected for proper width, depth, alignment, and preparation, and shall be approved by the Engineer before sealing is allowed. Sealants shall be installed in accordance with the following requirements:

Cold Applied Sealants. Cold applied joint sealing compound shall be applied by means of pressure equipment that will force the sealing material to the bottom of the joint and completely fill the joint without spilling the material on the surface of the pavement. A backing material shall be placed as shown on the plans and shall be non-adhesive to the concrete or the sealant material. Sealant that does not bond to the concrete surface of the joint walls, contains voids, or fails to set to a tack-free condition will be rejected and replaced by the Contractor at no additional cost. Before sealing the joints, the Contractor shall demonstrate that the equipment and procedures for preparing, mixing, and placing the sealant will produce a satisfactory joint seal. This shall include the preparation of two small batches and the application of the resulting material. Any sealant spilled on the surface of the pavement, structures and/or lighting fixtures, shall be removed immediately.

METHOD OF MEASUREMENT

605-4.1 Joint sealing material shall be measured by the **linear foot (meter)** of sealant in place, completed, and accepted.

BASIS OF PAYMENT

605-5.1 Payment for joint sealing material shall be made at the contract unit price per . The price shall be full compensation for furnishing all materials, for all preparation, delivering, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-605-5.1	Joint Sealing Filler — per gallon (liter)
Item P-605-5.2	Joint Sealing Filler — per pound (kg)

TESTING REQUIREMENTS

ASTM D 412	Test Methods for Vulcanized Rubber and Thermoplastic Elastomers – Tension
ASTM D 1644	Test Methods for Nonvolatile Content of Varnishes

MATERIAL REQUIREMENTS

ASTM D 1854	Jet-Fuel-Resistant Concrete Joint Sealer, Hot-Applied Elastic Type
ASTM D 3406	Joint Sealants, Hot-Applied, Elastomeric-Type, for Portland Cement Concrete Pavements
ASTM D 3569	Joint Sealant, Hot-Applied, Elastometric, Jet-Fuel-Resistant Type, for Portland Cement Concrete Pavements
ASTM D 3581	Joint Sealant, Hot-Applied, Jet-Fuel-Resistant Type, for Portland Cement Concrete and Tar-Concrete Pavements
ASTM D 5893	Standard Specifications for Cold Applied, Single Component, Chemically Curing Silicone Joint Sealant for Portland Cement Concrete Pavements
ASTM D 6690	Joint and Crack Sealants, Hot-Applied, for Concrete and Asphalt Pavements
FED SPEC SS-S-200E(2)	Sealants, Joint, Two-Component, Jet-Blast Resistant, Cold Applied

END OF ITEM P-605

ITEM P-610 STRUCTURAL PORTLAND CEMENT CONCRETE is hereby amended with respect to the paragraphs and sections cited below.

Replace Section 610-4.1 as noted:

610-4.1 ***There will be no measurement for payment under this item.***

Delete Section 610-4.2 in its entirety.

Replace Section 610-5.1 as noted:

610-5.1 ***There will be no separate payment under this Item. Include costs associated in this item as subsidiary to other items.***

END OF MOD P-610

ITEM P-610 STRUCTURAL PORTLAND CEMENT CONCRETE

DESCRIPTION

610-1.1 This item shall consist of **reinforced** structural portland cement concrete, prepared and constructed in accordance with these specifications, at the locations and of the form and dimensions shown on the plans.

MATERIALS

610-2.1 GENERAL. Only approved materials, conforming to the requirements of these specifications, shall be used in the work. They may be subjected to inspection and tests at any time during the progress of their preparation or use. The source of supply of each of the materials shall be approved by the Engineer before delivery or use is started. Representative preliminary samples of the materials shall be submitted by the Contractor, when required, for examination and test. Materials shall be scored and handled to insure the preservation of their quality and fitness for use and shall be located to facilitate prompt inspection. All equipment for handling and transporting materials and concrete must be clean before any material or concrete is placed therein.

In no case shall the use of pit-run or naturally mixed aggregates be permitted. Naturally mixed aggregate shall be screened and washed, and all fine and coarse aggregates shall be stored separately and kept clean. The mixing of different kinds of aggregates from different sources in one storage pile or alternating batches of different aggregates will not be permitted.

a. Reactivity. Aggregates shall be tested for deleterious reactivity with alkalis in the cement, which may cause excessive expansion of the concrete. Separate tests of coarse and fine aggregate shall be made in accordance with ASTM C 1260. If the expansion of coarse or fine aggregate test specimens, tested in accordance with ASTM C 1260, does not exceed 0.10 % at 28 days (30 days from casting), the coarse or fine aggregates shall be accepted.

If the expansion of any aggregate, coarse or fine, at 28 days is greater than 0.10%, tests of combined materials shall be made in accordance with ASTM C 1567 using the aggregates, cementitious materials, and/or specific reactivity reducing chemicals in the proportions proposed for the mixture design. If the expansion of the proposed combined materials test specimens, tested in accordance with ASTM C 1567, does not exceed 0.10 % at 28 days, the proposed combined materials will be accepted. If the expansion of the proposed combined materials test specimens is greater than 0.10% at 28 days, the aggregates will not be accepted unless adjustments to the combined materials mixture can reduce the expansion to less than 0.10 % at 28 days, or new aggregates shall be evaluated and tested.

610-2.2 COARSE AGGREGATE. The coarse aggregate for concrete shall meet the requirements of ASTM C 33. Crushed stone aggregate shall have a durability factor, as determined by ASTM C 666, greater than or equal to 95. The Engineer may consider and reserve final approval of other State classification procedures addressing aggregate durability.

Coarse aggregate shall be well graded from coarse to fine and shall meet one of the gradations shown in Table 1, using ASTM C 136.

610-2.3 FINE AGGREGATE. The fine aggregate for concrete shall meet the requirements of ASTM C 33.

The fine aggregate shall be well graded from fine to coarse and shall meet the requirements of Table 2 when tested in accordance with ASTM C 136:

TABLE 1. GRADATION FOR COARSE AGGREGATE

Sieve Designation (square openings)	Percentage by Weight Passing Sieves						
	2"	1-1/2"	1"	3/4"	1/2"	3/8"	No.4
No. 4 to 3/4 in. (4.75-19.0 mm)			100	90-100		20-55	0-10
No. 4 to 1 In. (4.75-25.0 mm)		100	90-100		25-60		0-10
No. 4 to 1-1/2 in. (4.75-38.1 mm)	100	95-100		35-70		10-30	0-5

TABLE 2. GRADATION FOR FINE AGGREGATE

Sieve Designation (square openings)	Percentage by Weight Passing Sieves
3/8 inch (9.5 mm)	100
No. 4 (4.75 mm)	95-100
No. 16 (1.18 mm)	45-80
No. 30 (0.60 mm)	25-55
No. 50 (0.30 mm)	10-30
No. 100 (0.15 mm)	2-10

Blending will be permitted, if necessary, in order to meet the gradation requirements for fine aggregate. Fine aggregate deficient in the percentage of material passing the No. 50 mesh sieve may be accepted, provided that such deficiency does not exceed 5% and is remedied by the addition of pozzolanic or cementitious materials other than portland cement, as specified in 610-2.6 on admixtures, in sufficient quantity to produce the required workability as approved by the Engineer.

610-2.4 CEMENT. Cement shall conform to the requirements of **ASTM C 150** Type **I or II**

The Contractor shall furnish vendors' certified test reports for each carload, or equivalent, of cement shipped to the project. The report shall be delivered to the Engineer before permission to use the cement is granted. All such test reports shall be subject to verification by testing sample materials received for use on the project.

610-2.5 WATER. The water used in concrete shall be free from sewage, oil, acid, strong alkalies, vegetable matter, and clay and loam. If the water is of questionable quality, it shall be tested in accordance with AASHTO T 26.

610-2.6 ADMIXTURES. The use of any material added to the concrete mix shall be approved by the Engineer. Before approval of any material, the Contractor shall be required to submit the results of complete physical and chemical analyses made by an acceptable testing laboratory. Subsequent tests shall be made of samples taken by the Engineer from the supply of the material being furnished or proposed for use on the work to determine whether the admixture is uniform in quality with that approved.

Pozzolanic admixtures shall be flyash or raw or calcined natural pozzolans meeting the requirements of ASTM C 618, Class F or N with the exception of loss of ignition, where the maximum shall be less than 6 percent. Class F or N flyash for use in mitigating alkali-silica reactivity shall have a Calcium Oxide (CaO) content of less than 13 percent and a total equivalent alkali content less than 3 percent.

Air-entraining admixtures shall meet the requirements of ASTM C 260. Air-entraining admixtures shall be added at the mixer in the amount necessary to produce the specified air content.

Water-reducing, set-controlling admixtures shall meet the requirements of ASTM C 494, Type A, water-reducing or Type D, water-reducing and retarding. Water-reducing admixtures shall be added at the mixer separately from air-entraining admixtures in accordance with the manufacturer's printed instructions.

610-2.7 PREMOLDED JOINT MATERIAL. Premolded joint material for expansion joints shall meet the requirements of ASTM **D 1752.**

610-2.8 JOINT FILLER. The filler for joints shall meet the requirements of Item P-605, unless otherwise specified in the proposal.

610-2.9 STEEL REINFORCEMENT. Reinforcing shall consist of **steel bars or welded deformed steel fabric** conforming to the requirements of **ASTM A 497.**

610-2.10 COVER MATERIALS FOR CURING. Curing materials shall conform to one of the following specifications:

Waterproof paper for curing concrete	ASTM C 171
Polyethylene Sheeting for Curing Concrete	ASTM C 171
Liquid Membrane-Forming Compounds for Curing Concrete	ASTM C 309, Type 2

CONSTRUCTION METHODS

610-3.1 GENERAL. The Contractor shall furnish all labor, materials, and services necessary for, and incidental to, the completion of all work as shown on the drawings and specified herein. All machinery and equipment owned or controlled by the Contractor, which he proposes to use on the work, shall be of sufficient size to meet the requirements of the work, and shall be such as to produce satisfactory work; all work shall be subject to the inspection and approval of the Engineer.

610-3.2 CONCRETE COMPOSITION. The concrete shall develop a compressive strength of **3000 psi** in 28 days as determined by test cylinders made in accordance with ASTM C 31 and tested in accordance with ASTM C 39. The concrete shall contain not less than 470 pounds of cement per cubic yard (280 kg per cubic meter). The concrete shall contain 5 percent of entrained air, plus or minus 1 percent, as determined by ASTM C 231 and shall have a slump of not more than 4 inches (10 cm) as determined by ASTM C 143.

610-3.3 ACCEPTANCE SAMPLING AND TESTING. Concrete for each structure will be accepted on the basis of the compressive strength specified in paragraph 3.2. The concrete shall be sampled in accordance with ASTM C 172. Compressive strength specimens shall be made in accordance with ASTM C 31 and tested in accordance with ASTM C 39.

Concrete cylindrical test specimens shall be made in accordance with ASTM C 31 and tested in accordance with ASTM C 39. The Contractor shall cure and store the test specimens under such conditions as directed. The Engineer will make the actual tests on the specimens at no expense to the Contractor.

610-3.4 PROPORTIONING AND MEASURING DEVICES. When package cement is used, the quantity for each batch shall be equal to one or more whole sacks of cement. The aggregates shall be measured separately by weight. If aggregates are delivered to the mixer in batch trucks, the exact amount for each mixer charge shall be contained in each batch compartment. Weighing boxes or hoppers shall be approved by the Engineer and shall provide means of regulating the flow of aggregates into the batch box so that the required and exact weight of aggregates can be readily obtained.

610-3.5 CONSISTENCY. The consistency of the concrete shall be checked by the slump test specified in ASTM C 143.

610-3.6 MIXING. Concrete may be mixed at the construction site, at a central point, or wholly or in part in truck mixers. The concrete shall be mixed and delivered in accordance with the requirements of ASTM C 94.

610-3.7 MIXING CONDITIONS. The concrete shall be mixed only in quantities required for immediate use. Concrete shall not be mixed while the air temperature is below 40°F (4°C) without permission of the Engineer. If permission is granted for mixing under such conditions, aggregates or water, or both, shall be heated and the concrete shall be placed at a temperature not less than 50°F (10°C) nor more than 100°F (38°C). The Contractor shall be held responsible for any defective work, resulting from freezing or injury in any manner during placing and curing, and shall replace such work at his/her expense.

Retempering of concrete by adding water or any other material shall not be permitted.

The delivery of concrete to the job shall be in such a manner that batches of concrete will be deposited at uninterrupted intervals.

610-3.8 FORMS. Concrete shall not be placed until all the forms and reinforcements have been inspected and approved by the Engineer. Forms shall be of suitable material and shall be of the type, size, shape, quality, and strength to build the structure as designed on the plans. The forms shall be true to line and grade and shall be mortar-tight and sufficiently rigid to prevent displacement and sagging between supports. The Contractor shall bear responsibility for their adequacy. The surfaces of forms shall be smooth and free from irregularities, dents, sags, and holes.

The internal ties shall be arranged so that, when the forms are removed, no metal will show in the concrete surface or discolor the surface when exposed to weathering. All forms shall be wetted with water or with a non-staining mineral oil, which shall be applied shortly before the concrete is placed. Forms shall be constructed so that they can be removed without injuring the concrete or concrete surface. The forms shall not be removed before the expiration of at least 30 hours from vertical faces, walls, slender columns, and similar structures; forms supported by falsework under slabs, beams, girders, arches, and similar construction shall not be removed until tests indicate that at least 60% of the design strength of the concrete has developed.

610-3.9 PLACING REINFORCEMENT. All reinforcement shall be accurately placed, as shown on the plans, and shall be firmly held in position during concreting. Bars shall be fastened together at intersections. The reinforcement shall be supported by approved metal chairs. Shop drawings, lists, and bending details shall be supplied by the Contractor when required.

610-3.10 EMBEDDED ITEMS. Before placing concrete, any items that are to be embedded shall be firmly and securely fastened in place as indicated. All such items shall be clean and free from coating, rust, scale, oil, or any foreign matter. The embedding of wood shall be avoided. The concrete shall be spaded and consolidated around and against embedded items.

610-3.11 PLACING CONCRETE. All concrete shall be placed during daylight, unless otherwise approved. The concrete shall not be placed until the depth and character of foundation, the adequacy of forms and falsework, and the placing of the steel reinforcing have been approved. Concrete shall be placed as soon as practical after mixing and in no case later than 1 hour after water has been added to the mix. The method and manner of placing shall be such to avoid segregation and displacement of the reinforcement. Troughs, pipes, and chutes shall be used as an aid in placing concrete when necessary. Dropping the concrete a distance of more than 5 feet (1.5 m), or depositing a large quantity at one point, will not be permitted. Concrete shall be placed upon clean, damp surfaces, free from running water, or upon properly consolidated soil.

The concrete shall be compacted with suitable mechanical vibrators operating within the concrete. When necessary, vibrating shall be supplemented by hand spading with suitable tools to assure proper and adequate compaction. Vibrators shall be manipulated so as to work the concrete thoroughly around the reinforcement and embedded fixtures and into corners and angles of the forms. The vibration at any joint shall be of sufficient duration to accomplish compaction but shall not be prolonged to the point where segregation occurs. Concrete deposited under water shall be carefully placed in a compact mass in its final position by means of a tremie, a closed bottom dump bucket, or other approved method and shall not be disturbed after being deposited.

610-3.12 CONSTRUCTION JOINTS. When the placing of concrete is suspended, necessary provisions shall be made for joining future work before the placed concrete takes its initial set. For the proper bonding of old and new concrete, such provisions shall be made for grooves, steps, keys, dovetails, reinforcing bars or other devices as may be prescribed. The work shall be arranged so that a section begun on any day shall be finished during daylight of the same day. Before depositing new concrete on or against concrete that has hardened, the surface of the hardened concrete shall be cleaned by a heavy steel broom, roughened slightly, wetted, and covered with a neat coating of cement paste or grout.

610-3.13 EXPANSION JOINTS. Expansion joints shall be constructed at such points and of such dimensions as may be indicated on the drawings. The premolded filler shall be cut to the same shape as that of the surfaces being joined. The filler shall be fixed firmly against the surface of the concrete already in place in such manner that it will not be displaced when concrete is deposited against it.

610-3.14 DEFECTIVE WORK. Any defective work discovered after the forms have been removed shall be immediately removed and replaced. If any dimensions are deficient, or if the surface of the concrete is bulged, uneven, or shows honeycomb, which in the opinion of the Engineer cannot be repaired satisfactorily, the entire section shall be removed and replaced at the expense of the Contractor.

610-3.15 SURFACE FINISH. All exposed concrete surfaces shall be true, smooth, and free from open or rough spaces, depressions, or projections. The concrete in horizontal plane surfaces shall be brought flush with the finished top surface at the proper elevation and shall be struck-off with a straightedge and floated. Mortar finishing shall not be permitted, nor shall dry cement or sand-cement mortar be spread over the concrete during the finishing of horizontal plane surfaces.

When directed, the surface finish of exposed concrete shall be a rubbed finish. If forms can be removed while the concrete is still green, the surface shall be pointed and wetted and then rubbed with a wooden float until all irregularities are removed. If the concrete has hardened before being rubbed, a carborundum stone shall be used to finish the surface. When approved, the finishing can be done with a rubbing machine.

610-3.16 CURING AND PROTECTION. All concrete shall be properly cured and protected by the Contractor. The work shall be protected from the elements, flowing water, and from defacement of any nature during the building operations. The concrete shall be cured as soon as it has sufficiently hardened by covering with an approved material. Water-absorptive coverings shall be thoroughly saturated when placed and kept saturated for a period of at least 3 days. All curing mats or blankets shall be sufficiently weighted or tied down to keep the concrete surface covered and to prevent the surface from being exposed to currents of air. Where wooden forms are used, they shall be kept wet at all times until removed to prevent the opening of joints and drying out of the concrete. Traffic shall not be allowed on concrete surfaces for 7 days after the concrete has been placed.

610-3.17 DRAINS OR DUCTS. Drainage pipes, conduits, and ducts that are to be encased in concrete shall be installed by the Contractor before the concrete is placed. The pipe shall be held rigidly so that it will not be displaced or moved during the placing of the concrete.

610-3.18 COLD WEATHER PROTECTION. When concrete is placed at temperatures below 40°F (4°C), the Contractor shall provide satisfactory methods and means to protect the mix from injury by freezing.

The aggregates, or water, or both, shall be heated in order to place the concrete at temperatures between 50°F and 100°F (10°C and 38°C).

Calcium chloride may be incorporated in the mixing water when directed by the Engineer. Not more than 2 pounds (908 grams) of Type 1 nor more than 1.6 pounds (726 grams) of Type 2 shall be added per bag of cement. After the concrete has been placed, the Contractor shall provide sufficient protection such as cover, canvas, framework, heating apparatus, etc., to enclose and protect the structure and maintain the temperature of the mix at not less than 50°F (10°C) until at least 60% of the designed strength has been attained.

610-3.19 FILLING JOINTS. All joints that require filling shall be thoroughly cleaned, and any excess mortar or concrete shall be cut out with proper tools. Joint filling shall not be started until after final curing and shall be done only when the concrete is completely dry. The cleaning and filling shall be carefully done with proper equipment and in a manner to obtain a neat looking joint free from excess filler.

METHOD OF MEASUREMENT

610-4.1 Portland cement concrete shall be measured by the number of cubic yards (cubic meters) of concrete complete in place and accepted. In computing the yardage of concrete for payment, the dimensions used shall be those shown on the plans or ordered by the Engineer. No measurements or other allowances shall be made for forms, falsework, cofferdams, pumping, bracing, expansion joints, or finishing of the concrete. No deductions in yardage shall be made for the volumes of reinforcing steel or embedded items.

610-4.2 Reinforcing steel shall be measured by the calculated theoretical number of pounds (kg) placed, as shown on the plans, complete in place and accepted. The unit weight used for deformed bars shall be the weight of plain square or round bars of equal nominal size. If so indicated on the plans, the poundage to be paid for shall include the weight of metal pipes and drains, metal conduits and ducts, or similar materials indicated and included.

BASIS OF PAYMENT

610-5.1 Payment shall be made at the contract unit price per cubic yard (cubic meter) for structural portland cement concrete and per pound (kg) for reinforcing steel. These prices shall be full compensation for furnishing all materials and for all preparation, delivery and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-610-5.1	Structural Portland Cement Concrete – per cubic yard (cubic meter)
Item P-610-5.1	Steel Reinforcement – per pound (kg)

TESTING REQUIREMENTS

ASTM C 31	Making and Curing Test Specimens in the Field
ASTM C 39	Compressive Strength of Cylindrical Concrete Specimens
ASTM C 136	Sieve Analysis of Fine and Coarse Aggregates
ASTM C 138	Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
ASTM C 143	Slump of Hydraulic Cement Concrete

ASTM C 231	Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C 666	Resistance of Concrete to Rapid Freezing and Thawing
ASTM C 1077	Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation
ASTM C 1260	Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)

MATERIAL REQUIREMENTS

ASTM A 184	Specification for Fabricated Deformed Steel Bar or Rod Mats for Concrete Reinforcement
ASTM A 185	Steel Welded Wire Fabric, Plain, for Concrete Reinforcement
ASTM A 497	Steel Welded Wire Fabric, Deformed, for Concrete Reinforcement
ASTM A 615	Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
ASTM A 704	Welded Steel Plain Bars or Rod Mats for Concrete Reinforcement
ASTM C 33	Concrete Aggregates
ASTM C 94	Ready-Mixed Concrete
ASTM C 150	Portland Cement
ASTM C 171	Sheet Materials for Curing Concrete
ASTM C 172	Sampling Freshly Mixed Concrete
ASTM C 260	Air-Entraining Admixtures for Concrete
ASTM C 309	Liquid Membrane-Forming Compounds for Curing Concrete
ASTM C 494	Chemical Admixtures for Concrete
ASTM C 595	Blended Hydraulic Cements
ASTM C 618	Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete
ASTM D 1751	Specification for Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types)
ASTM D 1752	Specification for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction
AASHTO T 26	Quality of Water to be Used in Concrete

END OF ITEM P-610

ITEM P-620 RUNWAY AND TAXIWAY PAINTING is hereby amended with respect to the paragraphs and sections sited below.

Replace Section 620-3.3 as noted:

620-3.3 PREPARATION OF SURFACE. ***Existing pavement markings are to be removed to the satisfaction of the OWNER in preparation of the layout for the new markings. The specified pavement markings shall be removed without damaging the existing pavement. The methods for removal shall be approved by the Engineer before construction begins. For areas to be repainted, the existing painted surface shall be cleaned by high-pressure water blasting or sand blasting, as required, to remove all foreign material which would reduce the bond between the new paint and the old paint. Use of any chemicals or impact abrasives during surface preparation shall be approved in advance by the Engineer. Grinding of the surface will not be permitted. Removed paint is property of the Contractor and is to be removed from the airport and disposed of by the Contractor according to local regulations and ordinances. Upon completion of paint removal, the surface of the pavement to receive the final markings (at times beyond the limits of the layouts) are to be cleaned and prepared by being free from dirt, grease, oil, laitance, or other foreign material that would reduce the bond between the paint and the pavement. There will be no separate payment for cleaning of the pavement after the marking removal.***

Add the following paragraph after Table 1 in Section 620-3.5 as noted:

Pavement markings shall be completed in two applications. The first application shall be at the application rate specified in Table 1 for "First Pass". The second application shall be at the application rate specified in Table 1 for "Second Pass", placed in the opposite direction of the first pass. All glass beads shall only be included in the final application of the pavement markings.

Replace Section 620-4.1 as noted:

620-4.1 The quantity of runway and taxiway markings to be paid for shall be ***the number of square feet (square meters) of painting*** performed in accordance with the specifications and accepted by the Engineer. ***If multiple pavement marking applications are specified, there will be no separate measurement for payment of "First Pass" marking installation, and runway and taxiway markings are to be paid for shall be the number of square feet (square meters) of painting performed in accordance with the specifications and accepted by the Engineer as "Second Pass" markings.***

Replace Section 620-5.1 as noted:

Payment shall be made at the respective contract **price per square foot (square meter)** for runway and taxiway painting and **when called for,** reflective media. This price shall be full compensation for **layout of the replaced markings,** furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item.
Payment will be made under:

Item P-620 - 1	Retro-reflective Pavement Markings - per Square Foot
Item P-620 - 2	Preformed Runway Hold Sign Markings - per Square Foot
Item P-620 - 3	Non-reflective Black Outline - per Square Foot

END OF MOD P-620

ITEM P-620 RUNWAY AND TAXIWAY PAINTING

DESCRIPTION

620-1.1 This item shall consist of the painting of numbers, markings, and stripes on the surface of runways, taxiways, and aprons, in accordance with these specifications and at the locations shown on the plans, or as directed by the Engineer.

MATERIALS

620-2.1 MATERIALS ACCEPTANCE. The Contractor shall furnish manufacturer's certified test reports for materials shipped to the project. The certified test reports shall include a statement that the materials meet the specification requirements. The reports can be used for material acceptance or the Engineer may perform verification testing. The reports shall not be interpreted as a basis for payment. The Contractor shall notify the Engineer upon arrival of a shipment of materials to the site.

620-2.2 PAINT. Paint shall be **Waterborne** in accordance with the requirements of paragraph 620-2.2. Paint shall be furnished in **White (37925), Yellow (33538 or 33655), Red (31136), and Black (37038)** in accordance with Federal Standard No 595.

a. WATERBORNE. Paint shall meet the requirements of Federal Specification TT-P-1952E, **Type III.**

b. EPOXY. Paint shall be a two component, minimum 99 percent solids type system conforming to the following:

(1) Pigments. Component A. Percent by weight.

(a) White:

Titanium Dioxide, ASTM D 476, type II shall be 18 percent minimum (16.5 percent minimum at 100 percent purity).

(b) Yellow and Colors:

Titanium Dioxide, ASTM D 476, type II shall be 14 to 17 percent. Organic yellow, other colors, and tinting as required to meet color standard. Epoxy resin shall be 75 to 79 percent.

(2) Epoxy Content. Component A. The weight per epoxy equivalent, when tested in accordance with ASTM D 1652 shall be the manufacturer's target plus or minus 50.

(3) Amine Number. Component B. When tested in accordance with ASTM D 2074 shall be the manufacturer's target plus or minus 50.

(4) Prohibited Materials. The manufacturer shall certify that the product does not contain mercury, lead, hexavalent chromium, halogenated solvents, nor any carcinogen, as defined in 29 CFR 1910.1200 in amounts exceeding permissible limits as specified in relevant Federal Regulations.

(5) Daylight Directional Reflectance:

(a) White: The daylight directional reflectance of the white paint shall not be less than 75 percent (relative to magnesium oxide), when tested in accordance with Federal Test Method Standard No. 141D/GEN, Method 6121.

(b) Yellow: The daylight directional reflectance of the yellow paint shall not be less than 38 percent (relative to magnesium oxide), when tested in accordance with Federal Test Method Standard No. 141D/GEN. The x and y values shall be consistent with the Federal Hegman yellow color standard chart for traffic yellow standard 33538, or shall be consistent with the tolerance listed below:

x .462	x .470	x .479	x .501
y .438	y .455	y .428	y .452

(6) Accelerated Weathering.

(a) Sample Preparation. Apply the paint at a wet film thickness of 0.013 inch (0.33 mm) to four 3 by 6 inch (8 by 15 cm) aluminum panels prepared as described in Federal Test Method Standard No. 141D/GEN, Method 2013. Air dry the sample 48 hours under standard conditions.

(b) Testing Conditions. Test in accordance with ASTM G 15453 using both Ultra Violet (UV-B) Light and condensate exposure, 72 hours total, alternating 4 hour UV exposure at 60 degree C, and 4 hours condensate exposure at 40 degrees C.

(c) Evaluation. Remove the samples and condition for 24 hours under standard conditions. Determine the directional reflectance and color match using the procedures in paragraph 620-2.2b(5) above. Evaluate for conformance with the color requirements.

(7) Volatile Organic Content. Determine the volatile organic content in accordance with 40 CFR Part 60 Appendix A, Method 24.

(8) Dry Opacity. Use Procedure B, Method B of Method 4121 of Federal Test Method Standard No. 141D/GEN. The wet film thickness shall be 0.015 inch (0.12 mm). The minimum opacity for white and colors shall be 0.92.

(9) Abrasion Resistance. Subject the panels prepared in paragraph 620-2.2b(6) to the abrasion test in accordance with ASTM D 968, Method A, except that the inside diameter of the metal guide tube shall be from 0.747 to 0.750 inch (18.97 to 19.05 mm). Five liters of unused sand shall be used for each test panel. The test shall be run on two test panels. [Note: five liters of sand weighs 17.5 lb. (7.94 kg).] Both baked and weathered paint films shall require not less than 150 liters of sand for the removal of the paint films.

(10) Hardness, Shore. Hardness shall be at least 80 when tested in accordance with ASTM D 2240.

c. METHACRYLATE. Paint shall be a two component, minimum 99 percent solids-type system conforming to the following:

(1) Pigments. Component A. Percent by weight.

(a) White:

Titanium Dioxide, ASTM D 476, type II shall be 6 percent minimum. Methacrylate resin shall be 18 percent minimum.

(b) Yellow and Colors:

Titanium Dioxide, ASTM D 476, type II shall be 6 percent minimum. Organic yellow, other colors, and tinting as required to meet color standard. Methacrylate resin shall be 18 percent minimum.

(2) Prohibited Materials. The manufacturer shall certify that the product does not contain mercury, lead, hexavalent chromium, halogenated solvents, nor any carcinogen, as defined in 29 CFR 1910.1200 in amounts exceeding permissible limits as specified in relevant Federal Regulations.

(3) Daylight Directional Reflectance:

(a) White: The daylight directional reflectance of the white paint shall not be less than 80 percent (relative to magnesium oxide), when tested in accordance with Federal Test Method Standard No. 141D/GEN, Method 6121.

(b) Yellow: The daylight directional reflectance of the yellow paint shall not be less than 55 percent (relative to magnesium oxide), when tested in accordance with Federal Test Method Standard No. 141D/GEN. The x and y values shall be consistent with the Federal Hegman yellow color standard chart for traffic yellow standard 33538, or shall be consistent with the tolerance listed below:

x .462	x .470	x .479	x .501
y .438	y .455	y .428	y .452

(4) Accelerated Weathering.

(a) Sample Preparation. Apply the paint at a wet film thickness of 0.013 inch (0.33 mm) to four 3 by 6 inch (8 by 15 cm) aluminum panels prepared as described in Method 2013 of Federal Test Method Standard No. 141D/GEN. Air dry the sample 48 hours under standard conditions.

(b) Testing Conditions. Test in accordance with ASTM G 53 154 using both Ultra Violet (UV-B) Light and condensate exposure, 72 hours total, alternating 4 hour UV exposure at 60 degree C, and 4 hours condensate exposure at 40 degrees C.

(c) Evaluation. Remove the samples and condition for 24 hours under standard conditions. Determine the directional reflectance and color match using the procedures in paragraph 620-2.2c(3) above. Evaluate for conformance with the color requirements.

(5) Volatile Organic Content. Determine the volatile organic content in accordance with 40 CFR Part 60 Appendix A, Method 24.

(6) Dry Opacity. Use Procedure B, Method B of Method 4121 of Federal Test Method Standard No. 141D/GEN. The wet film thickness shall be 0.015 inch (0.12 mm). The minimum opacity for white and colors shall be 0.92.

(7) Abrasion Resistance. Subject the panels prepared in paragraph 620-2.2c(4) to the abrasion test in accordance with ASTM D 968, Method A, except that the inside diameter of the metal guide tube shall be from 0.747 to 0.750 inch (18.97 to 19.05 mm). Five liters of unused sand shall be used for each test panel. The test shall be run on two test panels. [Note: five liters of sand weighs 17.5 lb. (7.94 kg).] Both baked and weathered paint films shall require not less than 150 liters of sand for the removal of the paint films.

(8) Hardness, Shore. Hardness shall be at least 80 when tested in accordance with ASTM D 2240.

e. PREFORMED THERMOPLASTIC AIRPORT PAVEMENT MARKINGS. Markings must be composed of ester modified resins in conjunction with aggregates, pigments, and binders that have been factory produced as a finished product. The material must be impervious to degradation by aviation fuels, motor fuels, and lubricants.

(1) The markings must be able to be applied in temperatures down to 35°F without any special storage, preheating, or treatment of the material before application.

(a) The markings must be supplied with an integral, non-reflectorized black border.

(2) Graded Glass Beads.

(a) The material must contain a minimum of thirty percent (30%) intermixed graded glass beads by weight. The intermixed beads shall conform to **Federal Specification, TT-B-1325D, Type IV.**

(b) The material must have factory applied coated surface beads in addition to the intermixed beads at a rate of 1 lb. (± 10%) per 10 sq. ft. These factory applied coated surface beads shall have a minimum of 90% true spheres, minimum refractive index of 1.50, and meet the following gradation.

Size Gradation		Retained, %	Passing, %
US Mesh	µm		
12	1700	0 - 2%	98 - 100%
14	1400	0 - 3.5%	96.5 - 100%
16	1180	2 - 25%	75 - 98%
18	1000	28 - 63%	37 - 72%
20	850	63 - 72%	28 - 37%
30	600	67 - 77%	23 - 33%
50	300	89 - 95%	5 - 11%
80	200	97 - 100%	0 - 3%

(3) Heating Indicators. The top surface of the material (same side as the factory applied surface beads) shall have regularly spaced indents. These indents shall act as a visual cue during application that the material has reached a molten state so satisfactory adhesion and proper bead embedment has been achieved and a post-application visual cue that the installation procedures have been followed.

(4) Pigments. Percent by weight.

(a) White:
Titanium Dioxide, ASTM D 476, type II shall be 10 percent minimum.

(b) Yellow and Colors:
Titanium Dioxide, ASTM D 476, type II shall be 1 percent minimum.
Organic yellow, other colors, and tinting as required to meet color standard.

(5) Prohibited Materials. The manufacturer shall certify that the product does not contain mercury, lead, hexavalent chromium, halogenated solvents, nor any carcinogen as defined in 29 CFR 1910.1200 in amounts exceeding permissible limits as specified in relevant Federal Regulations.

(6) Daylight Directional Reflectance.

(a) White: The daylight directional reflectance of the white paint shall not be less than 75 percent (relative to magnesium oxide), when tested in accordance with Federal Test Method Standard No. 141D/GEN, Method 6121.

(b) Yellow: The daylight directional reflectance of the yellow paint shall not be less than 45 percent (relative to magnesium oxide), when tested in accordance with Federal Test Method Standard

No. 141D/GEN. The x and y values shall be consistent with the Federal Hegman yellow color standard chart for traffic yellow standard 33538, or shall be consistent with the tolerance listed below:

x .462	x .470	x .479	x .501
y .438	y .455	y .428	y .452

(7) Skid Resistance. The surface, with properly applied and embedded surface beads, must provide a minimum resistance value of 45 BPN when tested according to ASTM E303.

(8) Thickness. The material must be supplied at a nominal thickness of 65 mils (1.7 mm).

(9) Environmental Resistance. The material must be resistant to deterioration due to exposure to sunlight, water, salt, or adverse weather conditions and impervious to aviation fuels, gasoline, and oil.

(10) Retroreflectivity. The material, when applied in accordance with manufacturer's guidelines, must demonstrate a uniform level of nighttime retroreflection when tested in accordance to ASTM E1710.

(11) Packaging. A protective film around the box must be applied in order to protect the material from rain or premature aging.

(12) Manufacturing Control and ISO Certification. The manufacturer must be ISO 9001:2000 certified and provide proof of current certification. The scope of the certification shall include manufacture of reflective markings.

a. The markings must be a resilient thermoplastic product with uniformly distributed glass beads throughout the entire cross-sectional area. The markings must be resistant to the detrimental effects of aviation fuels, motor fuels and lubricants, hydraulic fluids, de-icers, anti-icers, protective coatings, etc. Lines, legends, and symbols must be capable of being affixed to bituminous and/or Portland cement concrete pavements by the use of a large radiant heater. Colors shall be available as required.

b. The markings must be capable of conforming to pavement contours, breaks, and faults through the action of airport traffic at normal pavement temperatures. The markings must be capable of fully conforming to grooved pavements, including pavement grooving per FAA AC 150/5320-12, current version. The markings shall have resealing characteristics, such that it is capable of fusing with itself and previously applied thermoplastics when heated with a heat source per manufacturer's recommendation.

c. Multicolored markings must consist of interconnected individual pieces of preformed thermoplastic pavement marking material, which through a variety of colors and patterns, make up the desired design. The individual pieces in each large marking segment (typically more than 20 ft. long) must be factory assembled with a compatible material and interconnected so that in the field it is not necessary to assemble the individual pieces within a marking segment. Obtaining multicolored effect by overlaying materials of different colors is not acceptable due to resulting inconsistent marking thickness and inconsistent application temperature in the marking/substrate interface.

e. The marking material must set up rapidly, permitting the access route to be re-opened to traffic a maximum of 15 minutes after application.

f. The marking material shall have an integral color throughout the thickness of the marking material.

620-2.3 REFLECTIVE MEDIA. Glass beads shall meet the requirements for **Federal Specification TT B 1325D, Type IV**. Glass beads shall be treated with all compatible coupling agents recommended by the manufacturers of the paint and reflective media to ensure adhesion and embedment.

Paint Color	Glass Beads, Type I, Gradation A	Glass Beads, Type III	Glass Beads, Type IV
White	See Table 1.	See Table 1.	See Table 1.
Yellow	See Table 1.	See Table 1.	See Table 1.
Red	See Table 1 and Note.	Not used.	See Table 1 and Note.
Pink	See Table 1 and Note.	Not used.	See Table 1 and Note.
Black	Not used.	Not used.	See Table 1 and Note.

CONSTRUCTION METHODS

620-3.1 WEATHER LIMITATIONS. The painting shall be performed only when the surface is dry and when the surface temperature is at least 45°F (7°C) and rising and the pavement surface temperature is at least 5°F (2.7°C) above the dew point. **Painting operations shall be discontinued when the surface temperature exceeds 95 degrees F (35 degrees C.), or when the wind conditions prevent sharp stripe edge definition.** Markings shall not be applied when the pavement temperature is greater than 120°F.

620-3.2 EQUIPMENT. Equipment shall include the apparatus necessary to properly clean the existing surface, a mechanical marking machine, a bead dispensing machine, and such auxiliary hand-painting equipment as may be necessary to satisfactorily complete the job.

The mechanical marker shall be an atomizing spray-type or airless type marking machine suitable for application of traffic paint. It shall produce an even and uniform film thickness at the required coverage and shall apply markings of uniform cross sections and clear-cut edges without running or spattering and without over spray.

620-3.3 PREPARATION OF SURFACE. Immediately before application of the paint, the surface shall be dry and free from dirt, grease, oil, laitance, or other foreign material that would reduce the bond between the paint and the pavement. The area to be painted shall be cleaned by sweeping and blowing or by other methods as required to remove all dirt, laitance, and loose materials without damage to the pavement surface. Use of any chemicals or impact abrasives during surface preparation shall be approved in advance by the Engineer.

620-3.4 LAYOUT OF MARKINGS. The proposed markings shall be laid out in advance of the paint application. The locations of markings to receive glass beads shall be shown on the plans.

620-3.5 APPLICATION. Paint shall be applied at the locations and to the dimensions and spacing shown on the plans. Paint shall not be applied until the layout and condition of the surface has been approved by the Engineer.

The edges of the markings shall not vary from a straight line more than 1/2 inch (12 mm) in 50 feet (15 m) and marking dimensions and spacings shall be within the following tolerances:

Dimension and Spacing	Tolerance
36 inches (910 mm) or less	±1/2 inch (12 mm)
greater than 36 inches to 6 feet (910 mm to 1.85 m)	± 1 inch (25 mm)
greater than 6 feet to 60 feet (1.85 m to 18.3 m)	± 2 inches (51 mm)
greater than 60 feet (18.3 m)	± 3 inches (76 mm)

The paint shall be mixed in accordance with the manufacturer's instructions and applied to the pavement with a marking machine at the rate(s) shown in Table 1. The addition of thinner will not be permitted. A period of **28 days** shall elapse between placement of a bituminous surface course or seal coat and application of the paint.

TABLE 1. APPLICATION RATES FOR PAINT AND GLASS BEADS

Paint Type	Paint Square feet per gallon, ft^2/gal (Square meters per liter, m^2/l)	Glass Beads, Type I, Gradation A Pounds per gallon of paint—lb./gal. (Kilograms per liter of paint—kg/l)	Glass Beads, Type III Pounds per gallon of paint—lb./gal. (Kilograms per liter of paint—kg/l	Glass Beads, Type IV Pounds per gallon of paint—lb./gal. (Kilograms per liter of paint—kg/)l
Waterborne (First Pass)	**270 ft^2/gal. maximum (2.8 m^2/l)**	--	--	--
Waterborne (Second Pass – Opposite Direction)	**90 ft^2/gal. maximum (2.8 m^2/l)**	--		**8 lb./gal. minimum (1.0 kg/l)**

Glass beads shall be distributed upon the marked areas at the locations shown on the plans to receive glass beads immediately after application of the paint. A dispenser shall be furnished which is properly designed for attachment to the marking machine and suitable for dispensing glass beads. Glass beads shall be applied at the rate(s) shown in Table 1. Glass beads shall not be applied to black paint. Glass beads shall adhere to the cured paint or all marking operations shall cease until corrections are made.

All emptied containers shall be returned to the paint storage area for checking by the Engineer. The containers shall not be removed from the airport or destroyed until authorized by the Engineer.

620-3.6 APPLICATION--PREFORMED AIRPORT PAVEMENT MARKINGS.

a. Asphalt and Portland cement To ensure minimum single-pass application time and optimum bond in the marking/substrate interface, the materials must be applied using a variable speed self-propelled mobile heater with an effective heating width of no less than 16 feet (4.88 m) and a free span between supporting wheels of no less than 18 feet (5.49 m). The heater must emit thermal radiation to the marking material in such a manner that the difference in temperature of 2 inch (5.08 cm) wide linear segments in the direction of heater travel must be within 5 percent of the overall average temperature of the heated thermoplastic material as it exits the heater. The material must be able to be applied at ambient and pavement temperatures down to 35ºF (2°C) without any preheating of the pavement to a specific temperature. The material must be able to be applied without the use of a thermometer. The pavement shall be clean, dry, and free of debris. A non-VOC sealer with a maximum applied viscosity of 250 centi-Poise (ASTM D 2393) must be applied to the pavement shortly before the markings are applied. The supplier must enclose application instructions with each box/package.

620-3.7 PROTECTION AND CLEANUP. After application of the paint, all markings shall be protected from damage until the paint is dry. All surfaces shall be protected from excess moisture and/or rain and from disfiguration by spatter, splashes, spillage, or drippings of paint. The Contractor shall remove from the site all debris, waste, loose or unadhered reflective media, and by-products generated by the surface preparation and application operations to the satisfaction of the Engineer. The Contractor shall dispose of these wastes in strict compliance with all applicable state, local, and Federal environmental statutes and regulations.

METHOD OF MEASUREMENT

620-4.1 The quantity of runway and taxiway markings to be paid for shall be **the number of square feet (square meters) of painting** performed in accordance with the specifications and accepted by the Engineer.

BASIS OF PAYMENT

620-5.1 Payment shall be made at the respective contract **price per square foot (square meter)** for runway and taxiway painting and for reflective media. This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-620-5.1	Runway and Taxiway Painting
Item P-620-5.2	Reflective Media

TESTING REQUIREMENTS

ASTM C 136	Sieve Analysis of Fine and Coarse Aggregates
ASTM C 146	Chemical Analysis of Glass Sand
ASTM C 371	Wire-Cloth Sieve Analysis of Nonplastic Ceramic Powders
ASTM D 92	Test Method for Flash and Fire Points by Cleveland Open Cup
ASTM D 711	No-Pick-Up Time of Traffic Paint
ASTM D 968	Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive
ASTM D 1213-54(1975)	Test Method for Crushing Resistance of Glass Spheres
ASTM D 1652	Test Method for Epoxy Content of Epoxy Resins
ASTM D 2074	Test Method for Total Primary, Secondary, and Tertiary Amine Values of Fatty Amines by Alternative Indicator Method
ASTM D 2240	Test Method for Rubber Products-Durometer Hardness
ASTM G 15453	Operating Light and Water-Exposure Apparatus (Fluorescent Light Apparatus UV-Condensation Type) for Exposure of Nonmetallic Materials.
Federal Test Method Standard No. 141D/GEN	Paint, Varnish, Lacquer and Related Materials; Methods of Inspection, Sampling and Testing

MATERIAL REQUIREMENTS

ASTM D 476	Specifications for Dry Pigmentary Titanium Dioxide Pigments Products
Code of Federal Regulations	40 CFR Part 60, Appendix A – Definition of Traverse Point Number and Location
Code of Federal Regulations	29 CFR Part 1910.1200 – Hazard Communications
FED SPEC TT-B-1325D	Beads (Glass Spheres) Retroreflective

AASHTO M 247	Glass Beads Used in Traffic Paints
FED SPEC TT-P-1952E	Paint, Traffic and Airfield Marking, Waterborne
Commercial Item Description (CID) A-A-2886B	Paint, Traffic, Solvent Based
FED STD 595	Colors used in Government Procurement

END OF ITEM P-620

ITEM T-901 SEEDING is hereby amended with respect to the paragraphs and sections cited below.

Replace the third paragraph of Section 901-2.1 as noted:

Seeds shall be applied as follows:

Seed	*Rate of Application Pounds Pure Live Seed per Acre*
Green Sprangletop	***0.3***
Bermudagrass	***15.0***
Sideoats Grama (Haskell)	***4.5***

Delete Section 901-2.2.

Delete Section 901-3.2.a.

Add the following to Section 901-3.4:

Watering of the seeded areas shall be coordinated with the Owner and Airport Operations. Contractor will not be permitted to enter the airport secure areas to water without advance approval.

Replace Section 901-4.1 as noted:

The quantity of seeding to be paid for shall be the number of units **acres (square meters)** measured on the ground surface, completed and accepted. ***Seeding shall be measured to the nearest tenth (0.1) of an acre. Fertilizer and watering will not be measured for separate payment but will be considered subsidiary to seeding.***

END OF MOD T-901

ITEM T-901 SEEDING

DESCRIPTION

901-1.1 This item shall consist of soil preparation, **seeding , fertilizing, and watering** the areas shown on the plans or as directed by the Engineer in accordance with these specifications.

MATERIALS

901-2.1 SEED The species and application rates of grass, legume, and cover-crop seed furnished shall be those stipulated herein. Seed shall conform to the requirements of Fed. Spec. JJJ-S-181.

Seed shall be furnished separately or in mixtures in standard containers with the seed name, lot number, net weight, percentages of purity and of germination and hard seed, and percentage of maximum weed seed content clearly marked for each kind of seed. The Contractor shall furnish the Engineer duplicate signed copies of a statement by the vendor certifying that each lot of seed has been tested by a recognized laboratory for seed testing within 6 months of date of delivery. This statement shall include: name and address of laboratory, date of test, lot number for each kind of seed, and the results of tests as to name, percentages of purity and of germination, and percentage of weed content for each kind of seed furnished, and, in case of a mixture, the proportions of each kind of seed.

Seeds shall be applied as follows:

Seed	Minimum Seed Purity (Percent)	Minimum Germination (Percent)	Rate of Application lb./acre (or lb./1,000 S.F.)

Seeding shall be performed during the period between **January 15** and **May 15** inclusive, unless otherwise approved by the Engineer.

901-2.2 LIME.
Lime shall be ground limestone containing not less than 85% of total carbonates, and shall be ground to such fineness that 90% will pass through a No. 20 mesh sieve and 50% will pass through a No. 100 mesh sieve. Coarser material will be acceptable, providing the rates of application are increased to provide not less than the minimum quantities and depth specified in the special provisions on the basis of the two sieve requirements above. Dolomitic lime or a high magnesium lime shall contain at least 10% of magnesium oxide. Lime shall be applied at the rate of [ ]. All liming materials shall conform to the requirements of ASTM C 602.

901-2.3 FERTILIZER. Fertilizer shall be standard commercial fertilizers supplied separately or in mixtures containing the percentages of total nitrogen, available phosphoric acid, and water-soluble potash. They shall be applied at the rate and to the depth specified herein, and shall meet the requirements of Fed. Spec. A-A-1909 and applicable state laws. They shall be furnished in standard containers with name, weight, and guaranteed analysis of contents clearly marked thereon. No cyanamide compounds or hydrated lime shall be permitted in mixed fertilizers.

The fertilizers may be supplied in one of the following forms:

a. A dry, free-flowing fertilizer suitable for application by a common fertilizer spreader;

b. A finely-ground fertilizer soluble in water, suitable for application by power sprayers; or

c. A granular or pellet form suitable for application by blower equipment.

Fertilizers shall be **30-30-30 ratio** commercial fertilizer and shall be spread at the rate of **150 pounds per acre**.

901-2.4 SOIL FOR REPAIRS. The soil for fill and topsoiling of areas to be repaired shall be at least of equal quality to that which exists in areas adjacent to the area to be repaired. The soil shall be relatively free from large stones, roots, stumps, or other materials that will interfere with subsequent sowing of seed, compacting, and establishing turf, and shall be approved by the Engineer before being placed.

CONSTRUCTION METHODS

901-3.1 ADVANCE PREPARATION AND CLEANUP. After grading of areas has been completed and before applying fertilizer and ground limestone, areas to be seeded shall be raked or otherwise cleared of stones larger than 2 inches (50 mm) in any diameter, sticks, stumps, and other debris that might interfere with sowing of seed, growth of grasses, or subsequent maintenance of grass-covered areas. If any damage by erosion or other causes has occurred after the completion of grading and before beginning the application of fertilizer and ground limestone, the Contractor shall repair such damage. This may include filling gullies, smoothing irregularities, and repairing other incidental damage.

An area to be seeded shall be considered a satisfactory seedbed without additional treatment if it has recently been thoroughly loosened and worked to a depth of not less than 5 inches (125 mm) as a result of grading operations and, if immediately prior to seeding, the top 3 inches (75 mm) of soil is loose, friable, reasonably free from large clods, rocks, large roots, or other undesirable matter, and if shaped to the required grade.

However, when the area to be seeded is sparsely sodded, weedy, barren and unworked, or packed and hard, any grass and weeds shall first be cut or otherwise satisfactorily disposed of, and the soil then scarified or otherwise loosened to a depth not less than 5 inches (125 mm). Clods shall be broken and the top 3 inches (75 mm) of soil shall be worked into a satisfactory seedbed by discing, or by use of cultipackers, rollers, drags, harrows, or other appropriate means.

901-3.2 DRY APPLICATION METHOD.

a. Liming. Lime shall be applied separately and prior to the application of any fertilizer or seed and only on seedbeds that have previously been prepared as described above. The lime shall then be worked into the top 3 inches (75 mm) of soil after which the seedbed shall again be properly graded and dressed to a smooth finish.

b. Fertilizing. Following advance preparations and cleanup fertilizer shall be uniformly spread at the rate that will provide not less than the minimum quantity stated in paragraph 901-2.3.

c. Seeding. Grass seed shall be sown at the rate specified in paragraph 901-2.1 immediately after fertilizing, and the fertilizer and seed shall be raked within the depth range stated in the special provisions. Seeds of legumes, either alone or in mixtures, shall be inoculated before mixing or sowing, in accordance with the instructions of the manufacturer of the inoculant. When seeding is required at other than the seasons shown on the plans or in the special provisions, a cover crop shall be sown by the same methods required for grass and legume seeding.

d. Rolling. After the seed has been properly covered, the seedbed shall be immediately compacted by means of an approved lawnroller, weighing 40 to 65 pounds per foot (60 to 97 kg per meter) of width for clay soil (or any soil having a tendency to pack), and weighing 150 to 200 pounds per foot (223 to 298 kg per meter) of width for sandy or light soils.

901-3.3 WET APPLICATION METHOD.

a. General. The Contractor may elect to apply seed and fertilizer (and lime, if required) by spraying them on the previously prepared seedbed in the form of an aqueous mixture and by using the methods and equipment described herein. The rates of application shall be as specified in the special provisions.

b. Spraying Equipment. The spraying equipment shall have a container or water tank equipped with a liquid level gauge calibrated to read in increments not larger than 50 gallons (190 liters) over the entire range of the tank capacity, mounted so as to be visible to the nozzle operator. The container or tank shall also be equipped with a mechanical power-driven agitator capable of keeping all the solids in the mixture in complete suspension at all times until used.

The unit shall also be equipped with a pressure pump capable of delivering 100 gallons (380 liters) per minute at a pressure of 100 pounds per square inch (690 kPa). The pump shall be mounted in a line that will recirculate the mixture through the tank whenever it is not being sprayed from the nozzle. All pump passages and pipe lines shall be capable of providing clearance for 5/8 inch (15 mm) solids. The power unit for the pump and agitator shall have controls mounted so as to be accessible to the nozzle operator. There shall be an indicating pressure gauge connected and mounted immediately at the back of the nozzle.

The nozzle pipe shall be mounted on an elevated supporting stand in such a manner that it can be rotated through 360 degrees horizontally and inclined vertically from at least 20 degrees below to at least 60 degrees above the horizontal. There shall be a quick-acting, three-way control valve connecting the recirculating line to the nozzle pipe and mounted so that the nozzle operator can control and regulate the amount of flow of mixture delivered to the nozzle. At least three different types of nozzles shall be supplied so that mixtures may be properly sprayed over distance varying from 20 to 100 feet (6 to 30 m). One shall be a close-range ribbon nozzle, one a medium-range ribbon nozzle, and one a long-range jet nozzle. For case of removal and cleaning, all nozzles shall be connected to the nozzle pipe by means of quick-release couplings.

In order to reach areas inaccessible to the regular equipment, an extension hose at least 50 feet (15 m) in length shall be provided to which the nozzles may be connected.

c. Mixtures. Lime, if required, shall be applied separately, in the quantity specified, prior to the fertilizing and seeding operations. Not more than 220 pounds (100 kg) of lime shall be added to and mixed with each 100 gallons (380 liters) of water. Seed and fertilizer shall be mixed together in the relative proportions specified, but not more than a total of 220 pounds (100 kg) of these combined solids shall be added to and mixed with each 100 gallons (380 liters) of water.

All water used shall be obtained from fresh water sources and shall be free from injurious chemicals and other toxic substances harmful to plant life. Brackish water shall not be used at any time. The Contractor shall identify to the Engineer all sources of water at least 2 weeks prior to use. The Engineer may take samples of the water at the source or from the tank at any time and have a laboratory test the samples for chemical and saline content. The Contractor shall not use any water from any source that is disapproved by the Engineer following such tests.

All mixtures shall be constantly agitated from the time they are mixed until they are finally applied to the seedbed. All such mixtures shall be used within 2 hours from the time they were mixed or they shall be wasted and disposed of at locations acceptable to the Engineer.

d. Spraying. Lime, if required, shall be sprayed only upon previously prepared seedbeds. After the applied lime mixture has dried, the lime shall be worked into the top 3 inches (8 cm), after which the seedbed shall again be properly graded and dressed to a smooth finish.

Mixtures of seed and fertilizer shall only be sprayed upon previously prepared seedbeds on which the lime, if required, shall already have been worked in. The mixtures shall be applied by means of a

high-pressure spray that shall always be directed upward into the air so that the mixtures will fall to the ground like rain in a uniform spray. Nozzles or sprays shall never be directed toward the ground in such a manner as might produce erosion or runoff.

Particular care shall be exercised to insure that the application is made uniformly and at the prescribed rate and to guard against misses and overlapped areas. Proper predetermined quantities of the mixture in accordance with specifications shall be used to cover specified sections of known area. Checks on the rate and uniformity of application may be made by observing the degree of wetting of the ground or by distributing test sheets of paper or pans over the area at intervals and observing the quantity of material deposited thereon.

On surfaces that are to be mulched as indicated by the plans or designated by the Engineer, seed and fertilizer applied by the spray method need not be raked into the soil or rolled. However, on surfaces on which mulch is not to be used, the raking and rolling operations will be required after the soil has dried.

901-3.4 MAINTENANCE OF SEEDED AREAS. The Contractor shall protect seeded areas against traffic or other use by warning signs or barricades, as approved by the Engineer. Surfaces gullied or otherwise damaged following seeding shall be repaired by regrading and reseeding as directed. The Contractor shall mow, water as directed, and otherwise maintain seeded areas in a satisfactory condition until final inspection and acceptance of the work.

When either the dry or wet application method outlined above is used for work done out of season, it will be required that the Contractor establish a good stand of grass of uniform color and density to the satisfaction of the Engineer. A grass stand shall be considered adequate when bare spots are one square foot or less, randomly dispersed, and do not exceed 3% of the area seeded. If at the time when the contract has been otherwise completed it is not possible to make an adequate determination of the color, density, and uniformity of such stand of grass, payment for the unaccepted portions of the areas seeded out of season will be withheld until such time as these requirements have been met.

METHOD OF MEASUREMENT

901-4.1 The quantity of seeding to be paid for shall be the number of **acres (square meters)** measured on the ground surface, completed and accepted.

BASIS OF PAYMENT

901-5.1 Payment shall be made at the contract unit price per **acre (square meters)** or fraction thereof, which price and payment shall be full compensation for furnishing and placing all material and for all labor, equipment, tools, and incidentals necessary to complete the work prescribed in this item.

Payment will be made under:

Item T-901-5.1	Seeding, including fertilizing and watering -- per acre (square meters)

MATERIAL REQUIREMENTS

ASTM C 602	Agricultural Liming Materials
ASTM D 977	Emulsified Asphalt
FED SPEC A-A-1909	Fertilizer
FED SPEC A-A-2671	Seeds, Agriculture

END OF ITEM T-901

ITEM T-904 SODDING is hereby amended with respect to the paragraphs and sections sited below.

Revise the following paragraph as noted:

904-2.1 SOD. Sod furnished by the Contractor shall have a good cover of living or growing grass. This shall be interpreted to include grass that is seasonally dormant during the cold or dry seasons and capable of renewing growth after the dormant period. All sod shall be obtained from areas where the soil is reasonably fertile and contains a high percentage of loamy topsoil. Sod shall be cut or stripped from living, thickly matted turf relatively free of weeds or other undesirable foreign plants, large stones, roots, or other materials that might be detrimental to the development of the sod or to future maintenance. At least 70% of the plants in the cut sod shall be composed of the species stated in the special provisions, and any vegetation more than 6 inches (150 mm) in height shall be mowed to a height of 3 inches (75 mm) or less before sod is lifted. Sod, including the soil containing the roots and the plant growth showing above, shall be cut uniformly to a thickness not less than that stated in the ***Texas Department of Transportation Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges, TxDOT Item 162*** ~~special provisions~~, and any vegetation more than 6 inches (150 mm) in height shall be mowed to a height of 3 inches (75 mm) or less before sod is lifted. Sod, including the soil containing the roots and the plant growth showing above, shall be cut uniformly to a thickness not less than that stated in ~~the special provisions.~~ ***4 inches. Type of sod shall be as specified in TxDOT Item 162.***

Delete the following paragraphs:

904-2.2 LIME.

END OF MOD T-904

ITEM T-904 SODDING

DESCRIPTION

904-1.1 This item shall consist of furnishing, hauling, and placing approved live sod on prepared areas in accordance with this specification at the locations shown on the plans or as directed by the Engineer.

MATERIALS

904-2.1 SOD. Sod furnished by the Contractor shall have a good cover of living or growing grass. This shall be interpreted to include grass that is seasonally dormant during the cold or dry seasons and capable of renewing growth after the dormant period. All sod shall be obtained from areas where the soil is reasonably fertile and contains a high percentage of loamy topsoil. Sod shall be cut or stripped from living, thickly matted turf relatively free of weeds or other undesirable foreign plants, large stones, roots, or other materials that might be detrimental to the development of the sod or to future maintenance. At least 70% of the plants in the cut sod shall be composed of the species stated in the special provisions, and any vegetation more than 6 inches (150 mm) in height shall be mowed to a height of 3 inches (75 mm) or less before sod is lifted. Sod, including the soil containing the roots and the plant growth showing above, shall be cut uniformly to a thickness not less than that stated in the special provisions.

904-2.2 LIME. Lime shall conform to the requirements of 901-2.2.

904-2.3 FERTILIZER. Fertilizer shall conform to the requirements of 901-2.3.

904-2.4 WATER. The water shall be sufficiently free from oil, acid, alkali, salt, or other harmful materials that would inhibit the growth of grass. It shall be subject to the approval of the Engineer prior to use.

904-2.5 SOIL FOR REPAIRS. The soil for fill and topsoiling of areas to be repaired shall conform to the requirements of 901-2.4.

CONSTRUCTION METHODS

904-3.1 GENERAL. Areas to be solid, strip, or spot sodded shall be shown on the plans. Areas requiring special ground surface preparation such as tilling and those areas in a satisfactory condition that are to remain undisturbed shall also be shown on the plans.

Suitable equipment necessary for proper preparation of the ground surface and for the handling and placing of all required materials shall be on hand, in good condition, and shall be approved by the Engineer before the various operations are started. The Contractor shall demonstrate to the Engineer before starting the various operations that the application of required materials will be made at the specified rates.

904-3.2 PREPARING THE GROUND SURFACE. After grading of areas has been completed and before applying fertilizer and limestone, areas to be sodded shall be raked or otherwise cleared of stones larger than 2 inches (50 mm) in any diameter, sticks, stumps, and other debris which might interfere with sodding, growth of grasses, or subsequent maintenance of grass-covered areas. If any damage by erosion or other causes occurs after grading of areas and before beginning the application of fertilizer and ground limestone, the Contractor shall repair such damage. This may include filling gullies, smoothing irregularities, and repairing other incidental damage.

904-3.3 APPLYING FERTILIZER AND GROUND LIMESTONE. Following ground surface preparation, fertilizer shall be uniformly spread at a rate which will provide not less than the minimum quantity of each fertilizer ingredient, as stated in the special provisions. If use of ground limestone is required, it shall then be spread at a rate that will provide not less than the minimum quantity stated in the special provisions.

These materials shall be incorporated into the soil to a depth of not less than 2 inches (50 mm) by discing, raking, or other methods acceptable to the Engineer. Any stones larger than 2 inches (50 mm) in any diameter, large clods, roots, and other litter brought to the surface by this operation shall be removed.

904-3.4 OBTAINING AND DELIVERING SOD. After inspection and approval of the source of sod by the Engineer, the sod shall be cut with approved sod cutters to such a thickness that after it has been transported and placed on the prepared bed, but before it has been compacted, it shall have a uniform thickness of not less than 2 inches (50 mm). Sod sections or strips shall be cut in uniform widths, not less than 10 inches (250 mm), and in lengths of not less than 18 inches (45 cm), but of such length as may be readily lifted without breaking, tearing, or loss of soil. Where strips are required, the sod must be rolled without damage with the grass folded inside. The Contractor may be required to mow high grass before cutting sod.

The sod shall be transplanted within 24 hours from the time it is stripped, unless circumstances beyond the Contractor's control make storing necessary. In such cases, sod shall be stacked, kept moist, and protected from exposure to the air and sun and shall be kept from freezing. Sod shall be cut and moved only when the soil moisture conditions are such that favorable results can be expected. Where the soil is too dry, permission to cut sod may be granted only after it has been watered sufficiently to moisten the soil to the depth the sod is to be cut.

904-3.5 LAYING SOD. Sodding shall be performed only during the seasons when satisfactory results can be expected. Frozen sod shall not be used and sod shall not be placed upon frozen soil. Sod may be transplanted during periods of drought with the approval of the Engineer, provided the sod bed is watered to moisten the soil to a depth of at least 4 inches (100 mm) immediately prior to laying the sod.

The sod shall be moist and shall be placed on a moist earth bed. Pitch forks shall not be used to handle sod, and dumping from vehicles shall not be permitted. The sod shall be carefully placed by hand, edge to edge and with staggered joints, in rows at right angles to the slopes, commencing at the base of the area to be sodded and working upward. The sod shall immediately be pressed firmly into contact with the sod bed by tamping or rolling with approved equipment to provide a true and even surface, and insure knitting without displacement of the sod or deformation of the surfaces of sodded areas. Where the sod may be displaced during sodding operations, the workmen when replacing it shall work from ladders or treaded planks to prevent further displacement. Screened soil of good quality shall be used to fill all cracks between sods. The quantity of the fill soil shall not cause smothering of the grass. Where the grades are such that the flow of water will be from paved surfaces across sodded areas, the surface of the soil in the sod after compaction shall be set approximately 1 inch (25 mm) below the pavement edge. Where the flow will be over the sodded areas and onto the paved surfaces around manholes and inlets, the surface of the soil in the sod after compaction shall be placed flush with pavement edges.

On slopes steeper than 1 vertical to 2-1/2 horizontal and in v-shaped or flat-bottom ditches or gutters, the sod shall be pegged with wooden pegs not less than 12 inches (300 mm) in length and have a cross-sectional area of not less than 3/4 square inch (18 square millimeter). The pegs shall be driven flush with the surface of the sod.

904-3.6 WATERING. Adequate water and watering equipment must be on hand before sodding begins, and sod shall be kept moist until it has become established and its continued growth assured. In all cases, watering shall be done in a manner that will avoid erosion from the application of excessive quantities and will avoid damage to the finished surface.

904-3.7 ESTABLISHING TURF.

a. General. The Contractor shall provide general care for the sodded areas as soon as the sod has been laid and shall continue until final inspection and acceptance of the work.

b. Protection. All sodded areas shall be protected against traffic or other use by warning signs or barricades approved by the Engineer.

c. Mowing. The Contractor shall mow the sodded areas with approved mowing equipment, depending upon climatic and growth conditions and the needs for mowing specific areas. In the event that weeds or other undesirable vegetation are permitted to grow to such an extent that, either cut or uncut, they threaten to smother the sodded species, they shall be mowed and the clippings raked and removed from the area.

904-3.8 REPAIRING. When the surface has become bullied or otherwise damaged during the period covered by this contract, the affected areas shall be repaired to re-establish the grade and the condition of the soil, as directed by the Engineer, and shall then be sodded as specified in 904-3.5.

METHOD OF MEASUREMENT

904-4.1 This item shall be measured on the basis of the area in square yards (square meters) of the surface covered with sod and accepted.

BASIS OF PAYMENT

904-5.1 This item will be paid for on the basis of the contract unit price per square yard (square meter) for sodding, which price shall be full compensation for all labor, equipment, material, staking, and incidentals necessary to satisfactorily complete the items as specified.

Payment will be made under:

Item T-904-5.1	Sodding—per square yard (square meter)

END OF ITEM T-904

ITEM T-905 TOPSOILING is hereby amended with respect to the paragraphs and sections cited below.

Replace Section 905-2.1 as noted:

905-2.1 TOPSOIL. ***Topsoil source to be existing topsoil within the limits of the grading as shown on the Plans.*** Topsoil shall be the surface layer of soil with no admixture of refuse or any material toxic to plant growth, and it shall be reasonably free from subsoil and stumps, roots, brush, stones (2 inches or more in diameter), and clay lumps or similar objects. Brush and other vegetation that will not be incorporated with the soil during handling operations shall be cut and removed. Ordinary sods and herbaceous growth such as grass and weeds are not to be removed but shall be thoroughly broken up and intermixed with the soil during handling operations. ~~The topsoil or soil mixture, unless otherwise specified or approved, shall have a pH range of approximately 5.5 pH to 7.6 pH, when tested in accordance with the methods of testing of the association of official agricultural chemists in effect on the date of invitation of bids. The organic content shall be not less than 3%, nor more than 20% as determined by the wet combustion method (chromic acid reduction). There shall be not less than 20% nor more than 80% of the material passing the 200 mesh (0.075 mm) sieve as determined by the wash test in accordance with ASTM C 117.~~

Natural topsoil may be amended by the Contractor with approved materials and methods to meet the above specifications.

Replace Section 905-4.1 as noted:

905-4. 1 Topsoil obtained on the site shall be measured by the ***area in square yards of the specified thickness of topsoil rehandled and placed from the topsoil stockpiled under Item P-152-2.10 as accepted by the Engineer. Topsoiling measured for payment shall only be the planned limits of construction.*** ~~number of cubic yards (cubic meters) of topsoil measured in its original position and stripped or excavated. Topsoil stockpiled by others and removed for topsoiling by the Contractor shall be measured by the number of cubic yards (cubic meters) of topsoil measured in the stockpile. Topsoil shall be measured by volume in cubic yards (cubic meters) computed by the method of end areas.~~

Replace Section 905-5.1 as noted:

905-5.1 Payment will be made at the contract unit price ***per square yard for topsoiling at the thickness indicated on the Plans.*** This price shall be full compensation for furnishing all materials and for all ***stripping and stockpiling***, preparation, placing, and spreading of the materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item T-905-1	Topsoiling (Obtained on Site or Removed from Stockpile ***2" Thickness)*** – per ***square yard*** ~~cubic yards (cubic meters)~~

Delete Section 905-5.2.

END OF MOD T-905

ITEM T-905 TOPSOILING

DESCRIPTION

905-1.1 This item shall consist of preparing the ground surface for topsoil application, removing topsoil from designated stockpiles or areas to be stripped on the site or from approved sources off the site, and placing and spreading the topsoil on prepared areas in accordance with this specification at the locations shown on the plans or as directed by the Engineer.

MATERIALS

905-2.1 TOPSOIL. Topsoil shall be the surface layer of soil with no admixture of refuse or any material toxic to plant growth, and it shall be reasonably free from subsoil and stumps, roots, brush, stones (2 inches or more in diameter), and clay lumps or similar objects. Brush and other vegetation that will not be incorporated with the soil during handling operations shall be cut and removed. Ordinary sods and herbaceous growth such as grass and weeds are not to be removed but shall be thoroughly broken up and intermixed with the soil during handling operations. The topsoil or soil mixture, unless otherwise specified or approved, shall have a pH range of approximately 5.5 pH to 7.6 pH, when tested in accordance with the methods of testing of the association of official agricultural chemists in effect on the date of invitation of bids. The organic content shall be not less than 3% nor more than 20% as determined by the wet-combustion method (chromic acid reduction). There shall be not less than 20% nor more than 80% of the material passing the 200 mesh (0.075 mm) sieve as determined by the wash test in accordance with ASTM C 117.

Natural topsoil may be amended by the Contractor with approved materials and methods to meet the above specifications.

905-2.2 INSPECTION AND TESTS. Within 10 days following acceptance of the bid, the Engineer shall be notified of the source of topsoil to be furnished by the Contractor. The topsoil shall be inspected to determine if the selected soil meets the requirements specified and to determine the depth to which stripping will be permitted. At this time, the Contractor may be required to take representative soil samples from several locations within the area under consideration and to the proposed stripping depths, for testing purposes as specified in 905-2.1.

CONSTRUCTION METHODS

905-3.1 GENERAL. Areas to be topsoiled shall be shown on the plans. If topsoil is available on the site, the location of the stockpiles or areas to be stripped of topsoil and the stripping depths shall be shown on the plans.

Suitable equipment necessary for proper preparation and treatment of the ground surface, stripping of topsoil, and for the handling and placing of all required materials shall be on hand, in good condition, and approved by the Engineer before the various operations are started.

905-3.2 PREPARING THE GROUND SURFACE. Immediately prior to dumping and spreading the topsoil on any area, the surface shall be loosened by discs or spike-tooth harrows, or by other means approved by the Engineer, to a minimum depth of 2 inches (50 mm) to facilitate bonding of the topsoil to the covered subgrade soil. The surface of the area to be topsoiled shall be cleared of all stones larger than 2 inches (50 mm) in any diameter and all litter or other material which may be detrimental to proper bonding, the rise of capillary moisture, or the proper growth of the desired planting. Limited areas, as shown on the plans, which are too compact to respond to these operations shall receive special scarification.

Grades on the area to be topsoiled, which have been established by others as shown on the plans, shall be maintained in a true and even condition. Where grades have not been established, the areas shall be smooth-graded and the surface left at the prescribed grades in an even and properly compacted condition to prevent, insofar as practical, the formation of low places or pockets where water will stand.

905-3.3 OBTAINING TOPSOIL. Prior to the stripping of topsoil from designated areas, any vegetation, briars, stumps and large roots, rubbish or stones found on such areas, which may interfere with subsequent operations, shall be removed using methods approved by the Engineer. Heavy sod or other cover, which cannot be incorporated into the topsoil by discing or other means shall be removed.

When suitable topsoil is available on the site, the Contractor shall remove this material from the designated areas and to the depth as directed by the Engineer. The topsoil shall be spread on areas already tilled and smooth-graded, or stockpiled in areas approved by the Engineer. Any topsoil stockpiled by the Contractor shall be rehandled and placed without additional compensation. Any topsoil that has been stockpiled on the site by others, and is required for topsoiling purposes, shall be removed and placed by the Contractor. The sites of all stockpiles and areas adjacent thereto which have been disturbed by the Contractor shall be graded if required and put into a condition acceptable for seeding.

When suitable topsoil is secured off the airport site, the Contractor shall locate and obtain the supply, subject to the approval of the Engineer. The Contractor shall notify the Engineer sufficiently in advance of operations in order that necessary measurements and tests can be made. The Contractor shall remove the topsoil from approved areas and to the depth as directed. The topsoil shall be hauled to the site of the work and placed for spreading, or spread as required. Any topsoil hauled to the site of the work and stockpiled shall be rehandled and placed without additional compensation.

905-3.4 PLACING TOPSOIL. The topsoil shall be evenly spread on the prepared areas to a uniform depth of 2 inches (50 mm) after compaction, unless otherwise shown on the plans or stated in the special provisions. Spreading shall not be done when the ground or topsoil is frozen, excessively wet, or otherwise in a condition detrimental to the work. Spreading shall be carried on so that turfing operations can proceed with a minimum of soil preparation or tilling.

After spreading, any large, stiff clods and hard lumps shall be broken with a pulverizer or by other effective means, and all stones or rocks (2 inches (50 mm) or more in diameter), roots, litter, or any foreign matter shall be raked up and disposed of by the Contractor. after spreading is completed, the topsoil shall be satisfactorily compacted by rolling with a cultipacker or by other means approved by the Engineer. The compacted topsoil surface shall conform to the required lines, grades, and cross sections. Any topsoil or other dirt falling upon pavements as a result of hauling or handling of topsoil shall be promptly removed.

METHOD OF MEASUREMENT

905-4.1 Topsoil obtained on the site shall be measured by the number of cubic yards (cubic meters) of topsoil measured in its original position and stripped or excavated. Topsoil stockpiled by others and removed for topsoiling by the Contractor shall be measured by the number of cubic yards (cubic meters) of topsoil measured in the stockpile. Topsoil shall be measured by volume in cubic yards (cubic meters) computed by the method of end areas.

905-4.2 Topsoil obtained off the site shall be measured by the number of cubic yards (cubic meters) of topsoil measured in its original position and stripped or excavated. Topsoil shall be measured by volume in cubic yards (meters) computed by the method of end areas.

BASIS OF PAYMENT

905-5.1 Payment will be made at the contract unit price per cubic yard (cubic meter) for topsoiling (obtained on the site). This price shall be full compensation for furnishing all materials and for all preparation, placing, and spreading of the materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

905-5.2 Payment will be made at the contract unit price per cubic yard (cubic meter) for topsoiling (obtained off the site). This price shall be full compensation for furnishing all materials and for all preparation, placing, and spreading of the materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item T-905-5.1	Topsoiling (Obtained on Site or Removed from Stockpile;) —per cubic yard (cubic meter)
Item T-905-5.2	Topsoiling (Furnished from Off the Site)—per cubic yard (cubic meter)

TESTING MATERIALS

ASTM C 117	Materials Finer than 75-μm (No. 200) Sieve in Mineral Aggregates by Washing

END OF ITEM T-905

ITEM T-907 TILLING is hereby amended with respect to the paragraphs and sections cited below.

Replace Section 907-4.1 as noted:

907-4.1 Tilling shall be measured by the number of ***square yards*** ~~acres (square meter)~~, measured by surface area, tilled, smooth graded, and accepted.

Replace Section 907-5.1 as noted:

907-5.1 Payment will be made at the contract unit price per ***square yard*** ~~acre (square meter)~~ for tilling. This price shall be full compensation for furnishing all materials and for all preparation, operation and smooth grading, and for all labor, equipment, tools and incidentals necessary to complete the item.

Payment will be made under:

Item T-907-5.1	Tilling—per ***Square Yard*** ~~acre (square meter)~~

END OF MOD T-907

ITEM T-907 TILLING

DESCRIPTION

907-1.1 This item shall consist of preparing the surface of areas for dust control or erosion control in accordance with this specification at the locations shown on the plans or as directed by the Engineer.

CONSTRUCTION METHODS

907-3.1 GENERAL. Areas to be tilled and areas requiring special attention and tilling shall be shown on the plans.

The tilling work shall be performed only during periods when beneficial and satisfactory results can be reasonably expected. The work shall be stopped when it is unlikely that the desired results will be obtained, due to excessive drought, moisture conditions, or other factors, and resumed only when the conditions again are favorable.

Suitable equipment necessary for proper tilling and for handling all required materials shall be on hand, in good operating condition, and approved by the Engineer before the various operations are started.

907-3.2 TILLING.

a. General. Prior to the commencement of tilling operations, all heavy growths of vegetation on areas shown on the plans to be tilled shall be mowed, raked and burned, used for mulch if suitable, or hauled off the site, as directed by the Engineer.

During tilling operations, the ground surface shall be kept cleared of all cable, wire, or any other waste materials that might hinder final grading, planting, or subsequent maintenance operations. Any irregularities in the surface resulting from tilling or other operations of the Contractor shall be corrected insofar as practical to prevent the formation of low places and pockets where water will stand.

The proper graded areas shall be tilled by the Contractor with suitable plows, discs, scarifying machines, or other power-drawn implements approved by the Engineer.

b. For Dust and Erosion Control. The areas to be tilled for dust or erosion control shall be loosened to a depth of at least 4 inches (10 cm) by a tiller tool so that clods will be left on the surface of the ground. In areas where such penetration cannot be accomplished by a tiller tool in one operation, a heavy scarifier shall be used first. On areas 250 feet (76 m) or more from the centerline of runways, as shown on the plans, on which scarifiers will not produce clods of sufficient size and quantity to provide adequate control by the above operation, furrows shall be opened on approximately 36-inch (90 cm) centers to a depth of 5 inches (12 cm) by using an approved type lister. Tilling operations shall commence on the windward side of the field and at right angles to the prevailing wind except on runway shoulders, where they shall be parallel to the pavements. Equipment and operations, other than those specified above, may be used subject to the approval of the Engineer.

907-3.3 SMOOTH GRADING. Where final grades have been established by others, they shall be shown on the plans. Where grades have not been established, the areas shall be smooth graded and the surfaces left at the prescribed grades in an even and properly compacted condition which, insofar as practical, will prevent the formation of low places and pockets where water will stand.

METHOD OF MEASUREMENT

907-4.1 Tilling shall be measured by the number of acres (square meter), measured by surface area, tilled, smooth graded, and accepted.

BASIS OF PAYMENT

907-5.1 Payment will be made at the contract unit price per acre (square meter) for tilling. This price shall be full compensation for furnishing all materials and for all preparation, operation and smooth grading, and for all labor, equipment, tools and incidentals necessary to complete the item.

Payment will be made under:

Item T-907-5.1	Tilling—per acre (square meter)

END OF ITEM T-907

11111 Katy Freeway
Suite 910
Houston, TX 77079

TEL 713.491.8333
FAX 713.973.5777

www.GarverUSA.com

July 30, 2014

Mr. Alex Rupp
Jack Brooks Regional Airport
4875 Parker Dr.
Beaumont, TX 77705

Re: JACK BROOKS REGIONAL AIRPORT – RUNWAY SAFETY AREA GRADING
Recommendation of Award

Dear Mr. Rupp:

Bids were received for the Jack Brooks Regional Airport Runway Safety Area Grading project at the Jefferson County Courthouse at 11:00 am on July 22, 2014. A tabulation of the bid received is enclosed with this letter.

Garver has reviewed the bid proposal for compliance with the "Instructions to Bidders". Each bid was to include the following.

- Bid Bond
- Proposal
- Acceptance of Addenda

A total of one bid was received on the project; and that bidder provided the required information. The bid has been evaluated based on the total amount bid. The apparent low bidder, APAC-Texas Inc. submitted a bid in the amount of $119,490.00.

In our review of the bid, we did not find any errors. All unit price calculations were verified and appear correct. Based on these findings we feel that it is in the best interest of Jefferson County and Jack Brooks Regional Airport to award the Runway Safety Area Grading project contract to APAC-Texas, Inc.. of Beaumont, Texas.

Please call me if you have any questions.

Sincerely,

Thomas D Dodson, PE
Senior Project Manager

Attachments: Bid Tabulation

n:\2013\13121730 - bpt taxiway d\correspondence\outgoing\bpt - 14-026kjs recommendation of award.doc

JACK BROOKS REGIONAL AIRPORT
RUNWAY SAFETY AREA GRADING
BID TABULATION
BID OPENING: July 22, 2014; 11:00 AM

ITEM NO.	SPEC. NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	ENGINEER'S ESTIMATE UNIT PRICE	ENGINEER'S ESTIMATE AMOUNT	APAC-Texas, Inc. UNIT PRICE	APAC-Texas, Inc. AMOUNT
1	SS-120-1	SITE PREPARATION	LS	100%	$8,000.00	$8,000.00	$39,500.00	$39,500.00
2	D-754-1	SWALE CONFLUENCE SLOPE PAVING	LS	100%	$8,000.00	$8,000.00	$21,000.00	$21,000.00
3	P-151-1	CLEARING	AC	8	$1,200.00	$9,600.00	$1,500.00	$12,000.00
4	P-152-1	UNCLASSIFIED EXCAVATION	CY	3,220	$18.00	$57,960.00	$7.00	$22,540.00
5	P-152-2	BORROW EXCAVATION	CY	980	$15.00	$14,700.00	$12.50	$12,250.00
6	P-156-1	TEMPORARY EROSION CONTROL	LS	100%	$3,000.00	$3,000.00	$6,200.00	$6,200.00
7	T-901-1	SEEDING, INCLUDING FERTILIZING AND WATERING	AC	8	$2,500.00	$20,000.00	$750.00	$6,000.00
				Total (Base Bid):		$121,260.00		$119,490.00

Corrected Prices

APAC 3113

JACK BROOKS REGIONAL AIRPORT
RUNWAY SAFETY AREA GRADING

AIP NO. 3-48-0018-030-2014

JEFFERSON COUNTY COMMISSIONERS COURT
JEFFERSON COUNTY, TEXAS

Jefferson County Project 14-026/KJS

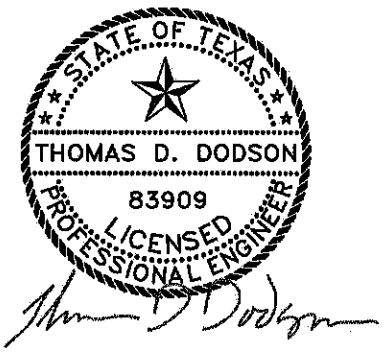
Garver Project Number 13121730

June 2014

GARVER, LLC - TEXAS REGISTERED ENGINEERING FIRM F-5713

JACK BROOKS REGIONAL AIRPORT
RUNWAY SAFETY AREA GRADING
AIP NO. 3-48-0018-030-2014

JEFFERSON COUNTY COMMISSIONERS COURT
JEFFERSON COUNTY, TEXAS
Jefferson County Project 14-026/KJS



DIGITALLY SIGNED
06/06/2014

GARVER

Garver Project Number 13121730

June 2014

TEXAS REGISTERED ENGINEERING FIRM F-5713

TABLE OF CONTENTS

A. ADVERTISEMENT AND INVITATION TO BID

B. INSTRUCTIONS TO BIDDERS

C. BID FORM AND PROPOSAL

D. STATEMENT OF BIDDERS QUALIFICATIONS

E. BID SURETY

F. CONTRACT

G. NOTICE OF AWARD
NOTICE TO PROCEED

H. PERFORMANCE BOND
PAYMENT BOND
CERTIFICATE OF INSURANCE

I. GENERAL PROVISIONS (FAA AC 150/5370-10F)
- Section 10 Definitions of Terms
- Section 20 Proposal Requirements and Conditions
- Section 30 Award and Execution of Contract
- Section 40 Scope of Work
- Section 50 Control of Work
- Section 60 Control of Materials
- Section 70 Legal Regulations and Responsibility to Public
- Section 80 Prosecution and Progress
- Section 90 Measurement and Payment
- Section 100 Contractor Quality Control Program
- Section 110 Method of Estimating Percentage of Material Within Specification Limits
- Section 120 Nuclear Gauges

J. SPECIAL PROVISIONS

K. ADDENDA

L. WAGE RATES

M. CHANGE ORDER FORM

N. TECHNICAL SPECIFICATIONS
- Item SS-101 Contractor Safety Plan Compliance Document
- Item SS-120 Site Preparation
- Item SS-300 Basic Electrical Requirements

D-754M	Concrete Gutters, Ditches, and Flumes (Modifications)
D-754	Concrete Gutters, Ditches, and Flumes
P-151M	Clearing and Grubbing (Modifications)
P-151	Clearing and Grubbing
P-152M	Excavation and Embankment (Modifications)
P-152	Excavation and Embankment
P-156M	Temporary Air Water Pollution Soil Erosion and Siltation Control (Modifications)
P-156	Temporary Air Water Pollution Soil Erosion and Siltation Control
P-610M	Structural Portland Cement Concrete (Modifications)
P-610	Structural Portland Cement Concrete
T-901M	Seeding (Modifications)
T-901	Seeding

SECTION A
ADVERTISEMENT AND INVITATION TO BID

JEFFERSON COUNTY PURCHASING DIVISION

Deborah L. Clark, County Purchasing Agent

1149 Pearl Street, Beaumont, TX 77701 409-835-8593 Fax 409-835-8456

June 16, 2014
Legal Notice Invitation for Bid

Dear Bidders:

You are invited to submit bids in accordance with specifications packet, Invitation for Bid (IFB) **14-026/KJS**, Runway Safety Area Grading at Jack Brooks Regional Airport with an original and three (3) copies to the Jefferson County Purchasing Agent, 1149 Pearl Street, 1st Floor, Beaumont, Texas 77701, no later than 11:00 AM CDT, July 22, 2014. Bids will be opened at that time.

Specifications and plans are available for download at no cost. Documents can be obtained from Garver website at ftp://ftp.garverusa.com/. Username: BPT_RSAGR8NG Password: BPT2BIDDER

A Pre-Bid Conference will be held on Tuesday, July 8, 2014, at 1:30 PM CDT. The conference will be held in the Jack Brooks Regional Airport Commercial Terminal Media Room, 6000 Air Line Dr. Beaumont, Texas 77705. This conference will be bidder's only opportunity to view secured areas of the project.

The County shall require the bidder to furnish a bid security in the amount of five percent (5%) of the total contract cost. The bid bond must be executed with a surety company authorized to do business in the State of Texas. Within ten (10) days after the date of the signing of a contract, the bidder shall furnish a performance bond to the County for the full amount of the contract, if the contract exceeds one hundred thousand dollars ($100,000). If the contract is for one hundred thousand dollars ($100,000) or less, the County may provide that no money be paid to the contractor until completion and acceptance of the work or the fulfillment of the purchase obligation to the County.

All bidders and proposers shall make good faith efforts, as defined by Appendix A of 49 CFR Part 26, Regulations of the Office of the Secretary of Transportation, to subcontract a minimum of 15.88% of the dollar value of the prime contract to small business concerns owned and controlled by socially and economically disadvantaged individuals (DBE).

Jefferson County reserves the right to reject any or all bids, to waive irregularities in the bids and bidding deemed to be in the best interests of Jefferson County, and to reject nonconforming, nonresponsive, or conditional bids.
Bids will remain in effect for **ninety (90) calendar days** after the bid opening date.

Any questions relating to these requirements should be directed to Karen J. Smith, MBA, Assistant Purchasing Agent, at 409-835-8693.

All Bids shall be submitted to the Jefferson County Purchasing Agent in a sealed envelope marked:

BID NAME:	**Runway Safety Area Grading at Jack Brooks Regional Airport**
BID NO:	**14-026/KJS**
DUE DATE/TIME:	**July 22, 2014/11:00 AM CDT**
MAIL OR DELIVER TO:	**Jefferson County Purchasing Division** **1149 Pearl Street, 1st Floor** **Beaumont, Texas 77701**

Sincerely,

Deborah L. Clark
Purchasing Agent

Publish: Beaumont Enterprise, & Port Arthur News – June 18 and June 25, 2014

SECTION B
INSTRUCTIONS TO BIDDERS

INSTRUCTIONS TO BIDDERS

1. PREPARATION OF BID

Each bid must be submitted on the prescribed form (Proposal) and Unit Price Schedule(s). All blank spaces must be filled in legibly with ink. All blank spaces for bid prices on the Unit Price Schedules must be filled in and the extended total for each item shall be entered in figures only. If the unit price and the extended total of any item are not in agreement, the unit price shall govern and the extended total is corrected to conform thereto. Erasures or other corrections on the Proposal form or Unit Price Schedules shall be initialed by the signer of the bid. All bids must be signed in ink by an individual authorized to bind the Bidder. All bids must be regular in every respect and no interlineations, excisions, or special conditions shall be made or included in the Proposal by the Bidder.

There is a base bid unit price schedule. Bidders must submit proposals on both schedules. Bidders must quote on all items within a specific schedule; failure to do so may disqualify the bid.

There must be a bid on all items that may appear on the Unit Price Schedule(s). No bid will be considered which covers only a part of the work. A conditional bid will not be considered.

The Proposal and Unit Price Schedule(s) shall not be detached, but shall be submitted in the original binding as furnished by the Engineer. Submission must be at the place, and at or prior to the time specified in the Advertisement for Bids.

Each bid must be submitted in a sealed envelope clearly marked on the outside that it contains a bid for **Runway Safety Area Grading** and with the time and date of bid opening shown thereon. The name, address, and Texas Contractor's License Number of the Bidder shall appear in the upper left-hand corner of the envelope. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope.

A bid that obviously is unbalanced may be rejected.

2. INTERPRETATIONS AND ADDENDA

No oral interpretation will be made to any Bidder as to the meaning of the Contract Documents or any part thereof. Every request for such an interpretation shall be made in writing to Garver, 11111 Katy Freeway, Suite 910, Houston, Tx 77079. Any inquiry received forty-eight (48) hours prior to the opening of bids will be given consideration. Every interpretation made to a Bidder will be in the form of an Addendum to the contract Documents, and when issued, will be on file in the office of the Engineer at least twenty-four (24) hours before bids are opened. In addition, all Addenda will be faxed/mailed to each person holding Contract Documents, but it shall be the Bidder's responsibility to make inquiry as to the Addenda issued. All such Addenda shall become part of the Contract and all Bidders shall be bound by such Addenda, whether or not received by the Bidders.

3. INSPECTION OF SITE

Each Bidder shall visit the site of the proposed work and fully acquaint himself with the existing conditions there relating to construction and labor, and shall fully inform himself as the facilities involved, and the difficulties and restrictions attending the performance of the Contract. The Bidder shall thoroughly examine and familiarize himself with the Plans, Technical Specifications, and other Contract Documents. The Contractor by the execution of the Contract shall not be relieved of any obligation under it due to his failure to receive or examine any form or legal instrument or to visit the site and acquaint himself with the conditions there existing, and the Owner will be justified in rejecting any claim based on facts regarding which he should have been on notice as a result thereof.

4. BID GUARANTY

The bids must be accompanied by a Bid Guaranty, which shall not be less than five percent (5%), of the amount of the bid. At the option of the Bidder, the guaranty may be a certified check, or may be a Bid Bond substantially in the form attached. No bid will be considered unless it is accompanied by the required guaranty. Certified check must be payable to the order of Jack Brooks Regional Airport. Cash deposits will not be accepted. The Bid Guaranty shall insure the execution of the Agreement and the furnishing of the surety bond or bonds by the successful Bidder, all as required by the Contract Documents.

Certified check, or Bid Bonds, of unsuccessful Bidders, will be returned upon request as soon as feasible after the opening of the bids.

5. COLLUSION; SUBCONTRACTS

A Bidder submitting a Proposal to the Owner for the work contemplated by the Documents on which bidding is based shall not collude with any other person, firm, or corporation in regard to any bid submitted.

Before executing any subcontract, the successful Bidder shall submit the name of any proposed Subcontractor for prior approval of the Owner.

6. STATEMENT OF BIDDER'S QUALIFICATIONS

Each Bidder shall submit, on the form furnished for that purpose (a copy of which is included in the Contract Documents), a statement of the Bidder's qualifications, his experience record in construction of work similar to that which here is involved, and his organization and equipment available for the work contemplated; and when specifically requested by the Owner, a detailed financial statement. The Owner shall have the right to take such steps as it deems necessary to determine the ability of the Bidder to perform his obligations under the Contract and the Bidder shall furnish the Owner all such information and data for this purpose as it may request. The right is reserved to reject any bid where an investigation of the available evidence or information does not satisfy the Owner that the Bidder is qualified to carry out properly the terms of the Contract.

7. BALANCED BIDS; VARIATIONS IN QUANTITIES

The lump sum price and unit price for each of the several items in the Proposal of each Bidder shall be balanced and shall include its pro rata share of overhead.

The Owner shall have the right to increase or decrease the extent of the work, to change the location or gradient, or the dimensions of any part of the work, provided that the length of the improvement is not increased or decreased in excess of twenty-five percent (25%) of the length as determined by the Contract, or that the quantities of work to be done or the materials to be furnished are not increased or decreased in money value in excess of twenty-five percent (25%) of the total as determined by the Contract. Such changes shall not be considered as a waiver of any conditions of the Contract nor invalidate any of the provisions thereof. The Contractor shall perform the work as increased or decreased within the qualifying limits named and no allowance will be made for anticipated profits or increases or decreases so incurred. Change in length or in money value, within the twenty-five percent (25%) limits set out, shall not be cause for adjustment of any lump sum or unit price. Changes in items of work covered by unit prices and/or lump sum prices, within the twenty-five percent (25%) limits set out, shall not be cause for adjustment of any other (non-involved) lump sum or unit price.

Increases or decreases in items of work, and the cost thereof, shall be done in accordance with the Section entitled, SECTION 40-02 under GENERAL CONDITIONS.

8. TIME FOR RECEIVING BIDS

A bid received prior to the advertised hour of opening will be kept securely, and will remain sealed until the hour of opening. The officer whose duty it is to open them will decide when the specified time has arrived, and any bid received subsequent to that time will be returned unopened.

9. OPENING OF BIDS

At the time and place fixed for the opening of bids, the Owner will cause the bids to be opened and publicly read aloud, irrespective of any irregularities therein. Bidders and other persons properly interested may be present, in person or by representative. Bid qualification may be evaluated before and/or after the bid opening, at the Owner's discretion.

10. WITHDRAWAL OF BIDS

Bids may be withdrawn on written request if the request is received prior to the time fixed for the opening of bids.

11. AWARD OF CONTRACT; REJECTION OF BIDS

The Contract will be awarded to the responsible Bidder submitting the lowest total bid complying with the conditions of the Advertisement for Bids and other parts of these Contract Documents. Proposals will be evaluated on the basis of cost, the Bidder's financial responsibility, performance responsibility, technical feasibility, his equipment, and his past performance in completing similar work. The Bidder to whom the award is made will be notified at the earliest possible date, but not later than sixty (60) days after the opening of bids. The Owner, however, reserves the right to reject any or all bids and to waive any informality in bids received whenever such rejection or waiver is in its interests.

The Owner reserves the right to consider as unqualified to do the work any Bidder who does not habitually perform with his own forces the major portions of such work as is involved in construction of these improvements.

12. EXECUTION OF AGREEMENT; PERFORMANCE AND PAYMENT BOND

Subsequent to the award and within ten (10) days after the prescribed forms are presented for signature, the successful Bidder shall execute and deliver to the Owner an Agreement in the form included in the Contract Documents in such number of copies as the Owner may require.

Having satisfied all conditions of award as set forth elsewhere in these Documents, the successful Bidder shall, within the period specified above, furnish a surety bond in a penal sum not less than the amount of the Contract as awarded, as security for the faithful performance of the Contract, and for the payment of all persons, firms or corporations to whom the Contractor may become legally indebted for labor, materials, tools, equipment, or services of any nature, including utility and transportation services employed or used by him in performing the work. Such bond shall be as included in the Contract Documents and shall bear the same date as, or a date subsequent to, that of the Agreement. The current power of attorney for the person who signs for any surety company shall be attached to such bond.

The failure of the successful Bidder to execute such Agreement and to supply the required bond or bonds within ten (10) days after the prescribed forms are presented for signature, or within such extended period as the Owner may grant, based upon reasons determined sufficient by the Owner, shall constitute a default, and the Owner may either award the Contract to the next lowest responsible Bidder or readvertise for bids.

13. BONDS AND INSURANCE

Bids must be accompanied by a bid security made payable to Jefferson County in the amount of five percent (5%) of the maximum bid price provided, including alternatives. Bid security may be by certified check, money order, or Bid bond issued by a surety.

All companies furnishing Bid Bonds and Performance Bonds shall furnish evidence of being on the U.S. Treasury Department's most current list (Circular 570, as amended) and be authorized to transact business in the State of Texas.

14. CONTRACTOR'S LIABILITY INSURANCE REQUIREMENTS

The Bidder shall provide with the Proposal a listing of both automobile and personal liability insurance coverage currently in force, along with a copy of a Certificate of Insurance as verification of that coverage. In addition, the Bidder shall provide a statement of premium cost issued by the agent or insurance carrier for that coverage.

In the event the Owner determines that the low Bidder's coverage in force is inadequate, the Owner may require the low Bidder to procure additional coverage in amounts specified by the Owner. The cost of premiums for such additional coverage shall be paid by the Owner in the form of a reimbursement under the contract.

In the event the lower Bidder is unable, after diligent effort, to procure such additional coverage as may be required by the Owner, the Owner shall provide such additional coverage, naming the Contractor as insured or, at the option of the Owner, reduce the amount of additional coverage required or waive any requirement for additional coverage.

15. THIRD PARTY COVERAGE

The Contractor shall provide insurance coverage for the Engineer and the Owner as indicated in the Supplemental Conditions for Jefferson County, attached herein.

16. SIGNATORY AND CONTRACT SUBMITTALS

The Contract Documents call for all Bidders, and for the awarded Contractor, to complete and/or submit information concerning equal employment opportunity, quality control, labor items, etc. Following is a list of the items that each Bidder on the project must complete/submit with the sealed bid:

- Bid Bond
- Proposal (all pages including Unit Price Schedule)
- Statement of Bidder's Qualifications
- List of Proposed Subcontractors
- Current Automobile and Liability Insurance Coverage

The following is a list of completed forms/submittals that the apparent low Bidder will be required to complete before execution and award of the contract:

- Contract (all pages)
- Performance Bond
- Payment Bond
- Certificates of Insurance and Insurance Policies
- Third Party Insurance

The following is a list of completed forms/submittals that the awarded Contractor will be required to submit

before construction begins:

- Safety Plan Compliance Document
- Construction Schedule

Additional certifications and submittals will be required for construction materials and other items in the technical specifications.

17. LEGAL QUALIFICATIONS

All Bidders, in order to submit a bonafide Proposal, must comply with the applicable terms of the State of Texas and be certified to do business in the State of Texas.

18. MODIFICATION OF BID

No modification of any bid already submitted will be considered unless such modification is received prior to the hour set for opening for bids.

END OF INSTRUCTIONS TO BIDDERS

SECTION C
BID FORM AND PROPOSAL

PROPOSAL

Place Jefferson County, Texas

Date July 22, 2014

Proposal of APAC-Texas, Inc.,

a corporation organized and existing under the laws of the State of Delaware,

or

Proposal of N/A,

a partnership consisting of _____,

or

Proposal of N/A,

an individual doing business as _____,

To: Jack Brooks Regional Airport

This bid results from your advertisement for bids for the construction of the **RUNWAY SAFETY AREA GRADING.**

The undersigned Bidder, having visited the site of the work, having examined the Plans, Specifications, and other Contract Documents including all Addenda, and being familiar with all of the conditions relating to the construction of the proposed project, hereby agrees to comply with all other conditions or requirements set forth in the Plans, Specifications, and other Contract Documents, and further proposes to; furnish all material, supplies, equipment, and appliances; to furnish all labor, tools, equipment and incidentals to complete the work in accordance with the Plans, Specifications, and other Contract Documents at and for the lump sum and unit prices proposed in the attached Bid Form(s).

The undersigned Bidder agrees to begin work within ten (10) calendar days after the issuance by, or on behalf of, the Owner of a "Work Order" or "Notice to Proceed" (except as modified in accordance with the GENERAL FAA PROVISIONS of these Contract Documents). Should the work fail to be completed within the time herein stated, the Contractor shall pay to the Owner, as fixed and agreed liquidated damages, and not as a penalty, the sum, for each day of delay until the work is completed and accepted, as stipulated in GENERAL FAA PROVISIONS of these Contract Documents. It is understood that additional time for the completion of the project is to be allowed only for delays as stipulated in GENERAL FAA PROVISIONS of these Contract Documents.

List of Plans

Sheet No.	Title
G-101	COVER SHEET
G-102	GENERAL NOTES
G-201	OVERALL LAYOUT
G-202	CONCURRENT PROJECTS LAYOUT
G-301	CONSTRUCTION SAFETY AND PHASING PLAN I
G-302	CONSTRUCTION SAFETY AND PHASING PLAN II
G-303	CONSTRUCTION SAFETY AND PHASING DETAILS

Sheet No.	Title
C-101	EROSION CONTROL DETAILS I
C-102	EROSION CONTROL DETAILS II
C-103	EROSION CONTROL DETAILS III
C-201	RUNWAY 12 – PLAN & PROFILE
C-202	RUNWAY 34 – PLAN & PROFILE
XS-101	RUNWAY 12 CROSS SECTIONS I
XS-102	RUNWAY 34 CROSS SECTIONS I

List of Technical Specifications

Specification Item No.	Description
Item SS-101	Contractor Safety Plan Compliance Document
Item SS-120	Site Preparation
	Modification to Item D-754
Item D-754	Concrete Gutters, Ditches, and Flumes
	Modification to Item P-151
Item P-151	Clearing and Grubbing
	Modification to Item P-152
Item P-152	Excavation and Embankment
	Modification to Item P-156
Item P-156	Temporary Air and Water Pollution, Soil Erosion and Siltation Control
	Modification to Item P-610
Item P-610	Structural Portland Cement Concrete
	Modification to Item T-901
Item T-901	Seeding

Bidder acknowledges receipt of the following addendum (addenda):

Addendum No. 1 dated June 23, 2014

Addendum No. 2 dated July 10, 2014

Addendum No. _____ dated _____

The undersigned Bidder agrees that this bid shall be good and shall not be withdrawn for a period of ninety (90) calendar days after the opening thereof. If written notice of the acceptance of this Proposal is mailed, telegraphed, or delivered to the undersigned within ninety (90) days after the opening thereof, or at any time thereafter before this Proposal is withdrawn, the undersigned agrees to execute and deliver an Agreement (Contract) in the prescribed form, and furnish the required Performance and Payment Bond, within ten (10) days after the Agreement is presented to him for signature.

It is understood by the undersigned Bidder that the Owner reserves the right to reject any or all bids.

The following provisions are also included by reference:

- Davis Bacon Act (29 CFR Part 5.5)
- EEO Compliance Reports (41 CFR Part 60-1.7)
- Trade Restriction Certification (49 CFR Part 30)
- Buy American Preferences (Title 49 United States Code, Chapter 501)
- Certification of Non-Segregated Facilities (41 CFR Part 60-1.8)
- Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion (49 CFR Part 29)

Accompanying this Proposal as bid security is a certified check/bid bond (*strike one*)

in the amount of five percent of total bid amount Dollars

($ 5% of total bid), being not less than five percent (5%) of the total amount of the bid for the base bid plus all alternates, as applicable. If the undersigned Bidder is the successful Bidder, but fails or refuses to execute the contract and furnish the required bond within the prescribed ten (10) days of the notification of award, then this bid security is to become the property of the Owner as liquidated damages for the delay and additional expense to the Owner caused by such failure or refusal.

JACK BROOKS REGIONAL AIRPORT
RUNWAY SAFETY AREA GRADING
BID FORM

BASE BID

BID ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	BID AMOUNT
SS-120-1	SITE PREPARATION	LS	100%	$ 39,500.00	$ 39,500.00
	Unit price in words: Thirty-Nine Thousand, Five Hundred dollars and Zero /100				
D-754-1	SWALE CONFLUENCE SLOPE PAVING	LS	100%	$ 21,000.00	$ 21,000.00
	Unit price in words: Twenty-One Thousand. dollars and Zero /100				
P-151-1	CLEARING	AC	8.0	$ 1,500.00	$ 12,000.00
	Unit price in words: One Thousand, Five Hundred dollars and Zero /100				
P-152-1	UNCLASSIFIED EXCAVATION	CY	3,220	$ 7.00	$ 22,540.00
	Unit price in words: Seven dollars and Zero /100				
P-152-2	BORROW EXCAVATION	CY	980	$ 12.50	$ 12,250.00
	Unit price in words: Twelve dollars and Fifty /100				
P-156-1	TEMPORARY EROSION CONTROL	LS	100%	$ 6,200.00	$ 6,200.00
	Unit price in words: Six Thousand, Two Hundred dollars and Zero /100				
T-901-1	SEEDING, INCLUDING FERTILIZING AND WATERING	AC	8.0	$ 750.00	$ 6,000.00
	Unit price in words: Seven Hundred Fifty dollars and Zero /100				

JACK BROOKS REGIONAL AIRPORT
RUNWAY SAFETY AREA GRADING
BID FORM

BID ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	BID AMOUNT

TOTAL (BASE BID) $ 119,490.00

Total price in words: One Hundred Nineteen Thousand, Four Hundred Ninety dollars and Zero /100

It is understood the quantities of work to be done at unit prices are approximate and are intended for bidding purposes only. Amounts are to be shown in both words and figures. In case of discrepancy the amount shown in words shall govern.

Contract Award will be based on the lowest qualified bidder, depending on the availability of funds.

Bidders understand the Owner reserves the right to reject any irregular proposal and the right to waive technicalities if such waiver is in the best interest of the Owner and conforms to State and local laws and ordinances pertaining to the letting of construction contracts. Funding availability will be considered in selecting the bid award. The bidder agrees this bid shall be honored and may not be withdrawn for a period of 90 calendar days after the scheduled closing time for receiving bids.

Bidder hereby agrees to commence work under this contract on or before a date to be specified in a written "Notice to Proceed" and to fully complete the project within:

- **45 Calendar Days** thereafter.

Bidder further agrees to pay as liquidated damages the sum of **One Thousand** Dollars **($1,000.00)** for each calendar day to complete the work beyond the allotted time or as extended by an approved Change Order or Supplemental Agreement.

Melissa McKagye
(Witness)

APAC-Texas, Inc.
(Name of Bidder)

By

Scott Blanchard, Asst. Secretary
(Print Name and Title)

12907 US Hwy 90
Beaumont, TX 77713
(Office Address of Bidder)

(Address)

SEAL (If Bidder is a corporation)

NOTES: Sign in ink. Do not detach.
Items must be bid upon as specified in the Bid Form.

SECTION D
STATEMENT OF BIDDER'S QUALIFICATIONS

STATEMENT OF BIDDER'S QUALIFICATIONS

All questions must be answered and the data given must be clear and comprehensive. This statement must be notarized. If necessary, questions may be answered on separate attached sheets. The Bidder may submit any additional information he desires.

1. Name of Bidder APAC-Texas, Inc.
2. Permanent main office address
   12907 US Hwy 90
   Beaumont, TX 77713
3. When organized 1945
4. If a corporation, where incorporated 1980
5. How many years have been engaged in the contracting business under your present firm or trade name? 68
6. Contracts on hand: (Schedule these, showing amount of each contract and the appropriate anticipated dates of completion)
   Please see attached.

   General character of work performed by your company Road, highway & bridge construction
7. Have you ever failed to complete any work awarded to you? No
8. Have you ever defaulted on a Contract? No
   If so, where and why?
9. Have you ever been fined or had your license suspended by a Contractor's Licensing Board? No
   If so, where and why?
10. List the more important projects recently completed by your company, stating the approximate cost for each, and the month and year completed (attach to back of this document). Please see attached.
11. List your major equipment available for this Contract (attach to back of this document). Please see attached.
12. List your experience in construction work similar in scope and scale to this project (attach to back of this document). Please see attached.
13. Background and experience of the principal members of your organization, including the officers (attach to back of this document). Please see attached.
14. Credit available: $ Available upon request.
15. Give Bank reference: Bank of America Lois Marshall FAX: 415-343-9310

16. Will you, upon request, fill out a detailed financial statement and furnish any other information that may be required by the Owner? Yes

The undersigned hereby authorizes and requests any person, firm, or corporation to furnish any information requested by the Owner, in verification of the recitals comprising this statement of Bidder's Qualifications.

The Bidder shall provide a brief description of any litigation or administrative proceeding of the following types, either pending or concluded within the proceeding year, to which the Bidder (and the ultimate controlling person, if different from the Bidder) or any of its directors or executive officers was a party or of which the property of any such person is or was the subject; the names of the parties and the court or agency in which such litigation or proceeding is or was pending shall be given:

(a) Administrative or judicial proceedings of any state federal agency or authority concerning environmental violations;

(b) Proceedings which may have a material effect upon the solvency of the ultimate holding company, including but not necessarily limited to, bankruptcy and receivership; and

(c) Criminal proceedings.

Dated at APAC-Texas, Inc. this 22nd day of July, 20 14.

APAC-Texas, Inc.
(Name of Bidder)
By _____
Title Scott Blanchard
Asst. Secretary

STATE OF Texas)
) §.
COUNTY OF Jefferson)

Scott Blanchard being duly sworn deposes and says that he is
Asst. Secretary of APAC-Texas, Inc.
(Name of Organization)

and that the answers to the foregoing questions and all statements therein contained are true and correct.
SUBSCRIBED AND SWORN TO BEFORE ME this 22nd day of July, 20 14.

_____
(Notary Public) Melissa McKague

My Commission Expires:
June 14, 2016

MELISSA MCKAGUE
Notary Public, State of Texas
My Commission Expires
June 14, 2016

SECTION E
BID SURETY

INSERT BID SURETY HERE

SECTION F
CONTRACT

CONTRACT

THIS AGREEMENT made this _____ day of _____, 2014, by and between **APAC-Texas, Inc.** a Corporation organized and existing under the laws of the State of **TEXAS** hereinafter called the "Contractor", and **JEFFERSON COUNTY, TEXAS**, hereinafter called the "Owner".

W I T N E S S E T H:

That the Contractor and the Owner for the consideration stated herein mutually agree as follows:

ARTICLE 1. Statement of Work. The Contractor shall furnish all supervision, technical personnel, labor, materials, machinery, tools, equipment, incidentals and services, including utility and transportation services and perform and complete all work required for the construction of **RUNWAY SAFETY AREA GRADING at Jack Brooks Regional Airport** in strict accordance with the Contract Documents.

ARTICLE 2. The Contract Price. The Owner will pay the Contractor, because of his performance of the Contract, for the total quantities of work performed at the lump sum and unit prices stipulated in the Proposal for the **Base Bid, not to exceed a total contract value of One hundred nineteen thousand, four hundred ninety dollars and no /100 ($119,490.00)** subject to additions, and deductions as provided in the Section entitled "CHANGES IN THE WORK" under GENERAL PROVISIONS.

ARTICLE 3. Contract Time. The Contractor agrees to begin work within ten (10) calendar days after issuance by the Owner of a "Work Order" or "Notice to Proceed" and to complete the work within **FORTY-FIVE (45)** consecutive calendar days thereafter (except as modified in accordance with the GENERAL PROVISIONS of these Contract Documents). If the Contractor shall fail to complete the work within the time specified, he and his Surety shall be liable for payment to the Owner, as liquidated damages ascertained and agreed, and not in the nature of a penalty, the amount specified in the PROPOSAL of these Contract Documents for each day of delay. To the extent sufficient in amount, liquidated damages shall be deducted from the payments to be made under this Contract.

ARTICLE 4. Contract. The executed Contract Documents shall consist of the following:

a. Advertisement and Invitation to Bidders
b. Instructions to Bidders
c. Bid Form and Proposal
d. Executed Contract
e. Statement of Bidder's Qualifications
f. List of Proposed Subcontractors
g. Performance and Payment Bonds
h. Certificates of Insurance and Insurance Policies
i. General Provisions (FAA AC 150/5370-10F)
j. Special Provisions
k. Addenda (if any)
l. Wage Rates
m. Technical Specifications
n. Drawings
o. Third Party Insurance

This Agreement, together with other Documents enumerated in this Article 4, which said other Documents are as fully a part of the Contract as if hereto attached or herein repeated, form the Contract between the parties hereto. In the event that any provisions in any component part of this Contract conflicts with any

provision of any other component part, the conflict shall be resolved by the Engineer whose decision shall be final.

ARTICLE 5. Surety. The Surety on the Performance-Payment Bond shall be a surety company of financial resources satisfactory to the Owner, authorized to do business in the State of Texas, and shall comply with applicable Texas laws.

IN WITNESS WHEREOF, the parties hereto have caused this AGREEMENT to be executed in four (4) counterparts, each of which shall be considered an original on the day and year first above written.

APAC-Texas, Inc.
(Contractor)

ATTEST: _____ By _____

Title: Asst. Secretary

12901 US Hwy 90
(Street)

Beaumont, Texas 77713
(City)

JEFFERSON COUNTY, TEXAS,
(Owner)

ATTEST: _____ By _____

_____ Title: _____
(Print the names underneath all signatures)

SECTION G
NOTICE OF AWARD AND NOTICE TO PROCEED

NOTICE OF AWARD

DATED: August 28, 2014

TO: APAC-Texas, Inc.

ADDRESS: 12907 US Hwy 90
Beaumont, TX 77713

PROJECT OWNER: JEFFERSON COUNTY

FAA AIP GRANT No. 3-48-0018-030-2014

CONTRACT FOR: RUNWAY SAFETY AREA GRADING

CONSTRUCTION OF: JACK BROOKS REGIONAL AIRPORT

****

You are notified that your Bid dated July 22, 2014 for the above Contract has been considered. You are the apparent Successful Bidder and have been awarded a contract for Base Bid .

The Contract Price of your contract is One hundred nineteen thousand, four hundred ninety dollars and no /100 ($119,490.00).

You must comply with the following conditions precedent within FIFTEEN (15) days of the date of this *Notice of Award* that is by, September 12, 2014.

1. You must deliver to the **OWNER 4** fully executed counterparts of the Agreement including all the Contract Documents.

2. You must deliver with the executed Agreement the Contract Security (Bonds) as specified in the Advertisement for Bids, General Conditions (Article 2), and Supplementary Conditions.

3. You must deliver to the **OWNER** 4 original ***Certificates of Insurance,*** naming the Owner ***(Jefferson County)*** and Engineer ***(Garver, LLC.)*** and their respective agents and employees, to be expressly named as additional Insured's, in accordance with the General Conditions.

Failure to comply with these conditions within the time specified will entitle OWNER to consider your bid in default, to annul this Notice of Award, and to declare your Bid Security forfeited.

Within ten (10) days after you comply with the above conditions, OWNER will return to you one (1) fully signed counterpart of the Agreement with the Contract Documents attached.

Sincerely,
GARVER, LLC

FOR Thomas D Dodson, PE
Senior Project Manager

ACCEPTANCE OF AWARD:
CONTRACTOR:
APAC-Texas, Inc.
BY:
TITLE: Asst. Secretary
DATE: 9/3/2014

NOTICE TO PROCEED
DATED:_____ , 2014

TO:

ADDRESS:

PROJECT: RUNWAY SAFETY AREA GRADING for Jack Brooks Regional Airport
CONTRACT: 14-026/KJS

****

You are notified that the Contract Times under the above contract will commence to run on _____, 2014. By that date, you are to start performing your obligations under the Contract Documents. In accordance with Articles of the Agreement the dates of Substantial Completion and completion and readiness for final payment are _____, 2014.

Before you may start any Work at the site, Section A of the Supplemental General Conditions provides that you must deliver to the Engineer and or County Certificates of Insurance which you are required to purchase and maintain in accordance with the Supplemental General Conditions.

JEFFERSON COUNTY, TEXAS,
(OWNER)

BY: _____

_____
(TITLE)

ACCEPTANCE OF AWARD:
BY:
APAC-Texas, Inc.
(CONTRACTOR)

(AUTHORIZED SIGNATURE)

Asst. Secretary
(TITLE)

9/3/2014
(DATE)

SECTION H
PAYMENT, PERFORMANCE BONDS and CERTIFICATE of INSURANCE

PERFORMANCE BOND

Bond Number: SUR7404076

KNOW ALL MEN BY THESE PRESENTS, that we

APAC - TEXAS, INC.
12907 U.S. HIGHWAY 90, BEAUMONT, TX 77713

, as Principal (the "Principal"), and XL Specialty Insurance Company, a corporation duly organized under the laws of the State of Delaware, as Surety (the "Surety"), are held and firmly bound unto

JEFFERSON COUNTY ,
1149 PEARL STREET, 1ST FLOOR, BEAUMONT, TX 77701

, as Obligee (the "Obligee"), in the penal sum of One Hundred And Nineteen Thousand Four Hundred Ninety And 00/100

Dollars ($119,490.00),

for the payment of which sum well and truly to be made, the Principal and the Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has by written agreement, dated_____ , entered into a contract (the "Contract") with the Obligee for RUNWAY SAFETY AREA GRADING AT JACK BROOKS REGIONAL AIRPORT - CONTRACT NO. 14-026/KJS

which Contract is by reference made a part hereof.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the Principal shall promptly and faithfully perform the Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

PROVIDED AND SUBJECT TO THE CONDITIONS PRECEDENT:

1. Whenever the Principal shall be, and be declared by the Obligee to be in default under the Contract, the Obligee having performed the Obligee's obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

   1.1 Complete the contract in accordance with its terms and conditions, or

   1.2 Obtain a bid or bids from alternative contracts to complete the Contract in accordance with its terms and conditions, and upon determination by the Surety of the lowest responsible bidder, or if the Obligee elects, upon determination by the Obligee and the Surety jointly of the lowest responsible bidder, arrange for a contract between such bidder and the Obligee, and make available as work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph of this bond. The term "balance of the contract price," as used in this paragraph, shall mean the total amount payable by the Obligee to the Principal under the Contract and any amendments thereto, less the amount properly paid by the Obligee to the Principal.

2. Notwithstanding any other provision of this bond or the Contract, or otherwise, the Surety is not responsible for and shall not be held liable to the Obligee for any hazardous waste removal and the Surety shall not be held liable to, or in any other respect be responsible to, the Obligee by way of indemnity, claims or otherwise, or to any public authority or to any other person, firm or corporation, for or on account of any fines or claims by any public authority or for bodily injuries or property damage to any person or thing, including, but not limited to, injury or damage due to the release or threat of release of hazardous substances of any kind or damage to real estate or to the environment or clean-up costs or other damages of whatever kind or nature arising out of any act of commission or omission by the Principal, the Principal's agents, servants, employees, subcontractors or suppliers or any other person in connection with the performance of the Contract. This limitation applies regardless of when any such fine is assessed, claim is made, or injury, damage, release or threat of release occurs and without regard to any term of condition of the Contract.

PAYMENT BOND

Bond Number: SUR7404076

KNOW ALL MEN BY THESE PRESENTS, that we

APAC - TEXAS, INC.
12907 U.S. HIGHWAY 90, BEAUMONT, TX 77713

, as Principal (the "Principal"), and XL Specialty Insurance Company, a corporation duly organized under the laws of the State of Delaware, as Surety (the "Surety"), are held and firmly bound unto

JEFFERSON COUNTY ,
1149 PEARL STREET, 1ST FLOOR, BEAUMONT, TX 77701

, as Obligee (the "Obligee"), in the penal sum of One Hundred And Nineteen Thousand Four Hundred Ninety And 00/100

Dollars ($119,490.00),

for the payment of which sum well and truly to be made, the Principal and the Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has by written agreement, dated_____ , entered into a contract (the "Contract") with the Obligee for RUNWAY SAFETY AREA GRADING AT JACK BROOKS REGIONAL AIRPORT - CONTRACT NO. 14-026/KJS

which Contract is by reference made a part hereof.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the Principal shall promptly make payment to all Claimants, as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

PROVIDED AND SUBJECT TO THE CONDITIONS PRECEDENT:

1. A "Claimant" is defined as one having a direct contract with the Principal or with a subcontractor of the Principal for labor, material, or both, used or reasonably required for use in the performance of the Contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.

2. The Principal and the Surety hereby jointly and severally agree with the Obligee that every Claimant, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such Claimant's work or labor was done or performed, or materials were furnished by such Claimant, may sue on this bond for the use of such Claimant, prosecute the suit to final judgment for such sum or sums as may be justly due Claimant, and have execution thereon. The Obligee shall not be liable for the payment of any costs or expenses of any such suit.

3. No suit or action shall be commenced hereunder by any Claimant:

   (a) Unless Claimant, other than one having a direct contract with the Principal, shall have given written notice to the Principal and the Surety within ninety (90) days (or such lesser or greater time period as otherwise permitted by relevant law) after such Claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in separate envelopes addressed to the Principal and Surety.

   (b) Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the project, or any part thereof, is situated, or in the United States District Court for the district in which the project, or any part thereof, is situated, and not elsewhere.

   (c) After the expiration of one (1) year (or such lesser or greater time period as otherwise permitted by relevant law) from the date on which the Principal ceased work on the Contract. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

SURETY ACKNOWLEDGMENT

STATE OF UTAH }
COUNTY OF SALT LAKE } **SS**

On this 3RD day of SEPTEMBER, 2014, before me personally came TINA DAVIS to me known, who, being by me duly sworn, did depose and say that she is an Attorney-In-Fact of XL SPECIALTY INSURANCE COMPANY the corporation described in and which executed the within instrument; that she knows the corporate seal of said corporation, that the seal affixed to the within instrument is such corporate seal, and that she signed the said instrument and affixed the said seal as Attorney-In-Fact of the Board of Directors of said corporation and by authority of this office under the Standing Resolutions thereof.

Notary Public

LISA HALL
Notary Public, State of Utah
Commission # 605901
My Commission Expires
March 13, 2015

VOID

XL Group plc companies

Power of Attorney
XL Specialty Insurance Company
Greenwich Insurance Company
XL Reinsurance America Inc.

THIS IS NOT A BOND NUMBER
UNLIMITED POWER OF ATTORNEY
XL1513780

KNOW ALL MEN BY THESE PRESENTS: That XL Specialty Insurance Company, and Greenwich Insurance Company, Delaware insurance companies with offices located at 505 Eagleview Blvd., Exton, PA 19341, and XL Reinsurance America Inc., a New York insurance company with offices located at 70 Seaview Avenue, Stamford, CT 06902, , do hereby nominate, constitute, and appoint:

Lindsey Plattner, Lisa Hall, Tina Davis

each its true and lawful Attorney(s)-in-fact to make, execute, attest, seal and deliver for and on its behalf, as surety, and as its act and deed, where required, any and all bonds and undertakings in the nature thereof, , for the penal sum of no one of which is in any event to exceed UNLIMITED.

Such bonds and undertakings, when duly executed by the aforesaid Attorney (s)-in-Fact shall be binding upon each said Company as fully and to the same extent as if such bonds and undertakings were signed by the President and Secretary of the Company and sealed with its corporate seal.

The Power of Attorney is granted and is signed by facsimile under and by the authority of the following Resolutions adopted by the Board of Directors of each of the Companies on the 21st day of July 2014.

RESOLVED, that Gary Kaplan, David Hewett, William Mills, Gregory Boal and Kevin Mirsch are hereby appointed by the Board as authorized to make, execute, seal and deliver for and on behalf of the Company, any and all bonds, undertakings, contracts or obligations in surety or co-surety with others and that the Secretary or any Assistant Secretary of the Company be and that each of them hereby is authorized to attest the execution of any such bonds, undertakings, contracts or obligations in surety or co-surety and attach thereto the corporate seal of the Company.

RESOLVED, FURTHER, that Gary Kaplan, David Hewett, William Mills, Gregory Boal and Kevin Mirsch each is hereby authorized to execute powers of attorney qualifying the attorney named in the given power of attorney to execute, on behalf of the Company, bonds and undertakings in surety or co-surety with others, and that the Secretary or any Assistant Secretary of the Company be, and that each of them is hereby authorized to attest the execution of any such power of attorney, and to attach thereto the corporate seal of the Company.

RESOLVED, FURTHER, that the signature of such officers named in the preceding resolutions and the corporate seal of the Company may be affixed to such powers of attorney or to any certificate relating thereto by facsimile, and any such power of attorney or certificate bearing such facsimile signatures or facsimile seal shall be thereafter valid and binding upon the Company with respect to any bond, undertaking, contract or obligation in surety or co-surety with others to which it is attached.

IN WITNESS WHEREOF, the XL SPECIALTY INSURANCE COMPANY and GREENWICH INSURANCE COMPANY has caused its corporate seal to be hereunto affixed, and these presents to be signed by its duly authorized officers this July 21st, 2014.

XL SPECIALTY INSURANCE COMPANY
GREENWICH INSURANCE COMPANY

By: David S. Hewett
SENIOR VICE PRESIDENT

Attest: Toni Ann Perkins
SECRETARY

STATE OF CONNECTICUT
COUNTY OF FAIRFIELD

On this 21st day of July, 2014, before me personally came David S. Hewett to me known, who, being duly sworn, did depose and say that he is Executive Vice President of XL SPECIALTY INSURANCE COMPANY and Senior Vice President of GREENWICH INSURANCE COMPANY, described in and which executed the above instrument; that he knows the seals of said Companies; that the seals affixed to the aforesaid instrument are such corporate seals and were affixed thereto by order and authority of the Boards of Directors of said Companies; and that he executed the said instrument by like order.

KIM D. SLIVA
NOTARY PUBLIC
My Commission Expires
June 30, 2016
STATE OF CONNECTICUT

Kim D. Sliva
NOTARY PUBLIC

STATE OF CONNECTICUT

NOTICE TO POLICYHOLDERS

TEXAS

IMPORTANT NOTICE

To obtain information or make a complaint:

You may contact your agent.

You may call XL Insurance toll-free telephone number for information or to make a complaint at

1-800-622-7311

You may also write to XL Insurance at

Seaview House
70 Seaview Avenue
Stamford, CT 06902-6040

You may contact the Texas Department of Insurance to obtain information on companies, coverages, rights or complaints at

1-800-252-3439

You may write the Texas Department of Insurance

P.O. Box 149104
Austin, TX 78714-9104
FAX: (512) 475-1771
Web: http://www.tdi.state.tx.us
E-mail:
ConsumerProtection@tdi.state.tx.us

PREMIUM OR CLAIM DISPUTES: Should you have a dispute concerning your premium or about a claim, you should contact the agent first. If the dispute is not resolved, you may contact the Texas Department of Insurance.

ATTACH THIS NOTICE TO YOUR POLICY: This notice is for information only and does not become a part or condition of the attached document.

AVISO IMPORTANTE

Para obtener informacion o para someter una queja:

Puede comunicarse con su agente.

Usted puede llamar al numero de telefono gratis de XL Insurance para informacion o para someter una queja al

1-800-622-7311

Usted tambien puede escribir a XL Insurance

Seaview House
70 Seaview Avenue
Stamford, CT 06902-6040

Puede comunicarse con el Departamento de Seguros de Texas para obtener informacion acerca de companias, coberturas, derechos o quejas al

1-800-252-3439

Puede escribir al Departamento de Seguros de Texas

P.O. Box 149104
Austin, TX 78714-9104
FAX: (512) 475-1771
Web: http://www.tdi.state.tx.us
E-mail:
ConsumerProtection@tdi.state.tx.us

DISPUTAS SOBRE PRIMAS O RECLAMOS: Si tiene una disputa concerniente a su prima o a un reclamo, debe comunicarse con el agente primero. Si no se resuelve la disputa, puede entonces comunicarse con el departamento (TDI).

UNA ESTE AVISO A SU POLIZA: Este aviso es solo para proposito de informacion y no se convierte en parte o condicion del documento adjunto.

© 2011 X.L. America, Inc. All Rights Reserved.
May not be copied without permission.

PAYMENT BOND

PERFORMANCE BOND

Certificate of Insurance

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON YOU THE CERTIFICATE HOLDER. THIS CERTIFICATE IS NOT AN INSURANCE POLICY AND DOES NOT AMEND, EXTEND, OR ALTER THE COVERAGE AFFORDED BY THE POLICIES LISTED BELOW. POLICY LIMITS ARE NO LESS THAN THOSE LISTED, ALTHOUGH POLICIES MAY INCLUDE ADDITIONAL SUBLIMIT/LIMITS NOT LISTED BELOW.

This is to Certify that

APAC Texas, Inc.
Trotti & Thomson
12907 UW Highway 90
Beaumont TX 77713

NAME AND ADDRESS OF INSURED

Liberty Mutual. INSURANCE

is, at the issue date of this certificate, insured by the Company under the policy(ies) listed below. The insurance afforded by the listed policy(ies) is subject to all their terms, exclusions and Conditions and is not altered by any requirement, term or condition of any contract or other document with respect to which this certificate may be issued.

TYPE OF POLICY	EXP DATE ☐ CONTINUOUS ☐ EXTENDED ☑ POLICY TERM	POLICY NUMBER	LIMIT OF LIABILITY	
WORKERS COMPENSATION	9/1/2015	WA7-C8D-004095-024 WC7-C81-004095-014	COVERAGE AFFORDED UNDER WC LAW OF THE FOLLOWING STATES: -024: All States except OH, ND, WA, WY and WI -014: WI	**EMPLOYERS LIABILITY** Bodily Injury by Accident $1,000,000 Each Accident Bodily Injury By Disease $1,000,000 Policy Limit Bodily Injury By Disease $1,000,000 Each Person
COMMERCIAL GENERAL LIABILITY ☑ OCCURRENCE ☐ CLAIMS MADE	9/1/2015 RETRO DATE	TB2-C81-004095-114 -Per Project Aggregate Included.	General Aggregate $2,000,000 Products / Completed Operations Aggregate $2,000,000 Each Occurrence $2,000,000 Personal & Advertising Injury $2,000,000 Per Person / Organization Other: Fire Damage-$100,000 Other: Medical Exp-$5,000	
AUTOMOBILE LIABILITY ☑ OWNED ☑ NON-OWNED ☑ HIRED	9/1/2015	AS2-C81-004095-124 Comp Ded $10,000 Coll Ded $10,000	$2,000,000 Each Accident—Single Limit B.I. And P.D. Combined Each Person Each Accident or Occurrence Each Accident or Occurrence	
OTHER				

ADDITIONAL COMMENTS

RE: APAC 25-3113/Jeff Co. 14-026/KJS, Jefferson Co. Jack Brooks Regional Airport, Jefferson County, TX
Jefferson County and Garver, LLC, its Officers, Agents, and Employees are listed as additional insured with regards to the general liability policy, where required by written contract. Workers compensation includes a waiver of subrogation in favor of the additional insured, where required by written contract and where applicable by law.

* If the certificate expiration date is continuous or extended term, you will be notified if coverage is terminated or reduced before the certificate expiration date.

NOTICE OF CANCELLATION: (NOT APPLICABLE UNLESS A NUMBER OF DAYS IS ENTERED BELOW.) BEFORE THE STATED EXPIRATION DATE THE COMPANY WILL NOT CANCEL OR REDUCE THE INSURANCE AFFORDED UNDER THE ABOVE POLICIES UNTIL AT LEAST 30 DAYS NOTICE OF SUCH CANCELLATION HAS BEEN MAILED TO:

APAC 25-3113/Jeff Co. 14-026/KJS

Certificate Holder

Jefferson County, Texas
and Garver USA
1149 Pearl Street, 1st Floor
Beaumont TX 77701

Liberty Mutual Insurance Group

Stanley S. Esposito, Jr.

Stan Esposito
AUTHORIZED REPRESENTATIVE

Pittsburgh / 0387
12 Federal Street, Ste. 310
Pittsburgh PA 15212-5706 412-231-1331 9/9/2014
OFFICE PHONE DATE ISSUED

This certificate is executed by LIBERTY MUTUAL INSURANCE GROUP as respects such insurance as is afforded by those Companies NM 772 07-10

CERT NO.: 21513616 CLIENT CODE: LM_44 Nicholas Misoni 9/9/2014 5:24:23 PM (EDT) Page 1 of 1

LDI COI 268896 02 11

Liberty Mutual Group

157 Berkeley Street
Boston, MA 02116
Tel: (617) 654-4096
Fax: (857) 224-9010

September 9, 2014

Re: Oldcastle Inc.

APAC Trottl & Thomson
Policy # TB2-C81-004095-114, AS2-C81-004095-124, WA7-C8D-004095-024, WC7-C81-004095-014, EW7-68N-004095-344, EW1-68N-025031-014, EW5-68N-035719-324

To Whom It May Concern:

Please accept this letter as confirmation that this customer has renewed with Liberty Mutual Insurance and coverage continues under the attached expiring endorsements. We will release the renewal endorsements for the current policy period of 9/1/14 – 9/1/15 within 30 days at which time, we will provide you copies of the endorsements for your file.

Endorsements:
WC 00 03 13 - Waiver of Our Right to Recover from Others Endorsement

CG 20 10 04 13 – Additional Insured – Owners, Lessees or Contractors
CG 20 37 04 13 – Additional Insured – Owners, Lessees or Contractors – Completed Operations
CG 24 04 05 09 - Waiver of our Right to Recover From Others Endorsement
LD 24 10 07 13 - Primary and Non Contributory -Scheduled Additional Insured

AC 84 23 08 11 – Designated Insured – Noncontributing
CA 04 44 10 13– Waiver of Transfer of Rights of Recovery against Other to US (Waiver of Subrogation)
CA 20 48 10 13 – Designated Insured
AC 70 01 03 12 – Endorsement for Motor Carrier Policies of Insurance(MCS90)

I hope this will suffice for verification purposes. If you have any questions, please contact me at 617-654-4096.

Regards,

Natalie O'Brien
Underwriting Technical Specialist

Helping people life safe, more secure lives.

INSERT INSURANCE DOCUMENTS HERE

SECTION I
GENERAL PROVISIONS
(FAA AC 150/5370-10F)

GENERAL PROVISIONS
SECTION 10
DEFINITION OF TERMS

Whenever the following terms are used in these specifications, in the contract, or in any documents or other instruments pertaining to construction where these specifications govern, the intent and meaning shall be interpreted as follows:

10-01 AASHTO. The American Association of State Highway and Transportation Officials, the successor association to AASHO.

10-02 ACCESS ROAD. The right-of-way, the roadway and all improvements constructed thereon connecting the airport to a public highway.

10-03 ADVERTISEMENT. A public announcement, as required by local law, inviting bids for work to be performed and materials to be furnished.

10-04 AIP. The Airport Improvement Program, a grant-in-aid program, administered by the Federal Aviation Administration.

10-05 AIR OPERATIONS AREA. For the purpose of these specifications, the term air operations area shall mean any area of the airport used or intended to be used for the landing, takeoff, or surface maneuvering of aircraft. An air operation area shall include such paved or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiway, or apron.

10-06 AIRPORT. Airport means an area of land or water which is used or intended to be used for the landing and takeoff of aircraft; an appurtenant area used or intended to be used for airport buildings or other airport facilities or rights of way; and airport buildings and facilities located in any of these areas, and includes a heliport.

10-07 ASTM. The American Society for Testing and Materials.

10-08 AWARD. The acceptance, by the Owner, of the successful bidder's proposal.

10-09 BIDDER. Any individual, partnership, firm, or corporation, acting directly or through a duly authorized representative, who submits a proposal for the work contemplated.

10-10 BUILDING AREA. An area on the airport to be used, considered, or intended to be used for airport buildings or other airport facilities or rights-of-way together with all airport buildings and facilities located thereon.

10-11 CALENDAR DAY. Every day shown on the calendar.

10-12 CHANGE ORDER. A written order to the Contractor covering changes in the plans, specifications, or proposal quantities and establishing the basis of payment and contract time adjustment, if any, for the work affected by such changes. The work, covered by a change order, shall be within the scope of the contract.

10-13 CONTRACT. The written agreement covering the work to be performed. The awarded contract shall include, but is not limited to: The Advertisement; The Contract Form; The Proposal; The Performance Bond; The Payment Bond; any required insurance certificates; The Specifications; The Plans, and any addenda issued to bidders.

10-14 CONTRACT ITEM (PAY ITEM). A specific unit of work for which a price is provided in the contract.

10-15 CONTRACT TIME. The number of calendar days or working days, stated in the proposal, allowed for completion of the contract, including authorized time extensions. If a calendar date of completion is stated in the proposal, in lieu of a number of calendar or working days, the contract shall be completed by that date.

10-16 CONTRACTOR. The individual, partnership, firm, or corporation primarily liable for the acceptable performance of the work contracted and for the payment of all legal debts pertaining to the work who acts directly or through lawful agents or employees to complete the contract work.

10-17 DRAINAGE SYSTEM. The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the airport area.

10-18 ENGINEER. The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for engineering inspection of the contract work and acting directly or through an authorized representative.

10-19 EQUIPMENT. All machinery, together with the necessary supplies for upkeep and maintenance, and also all tools and apparatus necessary for the proper construction and acceptable completion of the work.

10-20 EXTRA WORK. An item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, but which is found by the Engineer to be necessary to complete the work within the intended scope of the contract as previously modified.

10-21 FAA. The Federal Aviation Administration of the U.S. Department of Transportation. When used to designate a person, FAA shall mean the Administrator or his/her duly authorized representative.

10-22 FEDERAL SPECIFICATIONS. The Federal Specifications and Standards, Commercial Item Descriptions, and supplements, amendments, and indices thereto are prepared and issued by the General Services Administration of the Federal Government.

10-23 FORCE ACCOUNT. Force account construction work is construction that is accomplished through the use of material, equipment, labor, and supervision provided by the Owner or by another public agency pursuant to an agreement with the Owner.

10-24 INSPECTOR. An authorized representative of the Engineer assigned to make all necessary inspections and/or tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.

10-25 INTENTION OF TERMS. Whenever, in these specifications or on the plans, the words "directed," "required," "permitted," "ordered," "designated," "prescribed," or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Engineer is intended; and similarly, the words "approved," "acceptable," "satisfactory," or words of like import, shall mean approved by, or acceptable to, or satisfactory to the Engineer, subject in each case to the final determination of the Owner.

Any reference to a specific requirement of a numbered paragraph of the contract specifications or a cited standard shall be interpreted to include all general requirements of the entire section, specification item, or cited standard that may be pertinent to such specific reference.

10-26 LABORATORY. The official testing laboratories of the Owner or such other laboratories as may be designated by the Engineer.

10-27 LIGHTING. A system of fixtures providing or controlling the light sources used on or near the airport or within the airport buildings. The field lighting includes all luminous signals, markers, floodlights, and illuminating devices used on or near the airport or to aid in the operation of aircraft landing at, taking off from, or taxiing on the airport surface.

10-28 MAJOR AND MINOR CONTRACT ITEMS. A major contract item shall be any item that is listed in the proposal, the total cost of which is equal to or greater than 20 percent of the total amount of the award contract. All other items shall be considered minor contract items.

10-29 MATERIALS. Any substance specified for use in the construction of the contract work.

10-30 NOTICE TO PROCEED. A written notice to the Contractor to begin the actual contract work on a previously agreed to date. If applicable, the Notice to Proceed shall state the date on which the contract time begins.

10-31 OWNER. The term "Owner" shall mean the party of the first part or the contracting agency signatory to the contract. For AIP contracts, the term "sponsor" shall have the same meaning as the term "Owner." Where the term "Owner" is capitalized in this document, it shall mean airport owner or sponsor only.

10-32 PAVEMENT. The combined surface course, base course, and subbase course, if any, considered as a single unit.

10-33 PAYMENT BOND. The approved form of security furnished by the Contractor and his/her surety as a guaranty that he will pay in full all bills and accounts for materials and labor used in the construction of the work.

10-34 PERFORMANCE BOND. The approved form of security furnished by the Contractor and his/her surety as a guaranty that the Contractor will complete the work in accordance with the terms of the contract.

10-35 PLANS. The official drawings or exact reproductions which show the location, character, dimensions and details of the airport and the work to be done and which are to be considered as a part of the contract, supplementary to the specifications.

10-36 PROJECT. The agreed scope of work for accomplishing specific airport development with respect to a particular airport.

10-37 PROPOSAL. The written offer of the bidder (when submitted on the approved proposal form) to perform the contemplated work and furnish the necessary materials in accordance with the provisions of the plans and specifications.

10-38 PROPOSAL GUARANTY. The security furnished with a proposal to guarantee that the bidder will enter into a contract if his/her proposal is accepted by the Owner.

10-39 RUNWAY. The area on the airport prepared for the landing and takeoff of aircraft.

10-40 SPECIFICATIONS. A part of the contract containing the written directions and requirements for completing the contract work. Standards for specifying materials or testing which are cited in the contract specifications by reference shall have the same force and effect as if included in the contract physically.

10-41 SPONSOR. See definition above of "Owner."

10-42 STRUCTURES. Airport facilities such as bridges; culverts; catch basins, inlets, retaining walls, cribbing; storm and sanitary sewer lines; water lines; underdrains; electrical ducts, manholes, handholes, lighting fixtures and bases; transformers; flexible and rigid pavements; navigational aids; buildings; vaults;

and, other manmade features of the airport that may be encountered in the work and not otherwise classified herein.

10-43 SUBGRADE. The soil that forms the pavement foundation.

10-44 SUPERINTENDENT. The Contractor's executive representative who is present on the work during progress, authorized to receive and fulfill instructions from the Engineer, and who shall supervise and direct the construction.

10-45 SUPPLEMENTAL AGREEMENT. A written agreement between the Contractor and the Owner covering (1) work that would increase or decrease the total amount of the awarded contract, or any major contract item, by more than 25 percent, such increased or decreased work being within the scope of the originally awarded contract; or (2) work that is not within the scope of the originally awarded contract.

10-46 SURETY. The corporation, partnership, or individual, other than the Contractor, executing payment or performance bonds that are furnished to the Owner by the Contractor.

10-47 TAXIWAY. For the purpose of this document, the term taxiway means the portion of the air operations area of an airport that has been designated by competent airport authority for movement of aircraft to and from the airport's runways or aircraft parking areas.

10-48 WORK. The furnishing of all labor, materials, tools, equipment, and incidentals necessary or convenient to the Contractor's performance of all duties and obligations imposed by the contract, plans, and specifications.

10-49 WORKING DAY. A working day shall be any day other than a legal holiday, Saturday, or Sunday on which the normal working forces of the Contractor may proceed with regular work for at least 6 hours toward completion of the contract. When work is suspended for causes beyond the Contractor's control, Saturdays, Sundays and holidays on which the Contractor's forces engage in regular work, requiring the presence of an inspector, will be considered as working days.

END OF SECTION 10

SECTION 20
PROPOSAL REQUIREMENTS AND CONDITIONS

20-01 ADVERTISEMENT (Notice to Bidders). ***Included in Section A of this Project Manual***

20-02 PREQUALIFICATION OF BIDDERS. Each bidder shall furnish the owner satisfactory evidence of his/her competency to perform the proposed work. Such evidence of competency, unless otherwise specified, shall consist of statements covering the bidder's past experience on similar work, a list of equipment that would be available for the work, and a list of key personnel that would be available. In addition, each bidder shall furnish the owner satisfactory evidence of his/her financial responsibility. Such evidence of financial responsibility, unless otherwise specified, shall consist of a confidential statement or report of the bidder's financial resources and liabilities as of the last calendar year or the Contractor's last fiscal year. Such statements or reports shall be certified by a public accountant. At the time of submitting such financial statements or reports, the bidder shall further certify whether his/her financial responsibility is approximately the same as stated or reported by the public accountant. If the bidder's financial responsibility has changed, the bidder shall qualify the public accountant's statement or report to reflect his/her (bidder's) true financial condition at the time such qualified statement or report is submitted to the Owner.

Unless otherwise specified, a bidder may submit evidence that he is prequalified with the State Highway Division and is on the current "bidder's list" of the state in which the proposed work is located. Such evidence of State Highway Division prequalification may be submitted as evidence of financial responsibility in lieu of the certified statements or reports hereinbefore specified.

Each bidder shall submit "evidence of competency" and "evidence of financial responsibility" to the Owner at the time of bid opening.

20-03 CONTENTS OF PROPOSAL FORMS. The Owner shall furnish bidders with proposal forms. All papers bound with or attached to the proposal forms are necessary parts and must not be detached.

The plans specifications, and other documents designated in the proposal form shall be considered a part of the proposal whether attached or not.

20-04 ISSUANCE OF PROPOSAL FORMS. The Owner reserves the right to refuse to issue a proposal form to a prospective bidder should such bidder be in default for any of the following reasons:

a. Failure to comply with any prequalification regulations of the Owner, if such regulations are cited, or otherwise included, in the proposal as a requirement for bidding.

b. Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts in force (with the Owner) at the time the Owner issues the proposal to a prospective bidder.

c. Contractor default under previous contracts with the Owner.

d. Unsatisfactory work on previous contracts with the Owner.

20-05 INTERPRETATION OF ESTIMATED PROPOSAL QUANTITIES. An estimate of quantities of work to be done and materials to be furnished under these specifications is given in the proposal. It is the result of careful calculations and is believed to be correct. It is given only as a basis for comparison of proposals and the award of the contract. The Owner does not expressly or by implication agree that the actual quantities involved will correspond exactly therewith; nor shall the bidder plead misunderstanding or deception because of such estimates of quantities, or of the character, location, or other conditions pertaining to the work. Payment to the Contractor will be made only for the actual quantities of work performed or materials furnished in accordance with the plans and specifications. It is understood that the quantities may be increased or decreased as hereinafter provided in the subsection titled

ALTERATION OF WORK AND QUANTITIES of Section 40 without in any way invalidating the unit bid prices.

20-06 EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE. The bidder is expected to carefully examine the site of the proposed work, the proposal, plans specifications, and contract forms. He shall satisfy himself as to the character, quality, and quantities of work to be performed, materials to be furnished, and as to the requirements of the proposed contract. The submission of a proposal shall be prima facie evidence that the bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirements of the proposed contract, plans, and specifications.

Boring logs and other records of subsurface investigations and tests are available for inspection of bidders. It is understood and agreed that such subsurface information, whether included in the plans, specifications, or otherwise made available to the bidder, was obtained and is intended for the Owner's design and estimating purposes only. Such information has been made available for the convenience of all bidders. It is further understood and agreed that each bidder is solely responsible for all assumptions, deductions, or conclusions which he may make or obtain from his/her examination of the boring logs and other records of subsurface investigations and tests that are furnished by the Owner.

20-07 PREPARATION OF PROPOSAL. The bidder shall submit his/her proposal on the forms furnished by the Owner. All blank spaces in the proposal forms must be correctly filled in where indicated for each and every item for which a quantity is given. ***If so requested,*** the bidder shall state the price (written in ink or typed) both in words and numerals for which he proposes to do each pay item furnished in the proposal. In case of conflict between words and numerals, the words, unless obviously incorrect, shall govern.

The bidder shall sign his/her proposal correctly and in ink. If the proposal is made by an individual, his/her name and post office address must be shown. If made by a partnership, the name and post office address of each member of the partnership must be shown. If made by a corporation, the person signing the proposal shall give the name of the state under the laws of which the corporation was chartered and the name, titles, and business address of the president, secretary, and the treasurer. Anyone signing a proposal as an agent shall file evidence of his/her authority to do so and that the signature is binding upon the firm or corporation.

20-08 IRREGULAR PROPOSALS. Proposals shall be considered irregular for the following reasons:

a. If the proposal is on a form other than that furnished by the Owner, or if the Owner's form is altered, or if any part of the proposal form is detached.

b. If there are unauthorized additions, conditional or alternate pay items, or irregularities of any kind that make the proposal incomplete, indefinite, or otherwise ambiguous.

c. If the proposal does not contain a unit price for each pay item listed in the proposal, except in the case of authorized alternate pay items, for which the bidder is not required to furnish a unit price.

d. If the proposal contains unit prices that are obviously unbalanced.

e. If the proposal is not accompanied by the proposal guaranty specified by the Owner.

The Owner reserves the right to reject any irregular proposal and the right to waive technicalities if such waiver is in the best interest of the Owner and conforms to local laws and ordinances pertaining to the letting of construction contracts.

20-09 BID GUARANTEE. Each separate proposal shall be accompanied by a certified check, or other specified acceptable collateral, in the amount specified in the proposal form. Such check, or collateral, shall be made payable to the Owner.

20-10 DELIVERY OF PROPOSAL. Each proposal submitted shall be placed in a sealed envelope plainly marked with the project number, location of airport, and name and business address of the bidder on the outside. When sent by mail, preferably registered, the sealed proposal, marked as indicated above, should be enclosed in an additional envelope. No proposal will be considered unless received at the place specified in the advertisement before the time specified for opening all bids. Proposals received after the bid opening time shall be returned to the bidder unopened.

20-11 WITHDRAWAL OR REVISION OF PROPOSALS. A bidder may withdraw or revise (by withdrawal of one proposal and submission of another) a proposal provided that the bidder's request for withdrawal is received by the Owner in writing or by telegram before the time specified for opening bids. Revised proposals must be received at the place specified in the advertisement before the time specified for opening all bids.

20-12 PUBLIC OPENING OF PROPOSALS. Proposals shall be opened, and read, publicly at the time and place specified in the advertisement. Bidders, their authorized agents, and other interested persons are invited to attend. Proposals that have been withdrawn (by written or telegraphic request) or received after the time specified for opening bids shall be returned to the bidder unopened.

20-13 DISQUALIFICATION OF BIDDERS. A bidder shall be considered disqualified for any of the following reasons:

a. Submitting more than one proposal from the same partnership, firm, or corporation under the same or different name.

b. Evidence of collusion among bidders. Bidders participating in such collusion shall be disqualified as bidders for any future work of the Owner until any such participating bidder has been reinstated by the Owner as a qualified bidder.

c. If the bidder is considered to be in "default" for any reason specified in the subsection titled ISSUANCE OF PROPOSAL FORMS of this section.

END OF SECTION 20

SECTION 30
AWARD AND EXECUTION OF CONTRACT

30-01 CONSIDERATION OF PROPOSALS. After the proposals are publicly opened and read, they will be compared on the basis of the summation of the products obtained by multiplying the estimated quantities shown in the proposal by the unit bid prices. If a bidder's proposal contains a discrepancy between unit bid prices written in words and unit bid prices written in numbers, the unit price written in words shall govern.

Until the award of a contract is made, the Owner reserves the right to reject a bidder's proposal for any of the following reasons:

a. If the proposal is irregular as specified in the subsection titled IRREGULAR PROPOSALS of Section 20.

b. If the bidder is disqualified for any of the reasons specified in the subsection titled DISQUALIFICATION OF BIDDERS of Section 20.

In addition, until the award of a contract is made, the Owner reserves the right to reject any or all proposals, waive technicalities, if such waiver is in the best interest of the Owner and is in conformance with applicable state and local laws or regulations pertaining to the letting of construction contracts; advertise for new proposals; or proceed with the work otherwise. All such actions shall promote the Owner's best interests.

30-02 AWARD OF CONTRACT. The award of a contract, if it is to be awarded, shall be made within **90 calendar days** of the date specified for publicly opening proposals, unless otherwise specified herein.

Award of the contract shall be made by the Owner to the lowest, qualified bidder whose proposal conforms to the cited requirements of the Owner.

30-03 CANCELLATION OF AWARD. The Owner reserves the right to cancel the award without liability to the bidder, except return of proposal guaranty, at any time before a contract has been fully executed by all parties and is approved by the Owner in accordance with the subsection titled APPROVAL OF CONTRACT of this section.

30-04 RETURN OF PROPOSAL GUARANTY. All proposal guaranties, except those of the two lowest bidders, will be returned immediately after the Owner has made a comparison of bids as hereinbefore specified in the subsection titled CONSIDERATION OF PROPOSALS of this section. Proposal guaranties of the two lowest bidders will be retained by the Owner until such time as an award is made, at which time, the unsuccessful bidder's proposal guaranty will be returned. The successful bidder's proposal guaranty will be returned as soon as the Owner receives the contracts bonds as specified in the subsection titled REQUIREMENTS OF CONTRACT BONDS of this section.

30-05 REQUIREMENTS OF CONTRACT BONDS. At the time of the execution of the contract, the successful bidder shall furnish the Owner a surety bond or bonds that have been fully executed by the bidder and the surety guaranteeing the performance of the work and the payment of all legal debts that may be incurred by reason of the Contractor's performance of the work. The surety and the form of the bond or bonds shall be acceptable to the Owner. Unless otherwise specified in this subsection, the surety bond or bonds shall be in a sum equal to the full amount of the contract.

30-06 EXECUTION OF CONTRACT. The successful bidder shall sign (execute) the necessary agreements for entering into the contract and return such signed contract to the owner, along with the fully executed surety bond or bonds specified in the subsection titled REQUIREMENTS OF CONTRACT BONDS of this section, within ***the time specified in the proposal.*** ~~15 calendar days from the date mailed or otherwise delivered to the successful bidder~~. If the contract is mailed, special handling is recommended.

30-07 APPROVAL OF CONTRACT. Upon receipt of the contract and contract bond or bonds that have been executed by the successful bidder, the Owner shall complete the execution of the contract in accordance with local laws or ordinances, and return the fully executed contract to the Contractor. Delivery of the fully executed contract to the Contractor shall constitute the Owner's approval to be bound by the successful bidder's proposal and the terms of the contract.

30-08 FAILURE TO EXECUTE CONTRACT. Failure of the successful bidder to execute the contract and furnish an acceptable surety bond or bonds within the ***time specified in the proposal*** ~~15 calendar day period specified in the subsection titled REQUIREMENTS OF CONTRACT BONDS of this section~~ shall be just cause for cancellation of the award and forfeiture of the proposal guaranty, not as a penalty, but as liquidation of damages to the Owner.

END OF SECTION 30

SECTION 40
SCOPE OF WORK

40-01 INTENT OF CONTRACT. The intent of the contract is to provide for construction and completion, in every detail, of the work described. It is further intended that the Contractor shall furnish all labor, materials, equipment, tools, transportation, and supplies required to complete the work in accordance with the plans, specifications, and terms of the contract.

40-02 ALTERATION OF WORK AND QUANTITIES. The owner reserves and shall have the right to make such alterations in the work as may be necessary or desirable to complete the work originally intended in an acceptable manner. Unless otherwise specified herein, the Engineer shall be and is hereby authorized to make such alterations in the work as may increase or decrease the originally awarded contract quantities, provided that the aggregate of such alterations does not change the total contract cost or the total cost of any major contract item by more than 25 percent (total cost being based on the unit prices and estimated quantities in the awarded contract). Alterations that do not exceed the 25 percent limitation shall not invalidate the contract nor release the surety, and the Contractor agrees to accept payment for such alterations as if the altered work had been a part of the original contract. These alterations that are for work within the general scope of the contract shall be covered by "Change Orders" issued by the Engineer. Change orders for altered work shall include extensions of contract time where, in the Engineer's opinion, such extensions are commensurate with the amount and difficulty of added work.

Should the aggregate amount of altered work exceed the 25 percent limitation hereinbefore specified, such excess altered work shall be covered by supplemental agreement. If the owner and the Contractor are unable to agree on a unit adjustment for any contract item that requires a supplemental agreement, the owner reserves the right to terminate the contract with respect to the item and make other arrangements for its completion.

40-03 OMITTED ITEMS. The Engineer may, in the Owner's best interest, omit from the work any contract item, except major contract items. Major contract items may be omitted by a supplemental agreement. Such omission of contract items shall not invalidate any other contract provision or requirement.

Should a contract item be omitted or otherwise ordered to be nonperformed, the Contractor shall be paid for all work performed toward completion of such item prior to the date of the order to omit such item. Payment for work performed shall be in accordance with the subsection titled PAYMENT FOR OMITTED ITEMS of Section 90.

40-04 EXTRA WORK. Should acceptable completion of the contract require the Contractor to perform an item of work for which no basis of payment has been provided in the original contract or previously issued change orders or supplemental agreements, the same shall be called "Extra Work." Extra Work that is within the general scope of the contract shall be covered by written change order. Change orders for such Extra Work shall contain agreed unit prices for performing the change order work in accordance with the requirements specified in the order, and shall contain any adjustment to the contract time that, in the Engineer's opinion, is necessary for completion of such Extra Work.

When determined by the Engineer to be in the Owner's best interest, he may order the Contractor to proceed with Extra Work by force account as provided in the subsection titled PAYMENT FOR EXTRA AND FORCE ACCOUNT WORK of Section 90.

Extra Work that is necessary for acceptable completion of the project, but is not within the general scope of the work covered by the original contract shall be covered by a Supplemental Agreement as hereinbefore defined in the subsection titled SUPPLEMENTAL AGREEMENT of Section 10.

Any claim for payment of Extra Work that is not covered by written agreement (change order or supplemental agreement) shall be rejected by the Owner.

40-05 MAINTENANCE OF TRAFFIC. It is the explicit intention of the contract that the safety of aircraft, as well as the Contractor's equipment and personnel, is the most important consideration. It is understood and agreed that the Contractor shall provide for the free and unobstructed movement of aircraft in the air operations areas of the airport with respect to his/her own operations and the operations of all his/her subcontractors as specified in the subsection titled LIMITATION OF OPERATIONS of Section 80. It is further understood and agreed that the Contractor shall provide for the uninterrupted operation of visual and electronic signals (including power supplies thereto) used in the guidance of aircraft while operating to, from, and upon the airport as specified in the subsection titled CONTRACTOR'S RESPONSIBILITY FOR UTILITY SERVICE AND FACILITIES OF OTHERS in Section 70.

With respect to his/her own operations and the operations of all his/her subcontractors, the Contractor shall provide marking, lighting, and other acceptable means of identifying: personnel; equipment; vehicles; storage areas; and any work area or condition that may be hazardous to the operation of aircraft, fire-rescue equipment, or maintenance vehicles at the airport.

When the contract requires the maintenance of vehicular traffic on an existing road, street, or highway during the Contractor's performance of work that is otherwise provided for in the contract, plans, and specifications, the Contractor shall keep such road, street, or highway open to all traffic and shall provide such maintenance as may be required to accommodate traffic. The Contractor shall furnish erect, and maintain barricades, warning signs, flagperson, and other traffic control devices in reasonable conformity with the manual of Uniform Traffic Control Devices for Streets and Highways (published by the United States Government Printing Office), unless otherwise specified herein. The Contractor shall also construct and maintain in a safe condition any temporary connections necessary for ingress to and egress from abutting property or intersecting roads, streets or highways. Unless otherwise specified herein, the Contractor will not be required to furnish snow removal for such existing road, street, or highway.

The Contractor shall make his/her own estimate of all labor, materials, equipment, and incidentals necessary for providing the maintenance of aircraft and vehicular traffic as specified in this subsection.

The cost of maintaining the aircraft and vehicular traffic specified in this subsection shall not be measured or paid for directly, but shall be included in the various contract items.

40-06 REMOVAL OF EXISTING STRUCTURES. All existing structures encountered within the established lines, grades, or grading sections shall be removed by the Contractor, unless such existing structures are otherwise specified to be relocated, adjusted up or down, salvaged, abandoned in place, reused in the work or to remain in place. The cost of removing such existing structures shall not be measured or paid for directly, but shall be included in the various contract items.

Should the Contractor encounter an existing structure (above or below ground) in the work for which the disposition is not indicated on the plans, the Engineer shall be notified prior to disturbing such structure. The disposition of existing structures so encountered shall be immediately determined by the Engineer in accordance with the provisions of the contract.

Except as provided in the subsection titled RIGHTS IN AND USE OF MATERIALS FOUND IN THE WORK of this section, it is intended that all existing materials or structures that may be encountered (within the lines, grades, or grading sections established for completion of the work) shall be utilized in the work as otherwise provided for in the contract and shall remain the property of the Owner when so utilized in the work.

40-07 RIGHTS IN AND USE OF MATERIALS FOUND IN THE WORK. Should the Contractor encounter any material such as (but not restricted to) sand, stone, gravel, slag, or concrete slabs within the established lines, grades, or grading sections, the use of which is intended by the terms of the contract to be either embankment or waste, he may at his/her option either:

a. Use such material in another contract item, providing such use is approved by the Engineer and is in conformance with the contract specifications applicable to such use; or,

b. Remove such material from the site, upon written approval of the Engineer; or

c. Use such material for his/her own temporary construction on site; or,

d. Use such material as intended by the terms of the contract.

Should the Contractor wish to exercise option a., b., or c., he shall request the Engineer's approval in advance of such use.

Should the Engineer approve the Contractor's request to exercise option a., b., or c., the Contractor shall be paid for the excavation or removal of such material at the applicable contract price. The Contractor shall replace, at his/her own expense, such removed or excavated material with an agreed equal volume of material that is acceptable for use in constructing embankment, backfills, or otherwise to the extent that such replacement material is needed to complete the contract work. The Contractor shall not be charged for his/her use of such material so used in the work or removed from the site.

Should the Engineer approve the Contractor's exercise of option a., the Contractor shall be paid, at the applicable contract price, for furnishing and installing such material in accordance with requirements of the contract item in which the material is used.

It is understood and agreed that the Contractor shall make no claim for delays by reason of his/her exercise of option a., b., or c.

The Contractor shall not excavate, remove, or otherwise disturb any material, structure, or part of a structure which is located outside the lines, grades, or grading sections established for the work, except where such excavation or removal is provided for in the contract, plans, or specifications.

40-08 FINAL CLEANING UP. Upon completion of the work and before acceptance and final payment will be made, the Contractor shall remove from the site all machinery, equipment, surplus and discarded materials, rubbish, temporary structures, and stumps or portions of trees. He shall cut all brush and woods within the limits indicated and shall leave the site in a neat and presentable condition. Material cleared from the site and deposited on adjacent property will not be considered as having been disposed of satisfactorily, unless the Contractor has obtained the written permission of such property owner.

END OF SECTION 40

SECTION 50
CONTROL OF WORK

50-01 AUTHORITY OF THE ENGINEER. The Engineer shall decide any and all questions which may arise as to the quality and acceptability of materials furnished, work performed, and as to the manner of performance and rate of progress of the work. The Engineer shall decide all questions that may arise as to the interpretation of the specifications or plans relating to the work. The Engineer shall determine the amount and quality of the several kinds of work performed and materials furnished which are to be paid for the under contract.

The Engineer does not have the authority to accept pavements that do not conform to FAA specification requirements.

50-02 CONFORMITY WITH PLANS AND SPECIFICATIONS. All work and all materials furnished shall be in reasonably close conformity with the lines, grades, grading sections, cross sections, dimensions, material requirements, and testing requirements that are specified (including specified tolerances) in the contract, plans or specifications.

If the Engineer finds the materials furnished, work performed, or the finished product not within reasonably close conformity with the plans and specifications but that the portion of the work affected will, in his/her opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable to the Owner, he will advise the Owner of his/her determination that the affected work be accepted and remain in place. In this event, the Engineer will document his/her determination and recommend to the Owner a basis of acceptance that will provide for an adjustment in the contract price for the affected portion of the work. The Engineer's determination and recommended contract price adjustments will be based on good engineering judgment and such tests or retests of the affected work as are, in his/her opinion, needed. Changes in the contract price shall be covered by contract modifications (change order or supplemental agreement) as applicable.

If the Engineer finds the materials furnished, work performed, or the finished product are not in reasonably close conformity with the plans and specifications and have resulted in an unacceptable finished product, the affected work or materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor in accordance with the Engineer's written orders.

For the purpose of this subsection, the term "reasonably close conformity" shall not be construed as waiving the Contractor's responsibility to complete the work in accordance with the contract, plans, and specifications. The term shall not be construed as waiving the Engineer's responsibility to insist on strict compliance with the requirements of the contract, plans, and specifications during the Contractor's prosecution of the work, when, in the Engineer's opinion, such compliance is essential to provide an acceptable finished portion of the work.

For the purpose of this subsection, the term "reasonably close conformity" is also intended to provide the Engineer with the authority, after consultation with the FAA, to use good engineering judgment in his/her determinations as to acceptance of work that is not in strict conformity but will provide a finished product equal to or better than that intended by the requirements of the contract, plans and specifications.

The Engineer will not be responsible for the Contractor's means, methods, techniques, sequences, or procedures of construction or the safety precautions incident thereto.

50-03 COORDINATION OF CONTRACT, PLANS, AND SPECIFICATIONS. The contract, plans, specifications, and all referenced standards cited are essential parts of the contract requirements. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy, calculated dimensions will govern over scaled dimensions; contract technical specifications shall govern over contract general provisions, plans, cited standards for materials or testing, and cited FAA advisory circulars; contract general provisions shall govern over plans, cited standards for materials or testing, and

cited FAA advisory circulars; plans shall govern over cited standards for materials or testing and cited FAA advisory circulars. If any paragraphs contained in the Special Provisions conflict with General Provisions or Technical Specifications, the Special Provisions shall govern.

From time to time, discrepancies within cited standards for testing occur due to the timing and changing, editing, and replacing of standards. In the event the Contractor discovers any apparent discrepancy within standard test methods, he shall immediately call upon the Engineer for his/her interpretation and decision, and such decision shall be final.

The Contractor shall not take advantage of any apparent error or omission on the plans or specifications. In the event the Contractor discovers any apparent error or discrepancy, he shall immediately call upon the Engineer for his/her interpretation and decision, and such decision shall be final.

50-04 COOPERATION OF CONTRACTOR. The Contractor will be supplied with ***three*** copies each of the plans and specifications. He shall have available on the work at all times one copy each of the plans and specifications. Additional copies of plans and specifications may be obtained by the Contractor for the cost of reproduction.

The Contractor shall give constant attention to the work to facilitate the progress thereof, and he shall cooperate with the Engineer and his/her inspectors and with other contractors in every way possible. The Contractor shall have a competent superintendent on the work at all times who is fully authorized as his/her agent on the work. The superintendent shall be capable of reading and thoroughly understanding the plans and specifications and shall receive and fulfill instructions from the Engineer or his/her authorized representative.

50-05 COOPERATION BETWEEN CONTRACTORS. The Owner reserves the right to contract for and perform other or additional work on or near the work covered by this contract.

When separate contracts are let within the limits of any one project, each Contractor shall conduct his/her work so as not to interfere with or hinder the progress of completion of the work being performed by other Contractors. Contractors working on the same project shall cooperate with each other as directed.

Each Contractor involved shall assume all liability, financial or otherwise, in connection with his/her contract and shall protect and save harmless the Owner from any and all damages or claims that may arise because of inconvenience, delays, or loss experienced by him because of the presence and operations of other Contractors working within the limits of the same project.

The Contractor shall arrange his/her work and shall place and dispose of the materials being used so as not to interfere with the operations of the other Contractors within the limits of the same project. He shall join his/her work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others.

50-06 CONSTRUCTION LAYOUT AND STAKES. The Engineer shall establish horizontal and vertical control only. The Contractor must establish all layout required for the construction of the work. Such stakes and markings as the Engineer may set for either his/her own or the Contractor's guidance shall be preserved by the Contractor. In case of negligence on the part of the Contractor, or his/her employees, resulting in the destruction of such stakes or markings, an amount equal to the cost of replacing the same may be deducted from subsequent estimates due the Contractor at the discretion of the Engineer.

The Contractor will be required to furnish all lines, grades and measurements from the control points necessary for the proper prosecution and control of the work contracted for under these specifications.

The Contractor must give weekly copies of the survey notes to the Engineer so that the Engineer may check them as to accuracy and method of staking. All areas that are staked by the Contractor must be checked by the Engineer prior to beginning any work in the area. The Engineer will make periodic checks

of the grades and alignment set by the Contractor. In case of error on the part of the Contractor, or his/her employees, resulting in establishing grades and/or alignment that are not in accordance with the plans or established by the Engineer, all construction not in accordance with the established grades and/or alignment shall be replaced without additional cost to the Owner.

No direct payment will be made, unless otherwise specified in contract documents, for this labor, materials, or other expenses therewith. The cost thereof shall be included in the price of the bid for the various items of the Contract.

Construction Staking and Layout includes but is not limited to:

Clearing and Grubbing perimeter staking.
Rough Grade slope stakes at 100-foot stations.
Drainage Swales slope stakes and flow line blue tops at 50-foot stations.
Subgrade blue tops at 25 foot stations and 25 foot offset distance (max.) for the following section locations:

a. Runway – minimum 5 per station
b. Taxiways – minimum 3 per station
c. Holding apron areas – minimum 3 per station
d. Roadways – minimum 3 per station

Base Course blue tops at 25 foot stations and 25 foot offset distance (max.) for the following section locations:

a. Runway – minimum 5 per station
b. Taxiways – minimum 3 per station
c. Holding apron areas – minimum 3 per station

Pavement areas:

a. Edge of Pavement hubs and tacks (for stringline by Contractor) at 100 foot stations
b. Between Lifts at 25 foot stations for the following section locations:
   (1). Runways – each paving lane width
   (2). Taxiways – each paving lane width
   (3). Holding areas – each paving lane width
c. After finish paving operations at 50 foot stations
   (1). All paved areas – Edge of each paving lane prior to next paving lot
d. Shoulder and safety area blue tops at 50 foot stations and at all break points with maximum of 50 foot offsets

Fence lines at 100 foot stations
Electrical and Communications System locations, lines and grades including but not limited to duct runs, connections, fixtures, signs, lights, VASI's, PAPI's, REIL's, Wind Cones, Distance Markers (signs), pull boxes and manholes.
Drain lines, cut stakes and alignment on 25-foot stations, inlet and manholes.
Painting and Striping layout (pinned with 1.5 inch PK nails) marked for paint Contractor. (All nails shall be removed after painting)
Laser, or other automatic control devices, shall be checked with temporary control point or grade hub at a minimum of once per 400 feet per pass (i.e. paving lane).

NOTE: Controls and stakes disturbed or suspect of having been disturbed shall be checked and/or reset as directed by the Engineer without additional cost to the Owner.

50-07 AUTOMATICALLY CONTROLLED EQUIPMENT. Whenever batching or mixing plant equipment is required to be operated automatically under the contract and a breakdown or malfunction of the automatic controls occurs, the equipment may be operated manually or by other methods for a period 48 hours following the breakdown or malfunction, provided this method of operations will produce results which conform to all other requirements of the contract.

50-08 AUTHORITY AND DUTIES OF INSPECTORS. Inspectors employed by the Owner shall be authorized to inspect all work done and all material furnished. Such inspection may extend to all or any

part of the work and to the preparation, fabrication, or manufacture of the materials to be used. Inspectors are not authorized to revoke, alter, or waive any provision of the contract. Inspectors are not authorized to issue instructions contrary to the plans and specifications or to act as foreman for the Contractor.

Inspectors employed by the Owner are authorized to notify the Contractor or his/her representatives of any failure of the work or materials to conform to the requirements of the contract, plans, or specifications and to reject such nonconforming materials in question until such issues can be referred to the Engineer for his/her decision.

50-09 INSPECTION OF THE WORK. All materials and each part or detail of the work shall be subject to inspection by the Engineer. The Engineer shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection.

If the Engineer requests it, the Contractor, at any time before acceptance of the work, shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standard required by the specifications. Should the work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as extra work; but should the work so exposed or examined prove unacceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be at the Contractor's expense.

Any work done or materials used without supervision or inspection by an authorized representative of the Owner may be ordered removed and replaced at the Contractor's expense unless the Owner's representative failed to inspect after having been given reasonable notice in writing that the work was to be performed.

Should the contract work include relocation, adjustment, or any other modification to existing facilities, not the property of the (contract) Owner, authorized representatives of the owners of such facilities shall have the right to inspect such work. Such inspection shall in no sense make any facility owner a party to the contract, and shall in no way interfere with the rights of the parties to this contract.

50-10 REMOVAL OF UNACCEPTABLE AND UNAUTHORIZED WORK. All work that does not conform to the requirements of the contract, plans, and specifications will be considered unacceptable, unless otherwise determined acceptable by the Engineer as provided in the subsection titled CONFORMITY WITH PLANS AND SPECIFICATIONS of this section.

Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the final acceptance of the work, shall be removed immediately and replaced in an acceptable manner in accordance with the provisions of the subsection titled CONTRACTOR'S RESPONSIBILITY FOR WORK of Section 70.

No removal work made under provision of this subsection shall be done without lines and grades having been given by the Engineer. Work done contrary to the instructions of the Engineer, work done beyond the lines shown on the plans or as given, except as herein specified, or any extra work done without authority, will be considered as unauthorized and will not be paid for under the provisions of the contract. Work so done may be ordered removed or replaced at the Contractor's expense.

Upon failure on the part of the Contractor to comply forthwith with any order of the Engineer made under the provisions of this subsection, the Engineer will have authority to cause unacceptable work to be remedied or removed and replaced and unauthorized work to be removed and to deduct the costs (incurred by the Owner) from any monies due or to become due the Contractor.

50-11 LOAD RESTRICTIONS. The Contractor shall comply with all legal load restrictions in the hauling of materials on public roads beyond the limits of the work. A special permit will not relieve the Contractor of liability for damage that may result from the moving of material or equipment.

The operation of equipment of such weight or so loaded as to cause damage to structures or to any other type of construction will not be permitted. Hauling of materials over the base course or surface course under construction shall be limited as directed. No loads will be permitted on a concrete pavement, base, or structure before the expiration of the curing period. The Contractor shall be responsible for all damage done by his/her hauling equipment and shall correct such damage at his/her own expense.

50-12 MAINTENANCE DURING CONSTRUCTION. The Contractor shall maintain the work during construction and until the work is accepted. This maintenance shall constitute continuous and effective work prosecuted day by day, with adequate equipment and forces so that the work is maintained in satisfactory condition at all times.

In the case of a contract for the placing of a course upon a course or subgrade previously constructed, the Contractor shall maintain the previous course or subgrade during all construction operations.

All costs of maintenance work during construction and before the project is accepted shall be included in the unit prices bid on the various contract items, and the Contractor will not be paid an additional amount for such work.

50-13 FAILURE TO MAINTAIN THE WORK. Should the Contractor at any time fail to maintain the work as provided in the subsection titled MAINTENANCE DURING CONSTRUCTION of this section, the Engineer shall immediately notify the Contractor of such noncompliance. Such notification shall specify a reasonable time within which the Contractor shall be required to remedy such unsatisfactory maintenance condition. The time specified will give due consideration to the exigency that exists.

Should the Contractor fail to respond to the Engineer's notification, the Owner may suspend any work necessary for the Owner to correct such unsatisfactory maintenance condition, depending on the exigency that exists. Any maintenance cost incurred by the Owner, shall be deducted from monies due or to become due the Contractor.

50-14 PARTIAL ACCEPTANCE. If at any time during the prosecution of the project the Contractor substantially completes a usable unit or portion of the work, the occupancy of which will benefit the Owner, he may request the Engineer to make final inspection of that unit. If the Engineer finds upon inspection that the unit has been satisfactorily completed in compliance with the contract, he may accept it as being completed, and the Contractor may be relieved of further responsibility for that unit. Such partial acceptance and beneficial occupancy by the Owner shall not void or alter any provision of the contract.

50-15 FINAL ACCEPTANCE. Upon due notice from the Contractor of presumptive completion of the entire project, the Engineer and Owner will make an inspection. If all construction provided for and contemplated by the contract is found to be completed in accordance with the contract, plans, and specifications, such inspection shall constitute the final inspection. The Engineer shall notify the Contractor in writing of final acceptance as of the date of the final inspection.

If, however, the inspection discloses any work, in whole or in part, as being unsatisfactory, the Engineer will give the Contractor the necessary instructions for correction of same and the Contractor shall immediately comply with and execute such instructions. Upon correction of the work, another inspection will be made which shall constitute the final inspection, provided the work has been satisfactorily completed. In such event, the Engineer will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of final inspection.

50-16 CLAIMS FOR ADJUSTMENT AND DISPUTES. If for any reason the Contractor deems that additional compensation is due him for work or materials not clearly provided for in the contract, plans, or

specifications or previously authorized as extra work, he shall notify the Engineer in writing of his/her intention to claim such additional compensation before he begins the work on which he bases the claim. If such notification is not given or the Engineer is not afforded proper opportunity by the Contractor for keeping strict account of actual cost as required, then the Contractor hereby agrees to waive any claim for such additional compensation. Such notice by the Contractor and the fact that the Engineer has kept account of the cost of the work shall not in any way be construed as proving or substantiating the validity of the claim. When the work on which the claim for additional compensation is based has been completed, the Contractor shall, within 10 calendar days, submit his/her written claim to the Engineer who will present it to the Owner for consideration in accordance with local laws or ordinances.

Nothing in this subsection shall be construed as a waiver of the Contractor's right to dispute final payment based on differences in measurements or computations.

50-17 COST REDUCTION INCENTIVE. The provisions of this subsection will apply only to contracts awarded to the lowest bidder pursuant to competitive bidding.

On projects with original contract amounts in excess of $100,000, the Contractor may submit to the Engineer, in writing, proposals for modifying the plans, specifications or other requirements of the contract for the sole purpose of reducing the cost of construction. The cost reduction proposal shall not impair, in any manner, the essential functions or characteristics of the project, including but not limited to service life, economy of operation, ease of maintenance, desired appearance, design and safety standards. This provision shall not apply unless the proposal submitted is specifically identified by the Contractor as being presented for consideration as a value engineering proposal.

Not eligible for cost reduction proposals are changes in the basic design of a pavement type, runway and taxiway lighting, visual aids, hydraulic capacity of drainage facilities, or changes in grade or alignment that reduce the geometric standards of the project.

As a minimum, the following information shall be submitted by the Contractor with each proposal:

a. A description of both existing contract requirements for performing the work and the proposed changes, with a discussion of the comparative advantages and disadvantages of each;

b. An itemization of the contract requirements that must be changed if the proposal is adopted;

c. A detailed estimate of the cost of performing the work under the existing contract and under the proposed changes;

d. A statement of the time by which a change order adopting the proposal must be issued;

e. A statement of the effect adoption of the proposal will have on the time for completion of the contract; and

f. The contract items of work affected by the proposed changes, including any quantity variation attributable to them.

The Contractor may withdraw, in whole or in part, any cost reduction proposal not accepted by the Engineer, within the period specified in the proposal. The provisions of this subsection shall not be construed to require the Engineer to consider any cost reduction proposal that may be submitted.

The Contractor shall continue to perform the work in accordance with the requirements of the contract until a change order incorporating the cost reduction proposal has been issued. If a change order has not been issued by the date upon which the Contractor's cost reduction proposal specifies that a decision should be made, or such other date as the Contractor may subsequently have requested in writing, such cost reduction proposal shall be deemed rejected.

The Engineer shall be the sole judge of the acceptability of a cost reduction proposal and of the estimated net savings from the adoption of all or any part of such proposal. In determining the estimated net savings, the Engineer may disregard the contract bid prices if, in the Engineer's judgment such prices do not represent a fair measure of the value of the work to be performed or deleted.

The Owner may require the Contractor to share in the Owner's costs of investigating a cost reduction proposal submitted by the Contractor as a condition of considering such proposal. Where such a condition is imposed, the Contractor shall acknowledge acceptance of it in writing. Such acceptance shall constitute full authority for the Owner to deduct the cost of investigating a cost reduction proposal from amounts payable to the Contractor under the contract.

If the Contractor's cost reduction proposal is accepted in whole or in part, such acceptance will be by a contract change order that shall specifically state that it is executed pursuant to this subsection. Such change order shall incorporate the changes in the plans and specifications which are necessary to permit the cost reduction proposal or such part of it as has been accepted and shall include any conditions upon which the Engineer's approval is based. The change order shall also set forth the estimated net savings attributable to the cost reduction proposal. The net savings shall be determined as the difference in costs between the original contract costs for the involved work items and the costs occurring as a result of the proposed change. The change order shall also establish the net savings agreed upon and shall provide for adjustment in the contract price that will divide the net savings equally between the Contractor and the Owner.

The Contractor's 50 percent share of the net savings shall constitute full compensation to the Contractor for the cost reduction proposal and the performance of the work.

Acceptance of the cost-reduction proposal and performance of the cost-reduction work shall not extend the time of completion of the contract unless specifically provided for in the contract change order.

END OF SECTION 50

SECTION 60
CONTROL OF MATERIALS

60-01 SOURCE OF SUPPLY AND QUALITY REQUIREMENTS. The materials used on the work shall conform to the requirements of the contract, plans, and specifications. Unless otherwise specified, such materials that are manufactured or processed shall be new (as compared to used or reprocessed).

In order to expedite the inspection and testing of materials, the Contractor shall furnish complete statements to the Engineer as to the origin, composition, and manufacture of all materials to be used in the work. Such statements shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials.

At the Engineer's option, materials may be approved at the source of supply before delivery is stated. If it is found after trial that sources of supply for previously approved materials do not produce specified products, the Contractor shall furnish materials from other sources.

The Contractor shall furnish airport lighting equipment that conforms to the requirements of cited materials specifications. In addition, where an FAA specification for airport lighting equipment is cited in the plans or specifications, the Contractor shall furnish such equipment that is:

a. Listed in FAA Advisory Circular (AC) 150/5345-53, Airport Lighting Equipment Certification Program, and Addendum that is in effect on the date of advertisement; and,

b. Produced by the manufacturer as listed in the Addendum cited above for the certified equipment part number.

60-02 SAMPLES, TESTS, AND CITED SPECIFICATIONS. Unless otherwise designated, all materials used in the work shall be inspected, tested, and approved by the Engineer before incorporation in the work. Any work in which untested materials are used without approval or written permission of the Engineer shall be performed at the Contractor's risk. Materials found to be unacceptable and unauthorized will not be paid for and, if directed by the Engineer, shall be removed at the Contractor's expense. Unless otherwise designated, tests in accordance with the cited standard methods of ASTM, AASHTO, Federal Specifications, Commercial Item Descriptions, and all other cited methods, which are current on the date of advertisement for bids, will be made by and at the expense of the Engineer. The testing organizations performing on site field tests shall have copies of all referenced standards on the construction site for use by all technicians and other personnel, including the Contractor's representative at his/her request. Unless otherwise designated, samples will be taken by a qualified representative of the Engineer. All materials being used are subject to inspection, test, or rejection at any time prior to or during incorporation into the work. Copies of all tests will be furnished to the Contractor's representative at his/her request.

The Contractor shall employ a testing organization to perform all Contractor required tests. The Contractor shall submit to the Engineer resumes on all testing organizations and individual persons who will be performing the tests. The Engineer will determine if such persons are qualified. All the test data shall be reported to the Engineer after the results are known. A legible, handwritten copy of all test data shall be given to the Engineer daily, along with printed reports, in an approved format, on a weekly basis. After completion of the project, and prior to final payment, the Contractor shall submit a final report to the Engineer showing all test data reports, plus an analysis of all results showing ranges, averages, and corrective action taken on all failing tests.

60-03 CERTIFICATION OF COMPLIANCE. The Engineer may permit the use, prior to sampling and testing, of certain materials or assemblies when accompanied by manufacturer's certificates of compliance stating that such materials or assemblies fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer. Each lot of such materials or assemblies delivered to the work must be accompanied by a certificate of compliance in which the lot is clearly identified.

Materials or assemblies used on the basis of certificates of compliance may be sampled and tested at any time and if found not to be in conformity with contract requirements will be subject to rejection whether in place or not.

The form and distribution of certificates of compliance shall be as approved by the Engineer.

When a material or assembly is specified by "brand name or equal" and the Contractor elects to furnish the specified "brand name," the Contractor shall be required to furnish the manufacturer's certificate of compliance for each lot of such material or assembly delivered to the work. Such certificate of compliance shall clearly identify each lot delivered and shall certify as to:

a. Conformance to the specified performance, testing, quality or dimensional requirements; and,

b. Suitability of the material or assembly for the use intended in the contract work.

Should the Contractor propose to furnish an "or equal" material or assembly, he shall furnish the manufacturer's certificates of compliance as hereinbefore described for the specified brand name material or assembly. However, the Engineer shall be the sole judge as to whether the proposed "or equal" is suitable for use in the work.

The Engineer reserves the right to refuse permission for use of materials or assemblies on the basis of certificates of compliance.

60-04 PLANT INSPECTION. The Engineer or his/her authorized representative may inspect, at its source, any specified material or assembly to be used in the work. Manufacturing plants may be inspected from time to time for the purpose of determining compliance with specified manufacturing methods or materials to be used in the work and to obtain samples required for his/her acceptance of the material or assembly.

Should the Engineer conduct plant inspections, the following conditions shall exist:

a. The Engineer shall have the cooperation and assistance of the Contractor and the producer with whom he has contracted for materials.

b. The Engineer shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of the materials being furnished.

c. If required by the Engineer, the Contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Office or working space should be conveniently located with respect to the plant.

It is understood and agreed that the Owner shall have the right to retest any material that has been tested and approved at the source of supply after it has been delivered to the site. The Engineer shall have the right to reject only material which, when retested, does not meet the requirements of the contract, plans, or specifications.

60-05 ENGINEER'S FIELD OFFICE. The Contractor shall furnish for the duration of the project one building for the use of the field engineers and inspectors, as a field office ***as required within these specifications.*** This facility shall be an approved weatherproof building meeting the current State Highway Specifications (for example, Class I Field Office or Type C Structure). This building shall be located conveniently near to the construction and shall be separate from any building used by the Contractor. A land line telephone and answering machine shall be provided. The Contractor shall be responsible for payment of the basic monthly charge and local calls only. Any Long Distance Tolls shall be the responsibility of the caller. The Contractor shall furnish ~~[FAX machine,~~ photocopy machine, water, sanitary facilities, heat, air conditioning, and electricity ~~]~~. No direct payment will be made for this building or labor, materials, ground rental, or other expense in connection therewith. The cost hereof shall be

included in the price bid for the various items of the contract. The Contractor and his/her superintendent shall provide all reasonable facilities to enable to the Engineer to inspect the workmanship and materials entering into the work.

60-06 STORAGE OF MATERIALS. Materials shall be so stored as to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may again be inspected prior to their use in the work. Stored materials shall be located so as to facilitate their prompt inspection. The Contractor shall coordinate the storage of all materials with the Engineer. Materials to be stored on airport property shall not create an obstruction to air navigation nor shall they interfere with the free and unobstructed movement of aircraft. Unless otherwise shown on the plans, the storage of materials and the location of the Contractor's plant and parked equipment or vehicles shall be as directed by the Engineer. Private property shall not be used for storage purposes without written permission of the owner or lessee of such property. The Contractor shall make all arrangements and bear all expenses for the storage of materials on private property. Upon request, the Contractor shall furnish the Engineer a copy of the property owner's permission.

All storage sites on private or airport property shall be restored to their original condition by the Contractor at his/her entire expense, except as otherwise agreed to (in writing) by the owner or lessee of the property.

60-07 UNACCEPTABLE MATERIALS. Any material or assembly that does not conform to the requirements of the contract, plans, or specifications shall be considered unacceptable and shall be rejected. The Contractor shall remove any rejected material or assembly from the site of the work, unless otherwise instructed by the Engineer.

Rejected material or assembly, the defects of which have been corrected by the Contractor, shall not be returned to the site of the work until such time as the Engineer has approved its used in the work.

60-08 OWNER FURNISHED MATERIALS. The Contractor shall furnish all materials required to complete the work, except those specified herein (if any) to be furnished by the Owner. Owner-furnished materials shall be made available to the Contractor at the location specified herein.

All costs of handling, transportation from the specified location to the site of work, storage, and installing Owner-furnished materials shall be included in the unit price bid for the contract item in which such Owner-furnished material is used.

After any Owner-furnished material has been delivered to the location specified, the Contractor shall be responsible for any demurrage, damage, loss, or other deficiencies that may occur during the Contractor's handling, storage, or use of such Owner-furnished material. The Owner will deduct from any monies due or to become due the Contractor any cost incurred by the Owner in making good such loss due to the Contractor's handling, storage, or use of Owner-furnished materials.

END OF SECTION 60

SECTION 70
LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC

70-01 LAWS TO BE OBSERVED. The Contractor shall keep fully informed of all Federal and state laws, all local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of the work. He shall at all times observe and comply with all such laws, ordinances, regulations, orders, and decrees; and shall protect and indemnify the Owner and all his/her officers, agents, or servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by himself or his/her employees.

70-02 PERMITS, LICENSES, AND TAXES. The Contractor shall procure all permits and licenses, pay all charges, fees, and taxes, and give all notices necessary and incidental to the due and lawful prosecution of the work.

70-03 PATENTED DEVICES, MATERIALS, AND PROCESSES. If the Contractor is required or desires to use any design, device, material, or process covered by letters of patent or copyright, he shall provide for such use by suitable legal agreement with the patentee or owner. The Contractor and the surety shall indemnify and save harmless the Owner, any third party, or political subdivision from any and all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright, and shall indemnify the Owner for any costs, expenses, and damages which it may be obliged to pay by reason of an infringement, at any time during the prosecution or after the completion of the work.

70-04 RESTORATION OF SURFACES DISTURBED BY OTHERS. The Owner reserves the right to authorize the construction, reconstruction, or maintenance of any public or private utility service, FAA or National Oceanic and Atmospheric Administration (NOAA) facility, or a utility service of another government agency at any time during the progress of the work. To the extent that such construction, reconstruction, or maintenance has been coordinated with the Owner, such authorized work (by others) is indicated as follows:

Owner	*Person to Contact (Phone Number)*
Jefferson County (Jack Brooks Regional Airport	*Duke Youmans (409) 719-4900*
Federal Aviation Administration	*James Terrel*

Except as listed above, the Contractor shall not permit any individual, firm, or corporation to excavate or otherwise disturb such utility services or facilities located within the limits of the work without the written permission of the Engineer.

Should the owner of public or private utility service, FAA, or NOAA facility, or a utility service of another government agency be authorized to construct, reconstruct, or maintain such utility service or facility during the progress of the work, the Contractor shall cooperate with such owners by arranging and performing the work in this contract so as to facilitate such construction, reconstruction or maintenance by others whether or not such work by others is listed above. When ordered as extra work by the Engineer, the Contractor shall make all necessary repairs to the work which are due to such authorized work by others, unless otherwise provided for in the contract, plans, or specifications. It is understood and agreed that the Contractor shall not be entitled to make any claim for damages due to such authorized work by others or for any delay to the work resulting from such authorized work.

70-05 FEDERAL AID PARTICIPATION. For AIP contracts, the United States Government has agreed to reimburse the Owner for some portion of the contract costs. Such reimbursement is made from time to time upon the Owner's request to the FAA. In consideration of the United States Government's (FAA's) agreement with the Owner, the Owner has included provisions in this contract pursuant to the requirements of Title 49 of the United States Code (USC) and the Rules and Regulations of the FAA that pertain to the work.

As required by the USC, the contract work is subject to the inspection and approval of duly authorized representatives of the Administrator, FAA, and is further subject to those provisions of the rules and regulations that are cited in the contract, plans, or specifications.

No requirement of the USC, the rules and regulations implementing the USC, or this contract shall be construed as making the Federal Government a party to the contract nor will any such requirement interfere, in any way, with the rights of either party to the contract.

70-06 SANITARY, HEALTH, AND SAFETY PROVISIONS. The Contractor shall provide and maintain in a neat, sanitary condition such accommodations for the use of his/her employees as may be necessary to comply with the requirements of the state and local Board of Health, or of other bodies or tribunals having jurisdiction.

Attention is directed to Federal, state, and local laws, rules and regulations concerning construction safety and health standards. The Contractor shall not require any worker to work in surroundings or under conditions that are unsanitary, hazardous, or dangerous to his/her health or safety.

70-07 PUBLIC CONVENIENCE AND SAFETY. The Contractor shall control his/her operations and those of his/her subcontractors and all suppliers, to assure the least inconvenience to the traveling public. Under all circumstances, safety shall be the most important consideration.

The Contractor shall maintain the free and unobstructed movement of aircraft and vehicular traffic with respect to his/her own operations and those of his/her subcontractors and all suppliers in accordance with the subsection titled MAINTENANCE OF TRAFFIC of Section 40 hereinbefore specified and shall limit such operations for the convenience and safety of the traveling public as specified in the subsection titled LIMITATION OF OPERATIONS of Section 80 hereinafter.

70-08 BARRICADES, WARNING SIGNS, AND HAZARD MARKINGS. The Contractor shall furnish, erect, and maintain all barricades, warning signs, and markings for hazards necessary to protect the public and the work. When used during periods of darkness, such barricades, warning signs, and hazard markings shall be suitably illuminated. Unless otherwise specified, barricades, warning signs, and markings for hazards that are in the air operations area shall be a maximum of 18 inches high. Unless otherwise specified, barricades shall be spaced not more than ***that specified in the Construction Safety and Phasing Plan*** ~~25 feet apart~~. Barricades, warning signs, and markings shall be paid for under Section 40-05.

For vehicular and pedestrian traffic, the Contractor shall furnish, erect, and maintain barricades, warning signs, lights and other traffic control devices in reasonable conformity with the Manual of Uniform Traffic Control Devices for Streets and Highways (published by the United States Government Printing Office).

When the work requires closing an air operations area of the airport or portion of such area, the Contractor shall furnish, erect, and maintain temporary markings and associated lighting conforming to the requirements of AC 150/5340-1, Standards for Airport Markings.

The Contractor shall furnish, erect, and maintain markings and associated lighting of open trenches, excavations, temporary stock piles, and his/her parked construction equipment that may be hazardous to the operation of emergency fire-rescue or maintenance vehicles on the airport in reasonable conformance to AC 150/5370-2, Operational Safety on Airports During Construction.

The Contractor shall identify each motorized vehicle or piece of construction equipment in reasonable conformance to AC 150/5370-2.

The Contractor shall furnish and erect all barricades, warning signs, and markings for hazards prior to commencing work that requires such erection and shall maintain the barricades, warning signs, and markings for hazards until their dismantling is directed by the Engineer.

Open-flame type lights shall not be permitted within the air operations areas of the airport.

70-09 USE OF EXPLOSIVES. When the use of explosives is necessary for the prosecution of the work, the Contractor shall exercise the utmost care not to endanger life or property, including new work. The Contractor shall be responsible for all damage resulting from the use of explosives.

All explosives shall be stored in a secure manner in compliance with all laws and ordinances, and all such storage places shall be clearly marked. Where no local laws or ordinances apply, storage shall be provided satisfactory to the Engineer and, in general, not closer than 1,000 feet (300 m) from the work or from any building, road, or other place of human occupancy.

The Contractor shall notify each property owner and public utility company having structures or facilities in proximity to the site of the work of his/her intention to use explosives. Such notice shall be given sufficiently in advance to enable them to take such steps as they may deem necessary to protect their property from injury.

The use of electrical blasting caps shall not be permitted on or within 1,000 feet (300 m) of the airport property.

70-10 PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE. The Contractor shall be responsible for the preservation of all public and private property, and shall protect carefully from disturbance or damage all land monuments and property markers until the Engineer has witnessed or otherwise referenced their location and shall not move them until directed.

The Contractor shall be responsible for all damage or injury to property of any character, during the prosecution of the work, resulting from any act, omission, neglect, or misconduct in his/her manner or method of executing the work, or at any time due to defective work or materials, and said responsibility will not be released until the project shall have been completed and accepted.

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or in consequence of the nonexecution thereof by the Contractor, he shall restore, at his/her own expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, or otherwise restoring as may be directed, or he shall make good such damage or injury in an acceptable manner.

70-11 RESPONSIBILITY FOR DAMAGE CLAIMS. The Contractor shall indemnify and save harmless the Engineer and the Owner and their officers, and employees from all suits actions, or claims of any character brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of the Contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act or omission, neglect, or misconduct of said Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the "Workmen's Compensation Act," or any other law, ordinance, order, or decree. Money due the Contractor under and by virtue of his/her contract as may be considered necessary by the Owner for such purpose may be retained for the use of the Owner or, in case no money is due, his/her surety may be held until such suit(s), action(s), or claim(s) for injuries or damages as aforesaid shall have been settled and suitable evidence to that effect furnished to the Owner, except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he is adequately protected by public liability and property damage insurance.

70-12 THIRD PARTY BENEFICIARY CLAUSE. It is specifically agreed between the parties executing the contract that it is not intended by any of the provisions of any part of the contract to create the public or any member thereof a third party beneficiary or to authorize anyone not a party to the contract to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of the contract.

70-13 OPENING SECTIONS OF THE WORK TO TRAFFIC. Should it be necessary for the Contractor to complete portions of the contract work for the beneficial occupancy of the Owner prior to completion of the entire contract, such "phasing" of the work shall be specified herein and indicated on the plans. When so specified, the Contractor shall complete such portions of the work on or before the date specified or as otherwise specified. The Contractor shall make his/her own estimate of the difficulties involved in arranging his/her work to permit such beneficial occupancy by the Owner. ~~as described below:~~

~~Phase or Description~~
~~Required Date or Sequence of Owner's Beneficial Occupancy~~
~~Work Shown on Plan Sheet~~

Upon completion of any portion of the work listed above, such portion shall be accepted by the Owner in accordance with the subsection titled PARTIAL ACCEPTANCE of Section 50.

No portion of the work may be opened by the Contractor for public use until ordered by the Engineer in writing. Should it become necessary to open a portion of the work to public traffic on a temporary or intermittent basis, such openings shall be made when, in the opinion of the Engineer, such portion of the work is in an acceptable condition to support the intended traffic. Temporary or intermittent openings are considered to be inherent in the work and shall not constitute either acceptance of the portion of the work so opened or a waiver of any provision of the contract. Any damage to the portion of the work so opened that is not attributable to traffic which is permitted by the Owner shall be repaired by the Contractor at his/her expense.

The Contractor shall make his/her own estimate of the inherent difficulties involved in completing the work under the conditions herein described and shall not claim any added compensation by reason of delay or increased cost due to opening a portion of the contract work.

Contractor shall be required to conform to safety standards contained AC 150/5370-2, Operational Safety on Airports During Construction (See Special Provisions.)

Contractor shall refer to the approved safety plan to identify barricade requirements and other safety requirements prior to opening up sections of work to traffic.

70-14 CONTRACTOR'S RESPONSIBILITY FOR WORK. Until the Engineer's final written acceptance of the entire completed work, excepting only those portions of the work accepted in accordance with the subsection titled PARTIAL ACCEPTANCE of Section 50, the Contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part due to the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except damage to the work due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God such as earthquake, tidal wave, tornado, hurricane or other cataclysmic phenomenon of nature, or acts of the public enemy or of government authorities.

If the work is suspended for any cause whatever, the Contractor shall be responsible for the work and shall take such precautions necessary to prevent damage to the work. The Contractor shall provide for normal drainage and shall erect necessary temporary structures, signs, or other facilities at his/her expense. During such period of suspension of work, the Contractor shall properly and continuously maintain in an acceptable growing condition all living material in newly established planting, seedings, and soddings furnished under his/her contract, and shall take adequate precautions to protect new tree growth and other important vegetative growth against injury.

70-15 CONTRACTOR'S RESPONSIBILITY FOR UTILITY SERVICE AND FACILITIES OF OTHERS. As provided in the subsection titled RESTORATION OF SURFACES DISTURBED BY OTHERS of this

section, the Contractor shall cooperate with the owner of any public or private utility service, FAA or NOAA, or a utility service of another government agency that may be authorized by the owner to construct, reconstruct or maintain such utility services or facilities during the progress of the work. In addition, the Contractor shall control his/her operations to prevent the unscheduled interruption of such utility services and facilities.

To the extent that such public or private utility services, FAA, or NOAA facilities, or utility services of another governmental agency are known to exist within the limits of the contract work, the approximate locations have been indicated on the plans and the owners are indicated as ~~follows:~~ ***as shown in Section 70-04.***

It is understood and agreed that the Owner does not guarantee the accuracy or the completeness of the location information relating to existing utility services, facilities, or structures that may be shown on the plans or encountered in the work. Any inaccuracy or omission in such information shall not relieve the Contractor of his/her responsibility to protect such existing features from damage or unscheduled interruption of service.

It is further understood and agreed that the Contractor shall, upon execution of the contract, notify the owners of all utility services or other facilities of his/her plan of operations. Such notification shall be in writing addressed to THE PERSON TO CONTACT as provided hereinbefore in this subsection and the subsection titled RESTORATION OF SURFACES DISTURBED BY OTHERS of this section. A copy of each notification shall be given to the Engineer.

In addition to the general written notification hereinbefore provided, it shall be the responsibility of the Contractor to keep such individual owners advised of changes in his/her plan of operations that would affect such owners.

Prior to commencing the work in the general vicinity of an existing utility service or facility, the Contractor shall again notify each such owner of his/her plan of operation. If, in the Contractor's opinion, the owner's assistance is needed to locate the utility service or facility or the presence of a representative of the owner is desirable to observe the work, such advice should be included in the notification. Such notification shall be given by the most expeditious means to reach the utility owner's PERSON TO CONTACT no later than two normal business days prior to the Contractor's commencement of operations in such general vicinity. The Contractor shall furnish a written summary of the notification to the Engineer.

The Contractor's failure to give the two day's notice hereinabove provided shall be cause for the Owner to suspend the Contractor's operations in the general vicinity of a utility service or facility.

Where the outside limits of an underground utility service have been located and staked on the ground, the Contractor shall be required to use excavation methods acceptable to the Engineer within 3 feet (90 cm) of such outside limits at such points as may be required to ensure protection from damage due to the Contractor's operations.

Should the Contractor damage or interrupt the operation of a utility service or facility by accident or otherwise, he shall immediately notify the proper authority and the Engineer and shall take all reasonable measures to prevent further damage or interruption of service. The Contractor, in such events, shall cooperate with the utility service or facility owner and the Engineer continuously until such damage has been repaired and service restored to the satisfaction of the utility or facility owner.

The Contractor shall bear all costs of damage and restoration of service to any utility service or facility due to his/her operations whether or not due to negligence or accident. The Owner reserves the right to deduct such costs from any monies due or which may become due the Contractor, or his/her surety.

70-15.1 FAA FACILITIES AND CABLE RUNS. The Contractor is hereby advised that the construction limits of the project include existing facilities and buried cable runs that are owned, operated and

maintained by the FAA. The Contractor, during the prosecution of the project work, shall comply with the following:

a. The Contractor shall permit FAA maintenance personnel the right of access to the project work site for purposes of inspecting and maintaining all existing FAA owned facilities.

b. The Contractor shall notify the above named FAA Airway Facilities Point-of-Contact seven (7) calendar days prior to commencement of construction activities in order to permit sufficient time to locate and mark existing buried cables and to schedule any required facility outages.

c. If prosecution of the project work requires a facility outage, the Contractor shall contact the above named FAA Point-of-Contact a minimum of 48 hours prior to the time of the required outage.

d. If prosecution of the project work results in damages to existing FAA equipment or cables, the Contractor shall repair the damaged item in conformance with FAA Airway Facilities' standards to the satisfaction of the above named FAA Point-of-Contact.

e. If the project work requires the cutting or splicing of FAA owned cables, the above named FAA Point-of-Contact shall be contacted a minimum of 48 hours prior to the time the cable work commences. The FAA reserves the right to have a FAA Airway Facilities representative on site to observe the splicing of the cables as a condition of acceptance. All cable splices are to be accomplished in accordance with FAA Airway Facilities' specifications and require approval by the above named FAA Point-of-Contact as a condition of acceptance by the Owner. The Contractor is hereby advised that FAA Airway Facilities restricts the location of where splices may be installed. If a cable splice is required in a location that is not permitted by FAA Airway Facilities, the Contractor shall furnish and install a sufficient length of new cable that eliminates the need for any splice.

70-16 FURNISHING RIGHTS-OF-WAY. The Owner will be responsible for furnishing all rights-of-way upon which the work is to be constructed in advance of the Contractor's operations.

70-17 PERSONAL LIABILITY OF PUBLIC OFFICIALS. In carrying out any of the contract provisions or in exercising any power or authority granted to him by this contract, there shall be no liability upon the Engineer, his/her authorized representatives, or any officials of the Owner either personally or as an official of the Owner. It is understood that in such matters they act solely as agents and representatives of the Owner.

70-18 NO WAIVER OF LEGAL RIGHTS. Upon completion of the work, the Owner will expeditiously make final inspection and notify the Contractor of final acceptance. Such final acceptance, however, shall not preclude or stop the Owner from correcting any measurement, estimate, or certificate made before or after completion of the work, nor shall the Owner be precluded or stopped from recovering from the Contractor or his/her surety, or both, such overpayment as may be sustained, or by failure on the part of the Contractor to fulfill his/her obligations under the contract. A waiver on the part of the Owner of any breach of any part of the contract shall not be held to be a waiver of any other or subsequent breach.

The Contractor, without prejudice to the terms of the contract, shall be liable to the Owner for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the owner's rights under any warranty or guaranty.

70-19 ENVIRONMENTAL PROTECTION. The Contractor shall comply with all Federal, state, and local laws and regulations controlling pollution of the environment. He shall take necessary precautions to prevent pollution of streams, lakes, ponds, and reservoirs with fuels, oils, bitumens, chemicals, or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter.

70-20 ARCHAEOLOGICAL AND HISTORICAL FINDINGS. Unless otherwise specified in this subsection, the Contractor is advised that the site of the work is not within any property, district, or site,

and does not contain any building, structure, or object listed in the current National Register of Historic Places published by the United States Department of Interior.

Should the Contractor encounter, during his/her operations, any building, part of a building, structure, or object that is incongruous with its surroundings, he shall immediately cease operations in that location and notify the Engineer. The Engineer will immediately investigate the Contractor's finding and the Owner will direct the Contractor to either resume his/her operations or to suspend operations as directed.

Should the Owner order suspension of the Contractor's operations in order to protect an archaeological or historical finding, or order the Contractor to perform extra work, such shall be covered by an appropriate contract modification (change order or supplemental agreement) as provided in the subsection titled EXTRA WORK of Section 40 and the subsection titled PAYMENT FOR EXTRA WORK AND FORCE ACCOUNT WORK of Section 90. If appropriate, the contract modification shall include an extension of contract time in accordance with the subsection titled DETERMINATION AND EXTENSION OF CONTRACT TIME of Section 80.

END OF SECTION 70

SECTION 80
PROSECUTION AND PROGRESS

80-01 SUBLETTING OF CONTRACT. The Owner will not recognize any subcontractor on the work. The Contractor shall at all times when work is in progress be represented either in person, by a qualified superintendent, or by other designated, qualified representative who is duly authorized to receive and execute orders of the Engineer.

Should the Contractor elect to assign his/her contract, said assignment shall be concurred in by the surety, shall be presented for the consideration and approval of the Owner, and shall be consummated only on the written approval of the Owner. In case of approval, the Contractor shall file copies of all subcontracts with the Engineer.

The Contractor shall perform, with his organization, an amount of work equal to at least **25** percent of the total contract cost.

80-02 NOTICE TO PROCEED. The notice to proceed shall state the date on which it is expected the Contractor will begin the construction and from which date contract time will be charged. The Contractor shall begin the work to be performed under the contract ***within the timeframe set forth in the proposal,*** ~~10 days of the date set by the Engineer in the written notice to proceed~~, but in any event, the Contractor shall notify the Engineer at least 24 hours in advance of the time actual construction operations will begin.

80-03 PROSECUTION AND PROGRESS. Unless otherwise specified, the Contractor shall submit his/her progress schedule for the Engineer's approval ***at the preconstruction meeting*** ~~within 10 days after the effective date of the notice to proceed~~. The Contractor's progress schedule, when approved by the Engineer, may be used to establish major construction operations and to check on the progress of the work. The Contractor shall provide sufficient materials, equipment, and labor to guarantee the completion of the project in accordance with the plans and specifications within the time set forth in the proposal.

If the Contractor falls significantly behind the submitted schedule, the Contractor shall, upon the Engineer's request, submit a revised schedule for completion of the work within the contract time and modify his/her operations to provide such additional materials, equipment, and labor necessary to meet the revised schedule. Should the prosecution of the work be discontinued for any reason, the Contractor shall notify the Engineer at least 24 hours in advance of resuming operations.

For AIP contracts, the Contractor shall not commence any actual construction prior to the date on which the notice to proceed is issued by the Owner.

80-04 LIMITATION OF OPERATIONS. The Contractor shall control his/her operations and the operations of his/her subcontractors and all suppliers so as to provide for the free and unobstructed movement of aircraft in the AIR OPERATIONS AREAS of the airport.

When the work requires the Contractor to conduct his/her operations within an AIR OPERATIONS AREA of the airport, the work shall be coordinated with airport operations (through the Engineer) at least 48 hours prior to commencement of such work. The Contractor shall not close an AIR OPERATIONS AREA until so authorized by the Engineer and until the necessary temporary marking and associated lighting is in place as provided in the subsection titled BARRICADES, WARNING SIGNS, AND HAZARD MARKINGS of Section 70.

When the contract work requires the Contractor to work within an AIR OPERATIONS AREA (AOA) of the airport on an intermittent basis (intermittent opening and closing of the AIR OPERATIONS AREA), the Contractor shall maintain constant communications as hereinafter specified; immediately obey all instructions to vacate the AIR OPERATIONS AREA; immediately obey all instructions to resume work in such AIR OPERATIONS AREA. Failure to maintain the specified communications or to obey instructions shall be cause for suspension of the Contractor's operations in the AIR OPERATIONS AREA until the satisfactory conditions are provided. ~~The following AIR OPERATIONS AREA cannot be closed to~~

~~operating aircraft to permit the Contractor's operations on a continuous basis and will therefore be closed to aircraft operations intermittently as follows:~~

~~AOA~~
~~TIME PERIODS AOA CAN BE CLOSED~~
~~TYPE OF COMMUNICATIONS REQUIRED WHEN WORKING IN AN AOA~~
~~CONTROL AUTHORITY~~

Contractor shall be required to conform to safety standards contained in AC 150/5370-2, Operational Safety on Airports During Construction (See Special Provisions).

80-04.1 OPERATIONAL SAFETY ON AIRPORT DURING CONSTRUCTION. All Contractors' operations shall be conducted in accordance with the project safety plan and the provisions set forth within the current version of Advisory Circular 150/5370-2. The safety plan included within the contract documents conveys minimum requirements for operational safety on the airport during construction activities. The Contractor shall prepare and submit a plan that details how it proposes to comply with the requirements presented within the safety plan.

The Contractor shall implement all necessary safety plan measures prior to commencement of any work activity. The Contractor shall conduct routine checks of the safety plan measures to assure compliance with the safety plan measures.

The Contractor is responsible to the Owner for the conduct of all subcontractors it employs on the project. The Contractor shall assure that all subcontractors are made aware of the requirements of the safety plan and that they implement and maintain all necessary measures.

No deviation or modifications may be made to the approved safety plan unless approved in writing by the Owner or Engineer.

80-05 CHARACTER OF WORKERS, METHODS, AND EQUIPMENT. The Contractor shall, at all times, employ sufficient labor and equipment for prosecuting the work to full completion in the manner and time required by the contract, plans, and specifications.

All workers shall have sufficient skill and experience to perform properly the work assigned to them. Workers engaged in special work or skilled work shall have sufficient experience in such work and in the operation of the equipment required to perform the work satisfactorily.

Any person employed by the Contractor or by any subcontractor who violates any operational regulations and, in the opinion of the Engineer, does not perform his work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the Engineer, be removed forthwith by the Contractor or subcontractor employing such person, and shall not be employed again in any portion of the work without approval of the Engineer.

Should the Contractor fail to remove such persons or person, or fail to furnish suitable and sufficient personnel for the proper prosecution of the work, the Engineer may suspend the work by written notice until compliance with such orders.

All equipment that is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to met requirements of the work and to produce a satisfactory quality of work. Equipment used on any portion of the work shall be such that no injury to previously completed work, adjacent property, or existing airport facilities will result from its use.

When the methods and equipment to be used by the Contractor in accomplishing the work are not prescribed in the contract, the Contractor is free to use any methods or equipment that will accomplish the work in conformity with the requirements of the contract, plans, and specifications.

When the contract specifies the use of certain methods and equipment, such methods and equipment shall be used unless others are authorized by the Engineer. If the Contractor desires to use a method or type of equipment other than specified in the contract, he may request authority from the Engineer to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed and of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing work in conformity with contract requirements. If, after trial use of the substituted methods or equipment, the Engineer determines that the work produced does not meet contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining work with the specified methods and equipment. The Contractor shall remove any deficient work and replace it with work of specified quality, or take such other corrective action as the Engineer may direct. No change will be made in basis of payment for the contract items involved nor in contract time as a result of authorizing a change in methods or equipment under this subsection.

80-06 TEMPORARY SUSPENSION OF THE WORK. The Owner shall have the authority to suspend the work wholly, or in part, for such period or periods as he may deem necessary, due to unsuitable weather, or such other conditions as are considered unfavorable for the prosecution of the work, or for such time as is necessary due to the failure on the part of the Contractor to carry out orders given or perform any or all provisions of the contract.

In the event that the Contractor is ordered by the Owner, in writing, to suspend work for some unforeseen cause not otherwise provided for in the contract and over which the Contractor has no control, the Contractor may be reimbursed for actual money expended on the work during the period of shutdown. No allowance will be made for anticipated profits. The period of shutdown shall be computed from the effective date of the Engineer's order to suspend work to the effective date of the Engineer's order to resume the work. Claims for such compensation shall be filed with the Engineer within the time period stated in the Engineer's order to resume work. The Contractor shall submit with his/her claim information substantiating the amount shown on the claim. The Engineer will forward the Contractor's claim to the Owner for consideration in accordance with local laws or ordinances. No provision of this article shall be construed as entitling the Contractor to compensation for delays due to inclement weather, for suspensions made at the request of the Owner, or for any other delay provided for in the contract, plans, or specifications.

If it should become necessary to suspend work for an indefinite period, the Contractor shall store all materials in such manner that they will not become an obstruction nor become damaged in any way. He shall take every precaution to prevent damage or deterioration of the work performed and provide for normal drainage of the work. The Contractor shall erect temporary structures where necessary to provide for traffic on, to, or from the airport.

80-07 DETERMINATION AND EXTENSION OF CONTRACT TIME. The number of calendar or working days allowed for completion of the work shall be stated in the proposal and contract and shall be known as the CONTRACT TIME.

Should the contract time require extension for reasons beyond the Contractor's control, it shall be adjusted as follows:

a. CONTRACT TIME based on WORKING DAYS shall be calculated weekly by the Engineer. The Engineer will furnish the Contractor a copy of his/her weekly statement of the number of working days charged against the contract time during the week and the number of working days currently specified for completion of the contract (the original contract time plus the number of working days, if any, that have been included in approved CHANGE ORDERS or SUPPLEMENTAL AGREEMENTS covering EXTRA WORK).

The Engineer shall base his/her weekly statement of contract time charged on the following considerations:

(1) No time shall be charged for days on which the Contractor is unable to proceed with the principal item of work under construction at the time for at least 6 hours with the normal work force employed on such principal item. Should the normal work force be on a double-shift, 12 hours shall be used. Should the normal work force be on a triple-shift, 18 hours shall apply. Conditions beyond the Contractor's control such as strikes, lockouts, unusual delays in transportation, temporary suspension of the principal item of work under construction or temporary suspension of the entire work which have been ordered by the Owner for reasons not the fault of the Contractor, shall not be charged against the contract time.

(2) The Engineer will not make charges against the contract time prior to the effective date of the notice to proceed.

(3) The Engineer will begin charges against the contract time on the first working day after the effective date of the notice to proceed.

(4) The Engineer will not make charges against the contract time after the date of final acceptance as defined in the subsection titled FINAL ACCEPTANCE of Section 50.

(5) The Contractor will be allowed 1 week in which to file a written protest setting forth his/her objections to the Engineer's weekly statement. If no objection is filed within such specified time, the weekly statement shall be considered as acceptable to the Contractor.

The contract time (stated in the proposal) is based on the originally estimated quantities as described in the subsection titled INTERPRETATION OF ESTIMATED PROPOSAL QUANTITIES of Section 20. Should the satisfactory completion of the contract require performance of work in greater quantities than those estimated in the proposal, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in contract time shall not consider either the cost of work or the extension of contract time that has been covered by change order or supplemental agreement and shall be made at the time of final payment.

b. CONTRACT TIME based on CALENDAR DAYS shall consist of the number of calendar days stated in the contract counting from the effective date of the notice to proceed and including all Saturdays, Sundays, holidays, and nonwork days. All calendar days elapsing between the effective dates of the Owner's orders to suspend and resume all work, due to causes not the fault of the Contractor, shall be excluded.

At the time of final payment, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in the contract time shall not consider either cost of work or the extension of contract time that has been covered by a change order or supplemental agreement. Charges against the contract time will cease as of the date of final acceptance.

c. When the contract time is a specified completion date, it shall be the date on which all contract work shall be substantially completed.

If the Contractor finds it impossible for reasons beyond his/her control to complete the work within the contract time as specified, or as extended in accordance with the provisions of this subsection, he may, at any time prior to the expiration of the contract time as extended, make a written request to the Engineer for an extension of time setting forth the reasons which he believes will justify the granting of his/her request. Requests for extension of time on calendar day projects, caused by inclement weather, shall be supported with National Weather Bureau data showing the actual amount of inclement weather exceeded which could normally be expected during the contract period***, as detailed in the Special Provisions.*** The Contractor's plea that insufficient time was specified is not a valid reason for extension of time. If the Engineer finds that the work was delayed because of conditions beyond the control and without the fault of the Contractor, he may extend the time for completion in such amount as the conditions justify. The

extended time for completion shall then be in full force and effect, the same as though it were the original time for completion.

80-08 FAILURE TO COMPLETE ON TIME. For each calendar day or working day, as specified in the contract, that any work remains uncompleted after the contract time (including all extensions and adjustments as provided in the subsection titled DETERMINATION AND EXTENSION OF CONTRACT TIME of this Section) the sum specified in the contract and proposal as liquidated damages will be deducted from any money due or to become due the Contractor or his/her surety. Such deducted sums shall not be deducted as a penalty but shall be considered as liquidation of a reasonable portion of damages including but not limited to additional engineering services that will be incurred by the Owner should the Contractor fail to complete the work in the time provided in his/her contract.

~~The maximum construction time allowed for Schedules [ ] will be the sum of the time allowed for individual schedules but not more than [ ] days. (Note: this paragraph will be modified for each project.)~~ ***Construction time shall be as included in the Proposal and Contract.***

Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a wavier on the part of the Owner of any of its rights under the contract.

80-09 DEFAULT AND TERMINATION OF CONTRACT. The Contractor shall be considered in default of his/her contract and such default will be considered as cause for the Owner to terminate the contract for any of the following reasons if the Contractor:

a. Fails to begin the work under the contract within the time specified in the "Notice to Proceed," or

b. Fails to perform the work or fails to provide sufficient workers, equipment or materials to assure completion of work in accordance with the terms of the contract, or

c. Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, or

d. Discontinues the prosecution of the work, or

e. Fails to resume work which has been discontinued within a reasonable time after notice to do so, or

f. Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or

g. Allows any final judgment to stand against him unsatisfied for a period of 10 days, or

h. Makes an assignment for the benefit of creditors, or

i. For any other cause whatsoever, fails to carry on the work in an acceptable manner.

Should the Engineer consider the Contractor in default of the contract for any reason hereinbefore, he shall immediately give written notice to the Contractor and the Contractor's surety as to the reasons for considering the Contractor in default and the Owner's intentions to terminate the contract.

If the Contractor or surety, within a period of 10 days after such notice, does not proceed in accordance therewith, then the Owner will, upon written notification from the Engineer of the facts of such delay, neglect, or default and the Contractor's failure to comply with such notice, have full power and authority without violating the contract, to take the prosecution of the work out of the hands of the Contractor. The Owner may appropriate or use any or all materials and equipment that have been mobilized for use in the work and are acceptable and may enter into an agreement for the completion of said contract according

to the terms and provisions thereof, or use such other methods as in the opinion of the Engineer will be required for the completion of said contract in an acceptable manner.

All costs and charges incurred by the Owner, together with the cost of completing the work under contract, will be deducted from any monies due or which may become due the Contractor. If such expense exceeds the sum which would have been payable under the contract, then the Contractor and the surety shall be liable and shall pay to the Owner the amount of such excess.

80-10 TERMINATION FOR NATIONAL EMERGENCIES. The Owner shall terminate the contract or portion thereof by written notice when the Contractor is prevented from proceeding with the construction contract as a direct result of an Executive Order of the President with respect to the prosecution of war or in the interest of national defense.

When the contract, or any portion thereof, is terminated before completion of all items of work in the contract, payment will be made for the actual number of units or items of work completed at the contract price or as mutually agreed for items of work partially completed or not started. No claims or loss of anticipated profits shall be considered.

Reimbursement for organization of the work, and other overhead expenses, (when not otherwise included in the contract) and moving equipment and materials to and from the job will be considered, the intent being that an equitable settlement will be made with the Contractor.

Acceptable materials, obtained or ordered by the Contractor for the work and that are not incorporated in the work shall, at the option of the Contractor, be purchased from the Contractor at actual cost as shown by receipted bills and actual cost records at such points of delivery as may be designated by the Engineer.

Termination of the contract or a portion thereof shall neither relieve the Contractor of his/her responsibilities for the completed work nor shall it relieve his/her surety of its obligation for and concerning any just claim arising out of the work performed.

80-11 WORK AREA, STORAGE AREA AND SEQUENCE OF OPERATIONS. The Contractor shall obtain approval from the Engineer prior to beginning any work in all areas of the airport. No operating runway, taxiway, or Air Operations Area (AOA) shall be crossed, entered, or obstructed while it is operational. The Contractor shall plan and coordinate his/her work in such a manner as to insure safety and a minimum of hindrance to flight operations. ~~All Contractor equipment and material stockpiles shall be stored a minimum or [ ] feet from the centerline of an active runway.~~ No equipment will be allowed to park within the approach area of an active runway at any time. ~~No equipment shall be within [ ] feet of an active runway at any time.~~

END OF SECTION 80

SECTION 90
MEASUREMENT AND PAYMENT

90-01 MEASUREMENT OF QUANTITIES. All work completed under the contract will be measured by the Engineer, or his/her authorized representatives, using United States Customary Units of Measurement or the International System of Units.

The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the contract will be those methods generally recognized as conforming to good engineering practice.

Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures (or leave-outs) having an area of 9 square feet (0.8 square meter) or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the plans or ordered in writing by the Engineer.

Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.

Unless otherwise specified, all contract items which are measured by the linear foot such as electrical ducts, conduits, pipe culverts, underdrains, and similar items shall be measured parallel to the base or foundation upon which such items are placed.

In computing volumes of excavation the average end area method or other acceptable methods will be used.

The thickness of plates and galvanized sheet used in the manufacture of corrugated metal pipe, metal plate pipe culverts and arches, and metal cribbing will be specified and measured in decimal fraction of inches.

The term "ton" will mean the short ton consisting of 2,000 pounds (907 kilograms) avoirdupois. All materials that are measured or proportioned by weights shall be weighed on accurate, approved scales by competent, qualified personnel at locations designed by the Engineer. If material is shipped by rail, the car weight may be accepted provided that only the actual weight of material is paid for. However, car weights will not be acceptable for material to be passed through mixing plants. Trucks used to haul material being paid for by weight shall be weighed empty daily at such times as the Engineer directs, and each truck shall bear a plainly legible identification mark.

Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this purpose may be of any size or type acceptable to the Engineer, provided that the body is of such shape that the actual contents may be readily and accurately determined. All vehicles shall be loaded to at least their water level capacity, and all loads shall be leveled when the vehicles arrive at the point of delivery.

When requested by the Contractor and approved by the Engineer in writing, material specified to be measured by the cubic yard (cubic meter) may be weighed, and such weights will be converted to cubic yards (cubic meters) for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the Engineer and shall be agreed to by the Contractor before such method of measurement of pay quantities is used.

Bituminous materials will be measured by the gallon (liter) or ton (kilogram). When measured by volume, such volumes will be measured at 60 F (15 C) or will be corrected to the volume at 60 F (15 C) using ASTM D 1250 for asphalts or ASTM D 633 for tars.

Net certified scale weights or weights based on certified volumes in the case of rail shipments will be used as a basis of measurement, subject to correction when bituminous material has been lost from the car or the distributor, wasted, or otherwise not incorporated in the work.

When bituminous materials are shipped by truck or transport, net certified weights by volume, subject to correction for loss or foaming, may be used for computing quantities.

Cement will be measured by the ton (kilogram) or hundredweight (kilogram).

Timber will be measured by the thousand feet board measure (M.F.B.M.) actually incorporated in the structure. Measurement will be based on nominal widths and thicknesses and the extreme length of each piece.

The term "lump sum" when used as an item of payment will mean complete payment for the work described in the contract.

When a complete structure or structural unit (in effect, "lump sum" work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories.

Rental of equipment will be measured by time in hours of actual working time and necessary traveling time of the equipment within the limits of the work. Special equipment ordered by the Engineer in connection with force account work will be measured as agreed in the change order or supplemental agreement authorizing such force account work as provided in the subsection titled PAYMENT FOR EXTRA AND FORCE ACCOUNT WORK of this section.

When standard manufactured items are specified such as fence, wire, plates, rolled shapes, pipe conduit, etc., and these items are identified by gage, unit weight, section dimensions, etc., such identification will be considered to be nominal weights or dimensions. Unless more stringently controlled by tolerances in cited specifications, manufacturing tolerances established by the industries involved will be accepted.

Scales for weighing materials which are required to be proportioned or measured and paid for by weight shall be furnished, erected, and maintained by the Contractor, or be certified permanently installed commercial scales.

Scales shall be accurate within one-half percent of the correct weight throughout the range of use. The Contractor shall have the scales checked under the observation of the inspector before beginning work and at such other times as requested. The intervals shall be uniform in spacing throughout the graduated or marked length of the beam or dial and shall not exceed one-tenth of 1 percent of the nominal rated capacity of the scale, but not less than 1 pound (454 grams). The use of spring balances will not be permitted.

Beams, dials, platforms, and other scale equipment shall be so arranged that the operator and the inspector can safely and conveniently view them.

Scale installations shall have available ten standard 50-pound (2.3 kilogram) weights for testing the weighing equipment or suitable weights and devices for other approved equipment.

Scales must be tested for accuracy and serviced before use at a new site. Platform scales shall be installed and maintained with the platform level and rigid bulkheads at each end.

Scales "overweighing" (indicating more than correct weight) will not be permitted to operate, and all materials received subsequent to the last previous correct weighting-accuracy test will be reduced by the percentage of error in excess of one-half of 1 percent.

In the event inspection reveals the scales have been "underweighing" (indicating less than correct weight), they shall be adjusted, and no additional payment to the Contractor will be allowed for materials previously weighed and recorded.

All costs in connection with furnishing, installing, certifying, testing, and maintaining scales; for furnishing check weights and scale house; and for all other items specified in this subsection, for the weighing of materials for proportioning or payment, shall be included in the unit contract prices for the various items of the project.

When the estimated quantities for a specific portion of the work are designated as the pay quantities in the contract, they shall be the final quantities for which payment for such specific portion of the work will be made, unless the dimensions of said portions of the work shown on the plans are revised by the Engineer. If revised dimensions result in an increase or decrease in the quantities of such work, the final quantities for payment will be revised in the amount represented by the authorized changes in the dimensions.

90-02 SCOPE OF PAYMENT. The Contractor shall receive and accept compensation provided for in the contract as full payment for furnishing all materials, for performing all work under the contract in a complete and acceptable manner, and for all risk, loss, damage, or expense of whatever character arising out of the nature of the work or the prosecution thereof, subject to the provisions of the subsection titled NO WAIVER OF LEGAL RIGHTS of Section 70.

When the "basis of payment" subsection of a technical specification requires that the contract price (price bid) include compensation for certain work or material essential to the item, this same work or material will not also be measured for payment under any other contract item which may appear elsewhere in the contract, plans, or specifications.

90-03 COMPENSATION FOR ALTERED QUANTITIES. When the accepted quantities of work vary from the quantities in the proposal, the Contractor shall accept as payment in full, so far as contract items are concerned, payment at the original contract price for the accepted quantities of work actually completed and accepted. No allowance, except as provided for in the subsection titled ALTERATION OF WORK AND QUANTITIES of Section 40 will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor which results directly from such alterations or indirectly from his/her unbalanced allocation of overhead and profit among the contract items, or from any other cause.

90-04 PAYMENT FOR OMITTED ITEMS. As specified in the subsection titled OMITTED ITEMS of Section 40, the Engineer shall have the right to omit from the work (order nonperformance) any contract item, except major contract items, in the best interest of the Owner.

Should the Engineer omit or order nonperformance of a contract item or portion of such item from the work, the Contractor shall accept payment in full at the contract prices for any work actually completed and acceptable prior to the Engineer's order to omit or nonperform such contract item.

Acceptable materials ordered by the Contractor or delivered on the work prior to the date of the Engineer's order will be paid for at the actual cost to the Contractor and shall thereupon become the property of the Owner.

In addition to the reimbursement hereinbefore provided, the Contractor shall be reimbursed for all actual costs incurred for the purpose of performing the omitted contract item prior to the date of the Engineer's order. Such additional costs incurred by the Contractor must be directly related to the deleted contract item and shall be supported by certified statements by the Contractor as to the nature the amount of such costs.

90-05 PAYMENT FOR EXTRA AND FORCE ACCOUNT WORK. Extra work, performed in accordance with the subsection titled EXTRA WORK of Section 40, will be paid for at the contract prices or agreed prices specified in the change order or supplemental agreement authorizing the extra work. When the change order or supplemental agreement authorizing the extra work requires that it be done by force account, such force account shall be measured and paid for based on expended labor, equipment, and materials plus a negotiated and agreed upon allowance for overhead and profit.

a. Miscellaneous. No additional allowance will be made for general superintendence, the use of small tools, or other costs for which no specific allowance is herein provided.

b. Comparison of Record. The Contractor and the Engineer shall compare records of the cost of force account work at the end of each day. Agreement shall be indicated by signature of the Contractor and the Engineer or their duly authorized representatives.

c. Statement. No payment will be made for work performed on a force account basis until the Contractor has furnished the Engineer with duplicate itemized statements of the cost of such force account work detailed as follows:

(1) Name, classification, date, daily hours, total hours, rate and extension for each laborer and foreman.

(2) Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment.

(3) Quantities of materials, prices, and extensions.

(4) Transportation of materials.

(5) Cost of property damage, liability and workman's compensation insurance premiums, unemployment insurance contributions, and social security tax.

Statements shall be accompanied and supported by a receipted invoice for all materials used and transportation charges. However, if materials used on the force account work are not specifically purchased for such work but are taken from the Contractor's stock, then in lieu of the invoices the Contractor shall furnish an affidavit certifying that such materials were taken from his/her stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the actual cost to the Contractor.

90-06 PARTIAL PAYMENTS. Partial payments will be made to the Contractor at least once each month as the work progresses. Said payments will be based upon estimates, prepared by the Engineer, of the value of the work performed and materials complete and in place in accordance with the contract, plans, and specifications. Such partial payments may also include the delivered actual cost of those materials stockpiled and stored in accordance with the subsection titled PAYMENT FOR MATERIALS ON HAND of this section. No partial payment will be made when the amount due to the Contractor since the last estimate amounts to less than five hundred dollars.
The Contractor is required to pay all subcontractors for satisfactory performance of their contracts no later than 30 days after the Contractor has received a partial payment. The Owner must ensure prompt and full payment of retainage from the prime contractor to the subcontractor within 30 days after the subcontractor's work is satisfactorily completed. A subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished and documented as required by the Owner. When the Owner has made an incremental acceptance of a portion of a prime contract, the work of a subcontractor covered by that acceptance is deemed to be satisfactorily completed.

From the total of the amount determined to be payable on a partial payment, **5 percent** of such total amount will be deducted and retained by the Owner until the final payment is made, except as may be provided (at the Contractor's option) in the subsection titled PAYMENT OF WITHHELD FUNDS of this section. The balance (**95 percent**) of the amount payable, less all previous payments, shall be certified for payment. Should the Contractor exercise his/her option, as provided in the subsection titled PAYMENT OF WITHHELD FUNDS of this section, no such percent retainage shall be deducted.

When at least 95 percent of the work has been completed, the Engineer shall, at the Owner's discretion and with the consent of the surety, prepare estimates of both the contract value and the cost of the remaining work to be done.

The Owner may retain an amount not less than twice the contract value or estimated cost, whichever is greater, of the work remaining to be done. The remainder, less all previous payments and deductions, will then be certified for payment to the Contractor.

It is understood and agreed that the Contractor shall not be entitled to demand or receive partial payment based on quantities of work in excess of those provided in the proposal or covered by approved change orders or supplemental agreements, except when such excess quantities have been determined by the Engineer to be a part of the final quantity for the item of work in question.

No partial payment shall bind the Owner to the acceptance of any materials or work in place as to quality or quantity. All partial payments are subject to correction at the time of final payment as provided in the subsection titled ACCEPTANCE AND FINAL PAYMENT of this section.

The Contractor shall deliver to the Owner a complete release of all claims for labor and material arising out of this contract before the final payment is made. If any subcontractor or supplier fails to furnish such a release in full, the Contractor may furnish a bond or other collateral satisfactory to the Owner to indemnify the Owner against any potential lien or other such claim. The bond or collateral shall include all costs, expenses, and attorney fees the Owner may be compelled to pay in discharging any such lien or claim.

90-07 PAYMENT FOR MATERIALS ON HAND. Partial payments may be made to the extent of the delivered cost of materials to be incorporated in the work, provided that such materials meet the requirements of the contract, plans, and specifications and are delivered to acceptable sites on the airport property or at other sites in the vicinity that are acceptable to the Owner. Such delivered costs of stored or stockpiled materials may be included in the next partial payment after the following conditions are met:

a. The material has been stored or stockpiled in a manner acceptable to the Engineer at or on an approved site.

b. The Contractor has furnished the Engineer with acceptable evidence of the quantity and quality of such stored or stockpiled materials.

c. The Contractor has furnished the Engineer with satisfactory evidence that the material and transportation costs have been paid.

d. The Contractor has furnished the Owner legal title (free of liens or encumbrances of any kind) to the material so stored or stockpiled.

e. The Contractor has furnished the Owner evidence that the material so stored or stockpiled is insured against loss by damage to or disappearance of such materials at anytime prior to use in the work.

It is understood and agreed that the transfer of title and the Owner's payment for such stored or stockpiled materials shall in no way relieve the Contractor of his/her responsibility for furnishing and placing such materials in accordance with the requirements of the contract, plans, and specifications.

In no case will the amount of partial payments for materials on hand exceed the contract price for such materials or the contract price for the contract item in which the material is intended to be used.

No partial payment will be made for stored or stockpiled living or perishable plant materials.

The Contractor shall bear all costs associated with the partial payment of stored or stockpiled materials in accordance with the provisions of this subsection.

90-08 PAYMENT OF WITHHELD FUNDS. At the Contractor's option, if an Owner withholds retainage in accordance with the methods described in subsection 90-06 PARTIAL PAYMENTS, the Contractor may request that the Owner deposit the retainage into an escrow account. The Owner's deposit of retainage into an escrow account is subject to the following conditions:

a. The Contractor shall bear all expenses of establishing and maintaining an escrow account and escrow agreement acceptable to the Owner.

b. The Contractor shall deposit to and maintain in such escrow only those securities or bank certificates of deposit as are acceptable to the Owner and having a value not less than the retainage that would otherwise be withheld from partial payment.

c. The Contractor shall enter into an escrow agreement satisfactory to the Owner.

d. The Contractor shall obtain the written consent of the surety to such agreement.

90-09 ACCEPTANCE AND FINAL PAYMENT. When the contract work has been accepted in accordance with the requirements of the subsection titled FINAL ACCEPTANCE of Section 50, the Engineer will prepare the final estimate of the items of work actually performed. The Contractor shall approve the Engineer's final estimate or advise the Engineer of his/her objections to the final estimate which are based on disputes in measurements or computations of the final quantities to be paid under the contract as amended by change order or supplemental agreement. The Contractor and the Engineer shall resolve all disputes (if any) in the measurement and computation of final quantities to be paid within 30 calendar days of the Contractor's receipt of the Engineer's final estimate. If, after such 30-day period, a dispute still exists, the Contractor may approve the Engineer's estimate under protest of the quantities in dispute, and such disputed quantities shall be considered by the Owner as a claim in accordance with the subsection titled CLAIMS FOR ADJUSTMENT AND DISPUTES of Section 50.

After the Contractor has approved, or approved under protest, the Engineer's final estimate, final payment will be processed based on the entire sum, or the undisputed sum in case of approval under protest, determined to be due the Contractor less all previous payments and all amounts to be deducted under the provisions of the contract. All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

If the Contractor has filed a claim for additional compensation under the provisions of the subsection titled CLAIMS FOR ADJUSTMENTS AND DISPUTES of Section 50 or under the provisions of this subsection, such claims will be considered by the Owner in accordance with local laws or ordinances. Upon final adjudication of such claims, any additional payment determined to be due the Contractor will be paid pursuant to a supplemental final estimate.

END OF SECTION 90

SECTION 100
CONTRACTOR QUALITY CONTROL PROGRAM

100-01 GENERAL. When the specification requires a Contractor Quality Control Program, the Contractor shall establish, provide, and maintain an effective Quality Control Program that details the methods and procedures that will be taken to assure that all materials and completed construction required by this contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors. Although guidelines are established and certain minimum requirements are specified herein and elsewhere in the contract technical specifications, the Contractor shall assume full responsibility for accomplishing the stated purpose.

The intent of this section is to enable the Contractor to establish a necessary level of control that will:

a. Adequately provide for the production of acceptable quality materials.

b. Provide sufficient information to assure both the Contractor and the Engineer that the specification requirements can be met.

c. Allow the Contractor as much latitude as possible to develop his or her own standard of control.

The Contractor shall be prepared to discuss and present, at the preconstruction conference, his/her understanding of the quality control requirements. The Contractor shall not begin any construction or production of materials to be incorporated into the completed work until the Quality Control Program has been reviewed by the Engineer. No partial payment will be made for materials subject to specific quality control requirements until the Quality Control Program has been reviewed.

The quality control requirements contained in this section and elsewhere in the contract technical specifications are in addition to and separate from the acceptance testing requirements. Acceptance testing requirements are the responsibility of the Engineer.

100-02 DESCRIPTION OF PROGRAM.

a. General Description. The Contractor shall establish a Quality Control Program to perform inspection and testing of all items of work required by the technical specifications, including those performed by subcontractors. This Quality Control Program shall ensure conformance to applicable specifications and plans with respect to materials, workmanship, construction, finish, and functional performance. The Quality Control Program shall be effective for control of all construction work performed under this Contract and shall specifically include surveillance and tests required by the technical specifications, in addition to other requirements of this section and any other activities deemed necessary by the Contractor to establish an effective level of quality control.

b. Quality Control Program. The Contractor shall describe the Quality Control Program in a written document that shall be reviewed by the Engineer prior to the start of any production, construction, or off-site fabrication. The written Quality Control Program shall be submitted to the Engineer for review at least **10** calendar days before the ***associated work begins***.

The Quality Control Program shall be organized to address, as a minimum, the following items:

a. Quality control organization;

b. Project progress schedule;

c. Submittals schedule;

d. Inspection requirements;

e. Quality control testing plan;

f. Documentation of quality control activities; and

g. Requirements for corrective action when quality control and/or acceptance criteria are not met.

The Contractor is encouraged to add any additional elements to the Quality Control Program that he/she deems necessary to adequately control all production and/or construction processes required by this contract.

100-03 QUALITY CONTROL ORGANIZATION. The Contractor Quality Control Program shall be implemented by the establishment of a separate quality control organization. An organizational chart shall be developed to show all quality control personnel and how these personnel integrate with other management/production and construction functions and personnel.

The organizational chart shall identify all quality control staff by name and function, and shall indicate the total staff required to implement all elements of the Quality Control Program, including inspection and testing for each item of work. If necessary, different technicians can be utilized for specific inspection and testing functions for different items of work. If an outside organization or independent testing laboratory is used for implementation of all or part of the Quality Control Program, the personnel assigned shall be subject to the qualification requirements of paragraph 100-03a and 100-03b. The organizational chart shall indicate which personnel are Contractor employees and which are provided by an outside organization.

The quality control organization shall consist of the following minimum personnel:

a. Program Administrator. The Program Administrator shall be a full-time employee of the Contractor, or a consultant engaged by the Contractor. The Program Administrator shall have a minimum of 5 years of experience in airport and/or highway construction and shall have had prior quality control experience on a project of comparable size and scope as the contract.

Additional qualifications for the Program Administrator shall include at least 1 of the following requirements:

(1) Professional engineer with 1 year of airport paving experience acceptable to the Engineer.

(2) Engineer-in-training with 2 years of airport paving experience acceptable to the Engineer.

(3) An individual with 3 years of highway and/or airport paving experience acceptable to the Engineer, with a Bachelor of Science Degree in Civil Engineering, Civil Engineering Technology or Construction.

(4) Construction materials technician certified at Level III by the National Institute for Certification in Engineering Technologies (NICET).

(5) Highway materials technician certified at Level III by NICET.

(6) Highway construction technician certified at Level III by NICET.

(7) A NICET certified engineering technician in Civil Engineering Technology with 5 years of highway and/or airport paving experience acceptable to the Engineer.

The Program Administrator shall have full authority to institute any and all actions necessary for the successful implementation of the Quality Control Program to ensure compliance with the contract plans and technical specifications. The Program Administrator shall report directly to a responsible officer of the construction firm. The Program Administrator may supervise the Quality Control Program on more than one project provided that person can be at the job site within 2 hours after being notified of a problem.

b. Quality Control Technicians. A sufficient number of quality control technicians necessary to adequately implement the Quality Control Program shall be provided. These personnel shall be either engineers, engineering technicians, or experienced craftsman with qualifications in the appropriate field equivalent to NICET Level II or higher construction materials technician or highway construction technician and shall have a minimum of 2 years of experience in their area of expertise.

The quality control technicians shall report directly to the Program Administrator and shall perform the following functions:

(1) Inspection of all materials, construction, plant, and equipment for conformance to the technical specifications, and as required by Section 100-06.

(2) Performance of all quality control tests as required by the technical specifications and Section 100-07.

Certification at an equivalent level, by a state or nationally recognized organization will be acceptable in lieu of NICET certification.

c. Staffing Levels. The Contractor shall provide sufficient qualified quality control personnel to monitor each work activity at all times. Where material is being produced in a plant for incorporation into the work, separate plant and field technicians shall be provided at each plant and field placement location. The scheduling and coordinating of all inspection and testing must match the type and pace of work activity. The Quality Control Program shall state where different technicians will be required for different work elements.

100-04 PROJECT PROGRESS SCHEDULE. The Contractor shall submit a coordinated construction schedule for all work activities. The schedule shall be prepared as a network diagram in Critical Path Method (CPM), PERT, or other format, or as otherwise specified in the contract. As a minimum, it shall provide information on the sequence of work activities, milestone dates, and activity duration.

The Contractor shall maintain the work schedule and provide an update and analysis of the progress schedule on a twice monthly basis, or as otherwise specified in the contract. Submission of the work schedule shall not relieve the Contractor of overall responsibility for scheduling, sequencing, and coordinating all work to comply with the requirements of the contract.

100-05 SUBMITTALS SCHEDULE. The Contractor shall submit a detailed listing of all submittals (e.g., mix designs, material certifications) and shop drawings required by the technical specifications. The listing can be developed in a spreadsheet format and shall include:

a. Specification item number;
b. Item description;
c. Description of submittal;
d. Specification paragraph requiring submittal; and
e. Scheduled date of submittal.

100-06 INSPECTION REQUIREMENTS. Quality control inspection functions shall be organized to provide inspections for all definable features of work, as detailed below. All inspections shall be documented by the Contractor as specified by Section 100-07.

Inspections shall be performed daily to ensure continuing compliance with contract requirements until completion of the particular feature of work. These shall include the following minimum requirements:

a. During plant operation for material production, quality control test results and periodic inspections shall be utilized to ensure the quality of aggregates and other mix components, and to adjust and control mix proportioning to meet the approved mix design and other requirements of the technical specifications. All equipment utilized in proportioning and mixing shall be inspected to ensure its proper operating condition. The Quality Control Program shall detail how these and other quality control functions will be accomplished and utilized.

b. During field operations, quality control test results and periodic inspections shall be utilized to ensure the quality of all materials and workmanship. All equipment utilized in placing, finishing, and compacting shall be inspected to ensure its proper operating condition and to ensure that all such operations are in conformance to the technical specifications and are within the plan dimensions, lines, grades, and tolerances specified. The Program shall document how these and other quality control functions will be accomplished and utilized.

100-07 QUALITY CONTROL TESTING PLAN. As a part of the overall Quality Control Program, the Contractor shall implement a quality control testing plan, as required by the technical specifications. The testing plan shall include the minimum tests and test frequencies required by each technical specification item, as well as any additional quality control tests that the Contractor deems necessary to adequately control production and/or construction processes.

The testing plan can be developed in a spreadsheet fashion and shall, as a minimum, include the following:

a. Specification item number (e.g., P-401);
b. Item description (e.g., Plant Mix Bituminous Pavements);
c. Test type (e.g., gradation, grade, asphalt content);
d. Test standard (e.g., ASTM or AASHTO test number, as applicable);
e. Test frequency (e.g., as required by technical specifications or minimum frequency when requirements are not stated);
f. Responsibility (e.g., plant technician); and
g. Control requirements (e.g., target, permissible deviations).

The testing plan shall contain a statistically-based procedure of random sampling for acquiring test samples in accordance with ASTM D 3665. The Engineer shall be provided the opportunity to witness quality control sampling and testing.

All quality control test results shall be documented by the Contractor as required by Section 100-08.

100-08 DOCUMENTATION. The Contractor shall maintain current quality control records of all inspections and tests performed. These records shall include factual evidence that the required inspections or tests have been performed, including type and number of inspections or tests involved; results of inspections or tests; nature of defects, deviations, causes for rejection, etc.; proposed remedial action; and corrective actions taken.

These records must cover both conforming and defective or deficient features, and must include a statement that all supplies and materials incorporated in the work are in full compliance with the terms of the contract. Legible copies of these records shall be furnished to the Engineer daily. The records shall cover all work placed subsequent to the previously furnished records and shall be verified and signed by the Contractor's Program Administrator.

Specific Contractor quality control records required for the contract shall include, but are not necessarily limited to, the following records:

a. Daily Inspection Reports. Each Contractor quality control technician shall maintain a daily log of all inspections performed for both Contractor and subcontractor operations on a form acceptable to the Engineer. These technician's daily reports shall provide factual evidence that continuous quality control inspections have been performed and shall, as a minimum, include the following:

(1) Technical specification item number and description;
(2) Compliance with approved submittals;
(3) Proper storage of materials and equipment;
(4) Proper operation of all equipment;
(5) Adherence to plans and technical specifications;
(6) Review of quality control tests; and
(7) Safety inspection.

The daily inspection reports shall identify inspections conducted, results of inspections, location and nature of defects found, causes for rejection, and remedial or corrective actions taken or proposed.

The daily inspection reports shall be signed by the responsible quality control technician and the Program Administrator. The Engineer shall be provided at least one copy of each daily inspection report on the work day following the day of record.

b. Daily Test Reports. The Contractor shall be responsible for establishing a system that will record all quality control test results. Daily test reports shall document the following information:

(1) Technical specification item number and description;
(2) Test designation;
(3) Location;
(4) Date of test;
(5) Control requirements;
(6) Test results;
(7) Causes for rejection;
(8) Recommended remedial actions; and
(9) Retests.

Test results from each day's work period shall be submitted to the Engineer prior to the start of the next day's work period. When required by the technical specifications, the Contractor shall maintain statistical quality control charts. The daily test reports shall be signed by the responsible quality control technician and the Program Administrator.

100-09 CORRECTIVE ACTION REQUIREMENTS. The Quality Control Program shall indicate the appropriate action to be taken when a process is deemed, or believed, to be out of control (out of tolerance) and detail what action will be taken to bring the process into control. The requirements for corrective action shall include both general requirements for operation of the Quality Control Program as a whole, and for individual items of work contained in the technical specifications.

The Quality Control Program shall detail how the results of quality control inspections and tests will be used for determining the need for corrective action and shall contain clear sets of rules to gauge when a process is out of control and the type of correction to be taken to regain process control.

When applicable or required by the technical specifications, the Contractor shall establish and utilize statistical quality control charts for individual quality control tests. The requirements for corrective action shall be linked to the control charts.

100-10 SURVEILLANCE BY THE ENGINEER. All items of material and equipment shall be subject to surveillance by the Engineer at the point of production, manufacture or shipment to determine if the Contractor, producer, manufacturer or shipper maintains an adequate quality control system in conformance with the requirements detailed herein and the applicable technical specifications and plans.

In addition, all items of materials, equipment and work in place shall be subject to surveillance by the Engineer at the site for the same purpose.

Surveillance by the Engineer does not relieve the Contractor of performing quality control inspections of either on-site or off-site Contractor's or subcontractor's work.

100-11 NONCOMPLIANCE.

a. The Engineer will notify the Contractor of any noncompliance with any of the foregoing requirements. The Contractor shall, after receipt of such notice, immediately take corrective action. Any notice, when delivered by the Engineer or his/her authorized representative to the Contractor or his/her authorized representative at the site of the work, shall be considered sufficient notice.

b. In cases where quality control activities do not comply with either the Contractor Quality Control Program or the contract provisions, or where the Contractor fails to properly operate and maintain an effective Quality Control Program, as determined by the Engineer, the Engineer may:

(1) Order the Contractor to replace ineffective or unqualified quality control personnel or subcontractors.

(2) Order the Contractor to stop operations until appropriate corrective actions are taken.

END OF SECTION 100

SECTION 110
METHOD OF ESTIMATING PERCENTAGE OF MATERIAL WITHIN SPECIFICATION LIMITS (PWL)

110-01 GENERAL. When the specifications provide for acceptance of material based on the method of estimating percentage of material within specification limits (PWL), the PWL will be determined in accordance with this section. All test results for a lot will be analyzed statistically to determine the total estimated percent of the lot that is within specification limits. The PWL is computed using the sample average (X) and sample standard deviation (S_n) of the specified number (n) of sublots for the lot and the specification tolerance limits, L for lower and U for upper, for the particular acceptance parameter. From these values, the respective Quality index(s), Q_L for Lower Quality Index and/or Q_U for Upper Quality Index, is computed and the PWL for the lot for the specified n is determined from Table 1. All specification limits specified in the technical sections shall be absolute values. Test results used in the calculations shall be to the significant figure given in the test procedure.

There is some degree of uncertainty (risk) in the measurement for acceptance because only a small fraction of production material (the population) is sampled and tested. This uncertainty exists because all portions of the production material have the same probability to be randomly sampled. The Contractor's risk is the probability that material produced at the acceptable quality level is rejected or subjected to a pay adjustment. The Owner's risk is the probability that material produced at the rejectable quality level is accepted.

IT IS THE INTENT OF THIS SECTION TO INFORM THE CONTRACTOR THAT, IN ORDER TO CONSISTENTLY OFFSET THE CONTRACTOR'S RISK FOR MATERIAL EVALUATED, PRODUCTION QUALITY (USING POPULATION AVERAGE AND POPULATION STANDARD DEVIATION) MUST BE MAINTAINED AT THE ACCEPTABLE QUALITY SPECIFIED OR HIGHER. IN ALL CASES, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PRODUCE AT QUALITY LEVELS THAT WILL MEET THE SPECIFIED ACCEPTANCE CRITERIA WHEN SAMPLED AND TESTED AT THE FREQUENCIES SPECIFIED.

110-02 METHOD FOR COMPUTING PWL. The computational sequence for computing PWL is as follows:

a. Divide the lot into n sublots in accordance with the acceptance requirements of the specification.

b. Locate the random sampling position within the sublot in accordance with the requirements of the specification.

c. Make a measurement at each location, or take a test portion and make the measurement on the test portion in accordance with the testing requirements of the specification.

d. Find the sample average (X) for all sublot values within the lot by using the following formula:

$$X = (x_1 + x_2 + x_3 + \ldots x_n) / n$$

Where: X = Sample average of all sublot values within a lot
x_1, x_2 = Individual sublot values
n = Number of sublots

e. Find the sample standard deviation (S_n) by use of the following formula:

$$S_n = [(d_1^2 + d_2^2 + d_3^2 + \ldots d_n^2)/(n-1)]^{1/2}$$

Where: S_n = Sample standard deviation of the number of sublot values in the set
$d_1, d_2,$ = Deviations of the individual sublot values $x_1, x_2, \ldots$ from the average value X

that is: $d_1 = (x_1 - X)$, $d_2 = (x_2 - X)$ ... $d_n = (x_n - X)$

n = Number of sublots

f. For single sided specification limits (i.e., L only), compute the Lower Quality Index Q_L by use of the following formula:

$$Q_L = (X - L) / S_n$$

Where: L = specification lower tolerance limit

Estimate the percentage of material within limits (PWL) by entering Table 1 with Q_L, using the column appropriate to the total number (n) of measurements. If the value of Q_L falls between values shown on the table, use the next higher value of PWL.

g. For double-sided specification limits (i.e. L and U), compute the Quality Indexes Q_L and Q_U by use of the following formulas:

$$Q_L = (X - L) / Sn \text{ and } \quad Q_U = (U - X) / Sn$$

Where: L and U = specification lower and upper tolerance limits

Estimate the percentage of material between the lower (L) and upper (U) tolerance limits (PWL) by entering Table 1 separately with Q_L and Q_U, using the column appropriate to the total number (n) of measurements, and determining the percent of material above P_L and percent of material below P_U for each tolerance limit. If the values of Q_L fall between values shown on the table, use the next higher value of P_L or P_U. Determine the PWL by use of the following formula:

$$PWL = (P_U + P_L) - 100$$

Where: P_L = percent within lower specification limit
P_U = percent within upper specification limit

EXAMPLE OF PWL CALCULATION

Project: Example Project
Test Item: Item P-401, Lot A.

A. PWL Determination for Mat Density.

1. Density of four random cores taken from Lot A.

A-1 96.60
A-2 97.55
A-3 99.30
A-4 98.35
n = 4

2. Calculate average density for the lot.

$X = (x1 + x2 + x3 + . . .xn) / n$
$X = (96.60 + 97.55 + 99.30 + 98.35) / 4$
$X = 97.95$ percent density

3. Calculate the standard deviation for the lot.

$$Sn = [((96.60 - 97.95)^2 + (97.55 - 97.95)^2 + (99.30 - 97.95)^2 + (98.35 - 97.95)^2)) / (4 - 1)]^{1/2}$$

$Sn = [(1.82 + 0.16 + 1.82 + 0.16) / 3]^{1/2}$
$Sn = 1.15$

4. Calculate the Lower Quality Index Q_L for the lot. (L=96.3)

$Q_L = (X - L) / Sn$
$Q_L = (97.95 - 96.30) / 1.15$
$Q_L = 1.4348$

5. Determine PWL by entering Table 1 with $Q_L = 1.44$ and n= 4.

PWL = 98

B. PWL Determination for Air Voids.

1. Air Voids of four random samples taken from Lot A.

A-1 5.00
A-2 3.74
A-3 2.30
A-4 3.25

2. Calculate the average air voids for the lot.

$X = (x1 + x + x3 \ldots n) / n$

$X = (5.00 + 3.74 + 2.30 + 3.25) / 4$

X = 3.57 percent

3. Calculate the standard deviation Sn for the lot.

$Sn = [((3.57 - 5.00)^2 + (3.57 - 3.74)^2 + (3.57 - 2.30)^2 + (3.57 - 3.25)^2) / (4 - 1)]^{1/2}$

$Sn = [(2.04 + 0.03 + 1.62 + 0.10) / 3]^{1/2}$

Sn = 1.12

4. Calculate the Lower Quality Index Q_L for the lot. (L= 2.0)

$Q_L = (X - L) / Sn$

$Q_L = (3.57 - 2.00) / 1.12$

$Q_L = 1.3992$

5. Determine P_L by entering Table 1 with $Q_L = 1.41$ and n = 4.

PL = 97

6. Calculate the Upper Quality Index Q_U for the lot. (U= 5.0)

$Q_U = (U - X) / Sn$

$Q_U = (5.00 - 3.57) / 1.12$

$Q_U = 1.2702$

7. Determine P_U by entering Table 1 with $Q_U = 1.29$ and n = 4.

$P_U = 93$

8. Calculate Air Voids PWL

$PWL = (P_L + P_U) - 100$

$PWL = (97 + 93) - 100 = 90$

EXAMPLE OF OUTLIER CALCULATION (Reference ASTM E 178)

Project: Example Project
Test Item: Item P-401, Lot A.

A. Outlier Determination for Mat Density.

1. Density of four random cores taken from Lot A. arranged in descending order.

A-3 99.30
A-4 98.35
A-2 97.55
A-1 96.60

2. Use n=4 and upper 5 percent significance level of to find the critical value for test criterion = 1.463.

3. Use average density, standard deviation, and test criterion value to evaluate density measurements.

a. For measurements greater than the average:
If: (measurement - average)/(standard deviation) is less than test criterion,
Then: the measurement is not considered an outlier

for A-3 Check if (99.30 - 97.95) / 1.15 greater than 1.463
1.174 is less than 1.463, the value is not an outlier

b. For measurements less than the average:
If (average - measurement)/(standard deviation) is less than test criterion,
the measurement is not considered an outlier

for A-1 Check if (97.95 - 96.60) / 1.15 greater than 1.463
1.0 is less than 1.463, the value is not an outlier

NOTE: In this example, a measurement would be considered an outlier if the density was:
greater than (97.95+1.463x1.15) = 99.63 percent or,
less than (97.95-1.463x1.15) = 96.27 percent

TABLE 1. TABLE FOR ESTIMATING PERCENT OF LOT WITHIN LIMITS (PWL)

Percent Within Limits (P_L and P_U)	Positive Values of Q (Q_L and Q_U)							
	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
99	1.1541	1.4700	1.6714	1.8008	1.8888	1.9520	1.9994	2.0362
98	1.1524	1.4400	1.6016	1.6982	1.7612	1.8053	1.8379	1.8630
97	1.1496	1.4100	1.5427	1.6181	1.6661	1.6993	1.7235	1.7420
96	1.1456	1.3800	1.4897	1.5497	1.5871	1.6127	1.6313	1.6454
95	1.1405	1.3500	1.4407	1.4887	1.5181	1.5381	1.5525	1.5635
94	1.1342	1.3200	1.3946	1.4329	1.4561	1.4717	1.4829	1.4914
93	1.1269	1.2900	1.3508	1.3810	1.3991	1.4112	1.4199	1.4265
92	1.1184	1.2600	1.3088	1.3323	1.3461	1.3554	1.3620	1.3670
91	1.1089	1.2300	1.2683	1.2860	1.2964	1.3032	1.3081	1.3118
90	1.0982	1.2000	1.2290	1.2419	1.2492	1.2541	1.2576	1.2602
89	1.0864	1.1700	1.1909	1.1995	1.2043	1.2075	1.2098	1.2115
88	1.0736	1.1400	1.1537	1.1587	1.1613	1.1630	1.1643	1.1653
87	1.0597	1.1100	1.1173	1.1192	1.1199	1.1204	1.1208	1.1212
86	1.0448	1.0800	1.0817	1.0808	1.0800	1.0794	1.0791	1.0789
85	1.0288	1.0500	1.0467	1.0435	1.0413	1.0399	1.0389	1.0382
84	1.0119	1.0200	1.0124	1.0071	1.0037	1.0015	1.0000	0.9990
83	0.9939	0.9900	0.9785	0.9715	0.9671	0.9643	0.9624	0.9610
82	0.9749	0.9600	0.9452	0.9367	0.9315	0.9281	0.9258	0.9241
81	0.9550	0.9300	0.9123	0.9025	0.8966	0.8928	0.8901	0.8882
80	0.9342	0.9000	0.8799	0.8690	0.8625	0.8583	0.8554	0.8533
79	0.9124	0.8700	0.8478	0.8360	0.8291	0.8245	0.8214	0.8192
78	0.8897	0.8400	0.8160	0.8036	0.7962	0.7915	0.7882	0.7858
77	0.8662	0.8100	0.7846	0.7716	0.7640	0.7590	0.7556	0.7531
76	0.8417	0.7800	0.7535	0.7401	0.7322	0.7271	0.7236	0.7211
75	0.8165	0.7500	0.7226	0.7089	0.7009	0.6958	0.6922	0.6896
74	0.7904	0.7200	0.6921	0.6781	0.6701	0.6649	0.6613	0.6587
73	0.7636	0.6900	0.6617	0.6477	0.6396	0.6344	0.6308	0.6282
72	0.7360	0.6600	0.6316	0.6176	0.6095	0.6044	0.6008	0.5982
71	0.7077	0.6300	0.6016	0.5878	0.5798	0.5747	0.5712	0.5686
70	0.6787	0.6000	0.5719	0.5582	0.5504	0.5454	0.5419	0.5394
69	0.6490	0.5700	0.5423	0.5290	0.5213	0.5164	0.5130	0.5105
68	0.6187	0.5400	0.5129	0.4999	0.4924	0.4877	0.4844	0.4820
67	0.5878	0.5100	0.4836	0.4710	0.4638	0.4592	0.4560	0.4537
66	0.5563	0.4800	0.4545	0.4424	0.4355	0.4310	0.4280	0.4257
65	0.5242	0.4500	0.4255	0.4139	0.4073	0.4030	0.4001	0.3980
64	0.4916	0.4200	0.3967	0.3856	0.3793	0.3753	0.3725	0.3705
63	0.4586	0.3900	0.3679	0.3575	0.3515	0.3477	0.3451	0.3432
62	0.4251	0.3600	0.3392	0.3295	0.3239	0.3203	0.3179	0.3161
61	0.3911	0.3300	0.3107	0.3016	0.2964	0.2931	0.2908	0.2892
60	0.3568	0.3000	0.2822	0.2738	0.2691	0.2660	0.2639	0.2624
59	0.3222	0.2700	0.2537	0.2461	0.2418	0.2391	0.2372	0.2358
58	0.2872	0.2400	0.2254	0.2186	0.2147	0.2122	0.2105	0.2093
57	0.2519	0.2100	0.1971	0.1911	0.1877	0.1855	0.1840	0.1829
56	0.2164	0.1800	0.1688	0.1636	0.1607	0.1588	0.1575	0.1566
55	0.1806	0.1500	0.1406	0.1363	0.1338	0.1322	0.1312	0.1304
54	0.1447	0.1200	0.1125	0.1090	0.1070	0.1057	0.1049	0.1042
53	0.1087	0.0900	0.0843	0.0817	0.0802	0.0793	0.0786	0.0781
52	0.0725	0.0600	0.0562	0.0544	0.0534	0.0528	0.0524	0.0521
51	0.0363	0.0300	0.0281	0.0272	0.0267	0.0264	0.0262	0.0260
50	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

TABLE 1. TABLE FOR ESTIMATING PERCENT OF LOT WITHIN LIMITS (PWL)

Percent Within Limits (P_L and P_U)	Negative Values of Q (Q_L and Q_U)							
	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
49	-0.0363	-0.0300	-0.0281	-0.0272	-0.0267	-0.0264	-0.0262	-0.0260
48	-0.0725	-0.0600	-0.0562	-0.0544	-0.0534	-0.0528	-0.0524	-0.0521
47	-0.1087	-0.0900	-0.0843	-0.0817	-0.0802	-0.0793	-0.0786	-0.0781
46	-0.1447	-0.1200	-0.1125	-0.1090	-0.1070	-0.1057	-0.1049	-0.1042
45	-0.1806	-0.1500	-0.1406	-0.1363	-0.1338	-0.1322	-0.1312	-0.1304
44	-0.2164	-0.1800	-0.1688	-0.1636	-0.1607	-0.1588	-0.1575	-0.1566
43	-0.2519	-0.2100	-0.1971	-0.1911	-0.1877	-0.1855	-0.1840	-0.1829
42	-0.2872	-0.2400	-0.2254	-0.2186	-0.2147	-0.2122	-0.2105	-0.2093
41	-0.3222	-0.2700	-0.2537	-0.2461	-0.2418	-0.2391	-0.2372	-0.2358
40	-0.3568	-0.3000	-0.2822	-0.2738	-0.2691	-0.2660	-0.2639	-0.2624
39	-0.3911	-0.3300	-0.3107	-0.3016	-0.2964	-0.2931	-0.2908	-0.2892
38	-0.4251	-0.3600	-0.3392	-0.3295	-0.3239	-0.3203	-0.3179	-0.3161
37	-0.4586	-0.3900	-0.3679	-0.3575	-0.3515	-0.3477	-0.3451	-0.3432
36	-0.4916	-0.4200	-0.3967	-0.3856	-0.3793	-0.3753	-0.3725	-0.3705
35	-0.5242	-0.4500	-0.4255	-0.4139	-0.4073	-0.4030	-0.4001	-0.3980
34	-0.5563	-0.4800	-0.4545	-0.4424	-0.4355	-0.4310	-0.4280	-0.4257
33	-0.5878	-0.5100	-0.4836	-0.4710	-0.4638	-0.4592	-0.4560	-0.4537
32	-0.6187	-0.5400	-0.5129	-0.4999	-0.4924	-0.4877	-0.4844	-0.4820
31	-0.6490	-0.5700	-0.5423	-0.5290	-0.5213	-0.5164	-0.5130	-0.5105
30	-0.6787	-0.6000	-0.5719	-0.5582	-0.5504	-0.5454	-0.5419	-0.5394
29	-0.7077	-0.6300	-0.6016	-0.5878	-0.5798	-0.5747	-0.5712	-0.5686
28	-0.7360	-0.6600	-0.6316	-0.6176	-0.6095	-0.6044	-0.6008	-0.5982
27	-0.7636	-0.6900	-0.6617	-0.6477	-0.6396	-0.6344	-0.6308	-0.6282
26	-0.7904	-0.7200	-0.6921	-0.6781	-0.6701	-0.6649	-0.6613	-0.6587
25	-0.8165	-0.7500	-0.7226	-0.7089	-0.7009	-0.6958	-0.6922	-0.6896
24	-0.8417	-0.7800	-0.7535	-0.7401	-0.7322	-0.7271	-0.7236	-0.7211
23	-0.8662	-0.8100	-0.7846	-0.7716	-0.7640	-0.7590	-0.7556	-0.7531
22	-0.8897	-0.8400	-0.8160	-0.8036	-0.7962	-0.7915	-0.7882	-0.7858
21	-0.9124	-0.8700	-0.8478	-0.8360	-0.8291	-0.8245	-0.8214	-0.8192
20	-0.9342	-0.9000	-0.8799	-0.8690	-0.8625	-0.8583	-0.8554	-0.8533
19	-0.9550	-0.9300	-0.9123	-0.9025	-0.8966	-0.8928	-0.8901	-0.8882
18	-0.9749	-0.9600	-0.9452	-0.9367	-0.9315	-0.9281	-0.9258	-0.9241
17	-0.9939	-0.9900	-0.9785	-0.9715	-0.9671	-0.9643	-0.9624	-0.9610
16	-1.0119	-1.0200	-1.0124	-1.0071	-1.0037	-1.0015	-1.0000	-0.9990
15	-1.0288	-1.0500	-1.0467	-1.0435	-1.0413	-1.0399	-1.0389	-1.0382
14	-1.0448	-1.0800	-1.0817	-1.0808	-1.0800	-1.0794	-1.0791	-1.0789
13	-1.0597	-1.1100	-1.1173	-1.1192	-1.1199	-1.1204	-1.1208	-1.1212
12	-1.0736	-1.1400	-1.1537	-1.1587	-1.1613	-1.1630	-1.1643	-1.1653
11	-1.0864	-1.1700	-1.1909	-1.1995	-1.2043	-1.2075	-1.2098	-1.2115
10	-1.0982	-1.2000	-1.2290	-1.2419	-1.2492	-1.2541	-1.2576	-1.2602
9	-1.1089	-1.2300	-1.2683	-1.2860	-1.2964	-1.3032	-1.3081	-1.3118
8	-1.1184	-1.2600	-1.3088	-1.3323	-1.3461	-1.3554	-1.3620	-1.3670
7	-1.1269	-1.2900	-1.3508	-1.3810	-1.3991	-1.4112	-1.4199	-1.4265
6	-1.1342	-1.3200	-1.3946	-1.4329	-1.4561	-1.4717	-1.4829	-1.4914
5	-1.1405	-1.3500	-1.4407	-1.4887	-1.5181	-1.5381	-1.5525	-1.5635
4	-1.1456	-1.3800	-1.4897	-1.5497	-1.5871	-1.6127	-1.6313	-1.6454
3	-1.1496	-1.4100	-1.5427	-1.6181	-1.6661	-1.6993	-1.7235	-1.7420
2	-1.1524	-1.4400	-1.6016	-1.6982	-1.7612	-1.8053	-1.8379	-1.8630
1	-1.1541	-1.4700	-1.6714	-1.8008	-1.8888	-1.9520	-1.9994	-2.0362

END OF SECTION 110

SECTION 120
NUCLEAR GAGES

120-01 TESTING. When the specifications provide for nuclear gauge acceptance testing of material for Items P-152, P-154, P-208, and P-209, the testing shall be performed in accordance with this section. At each sampling location, the field density shall be determined in accordance with ASTM D 6938 using the Direct Transmission Method. The nuclear gauge shall be calibrated in accordance with ASTM D 6938. Calibration and operation of the gauge shall be in accordance with the requirements of the manufacturer. The operator of the nuclear gauge must show evidence of training and experience in the use of the instrument. The gauge shall be standardized daily in accordance with ASTM standards.

When using the nuclear method, ASTM D 6938 shall be used to determine the moisture content of the material. The calibration curve furnished with the nuclear gauges shall be checked in accordance with ASTM standards. The calibration checks shall be made at the beginning of a job and at regular daily intervals.

The material shall be accepted on a lot basis. Each Lot shall be divided into eight (8) sublots when ASTM D 6938 is used.

120-02. When PWL concepts are incorporated, compaction shall continue until a PWL of 90 percent or more is achieved using the lower specification tolerance limits (L) below.

The percentage of material within specification limits (PWL) shall be determined in accordance with the procedures specified in Section 110 of the General Provisions.

The lower specification tolerance limit (L) for density shall be:

Specification Item Number	Specification Tolerance (L) for Density (percent of laboratory maximum)
Item P-152	90.5 for cohesive material; 95.5 for non-cohesive material
Item P-154	95.5
Item P-208	97.0
Item P-209	97.0

If the PWL is less than 90 percent, the lot shall be reworked and recompacted by the Contractor at the Contractor's expense. After reworking and recompaction, the lot shall be resampled and retested. Retest results for the lot shall be reevaluated for acceptance. This procedure shall continue until the PWL is 90 percent or greater.

120-03 VERIFICATION TESTING. (For Items P-152 and P-154 only.) The Engineer will verify the maximum laboratory density of material placed in the field for each lot. A minimum of one test will be made for each lot of material at the site. The verification process will consist of; (1) compacting the material and determining the dry density and moisture-density in accordance with **ASTM D 1557 for aircraft gross weights 60,000 pounds or more**, and (2) comparing the result with the laboratory moisture-density curves for the material being placed. This verification process is commonly referred to as a "one-point Proctor".

If the material does not conform to the existing moisture-density curves, the Engineer will establish the laboratory maximum density and optimum moisture content for the material in accordance with **ASTM D 1557 for aircraft gross weights 60,000 pounds or more.**

Additional verification tests will be made, if necessary, to properly classify all materials placed in the lot.

The percent compaction of each sampling location will be determined by dividing the field density of each sublot by the laboratory maximum density for the lot.

END OF SECTION 120

SECTION J
SPECIAL PROVISIONS

SPECIAL PROVISIONS

TABLE OF CONTENTS

A. FEDERAL AVIATION ADMINISTRATION REQUIREMENTS

A-01 Civil Rights - General
A-02 Civil Rights Act of 1964, Title VI
A-03 Notice of Requirement for Affirmative Action
A-04 Access to Records and Reports
A-05 Buy American Certification
A-06 Disadvantage Business Enterprises
A-07 Energy Conservation Requirements
A-08 Federal Fair Labor Standards Act (Federal Minimum Wage)
A-09 Lobbying and Influencing Federal Employees
A-10 Occupational Safety and Health Act of 1970
A-11 Rights to Inventions
A-12 Trade Restriction Clause
A-13 Veteran's Preference
A-14 Copeland Anti-Kickback Act
A-15 Davis Bacon Labor Provisions
A-16 Equal Opportunity Clause
A-17 Notice of Non-Segregated Facilities Requirement
A-18 Termination of Contract
A-19 Certificate Regarding Debarment and Suspension
A-20 Breach of Contract
A-21 Clean Air and Water Pollution Control
A-22 Contract Workhours and Safety Standards Act Requirements

B. STATE TERMS AND CONDITIONS

NOT USED

C. LOCAL TERMS AND CONDITIONS

C-01 Insurance
C-02 Utilities
C-03 Legal Holidays
C-04 Clean Up
C-05 Project Meetings and Coordination
C-06 Liquidated Damages for Delay
C-07 Quality Assurance/Materials Testing
C-08 Record Documents
C-09 Contractor/Subcontractor/Supplier Legal Disputes
C-10 General Guaranty
C-11 Contractor's Release and Affidavit
C-12 Submittals
C-13 Stormwater Pollution Prevention Plan
C-14 Test Borings/Subsurface Information
C-15 Wage Rates

SECTION A – FEDERAL AVIATION ADMINISTRATION REQUIREMENTS

A-01 GENERAL CIVIL RIGHTS PROVISIONS

The contractor agrees that it will comply with pertinent statutes, Executive Orders and such rules as are promulgated to ensure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or handicap be excluded from participating in any activity conducted with or benefiting from Federal assistance.

This provision binds the contractors from the bid solicitation period through the completion of the contract. This provision is in addition to that required of Title VI of the Civil Rights Act of 1964.

This provision also obligates the tenant/concessionaire/lessee or its transferee for the period during which Federal assistance is extended to the airport through the Airport Improvement Program, except where Federal assistance is to provide, or is in the form of personal property; real property or interest therein; structures or improvements thereon.

In these cases the provision obligates the party or any transferee for the longer of the following periods:

(a) the period during which the property is used by the airport sponsor or any transferee for a purpose for which Federal assistance is extended, or for another purpose involving the provision of similar services or benefits; or
(b) the period during which the airport sponsor or any transferee retains ownership or possession of the property.

A-02 CIVIL RIGHTS – TITLE VI ASSURANCES

Title VI Solicitation Notice:
The Owner, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the **Title VI List of Pertinent Nondiscrimination Statutes and Authorities**, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

2. **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.

3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.

4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the sponsor or the Federal Aviation Administration to be pertinent to ascertain compliance with such Acts, Regulations, and Instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the sponsor or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

5. **Sanctions for Noncompliance:** In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the sponsor will impose such contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:

   a. Withholding payments to the contractor under the contract until the contractor complies; and/or

   b. Cancelling, terminating, or suspending a contract, in whole or in part.

6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the sponsor or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the sponsor to enter into any litigation to protect the interests of the sponsor. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

A-03 NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein
.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

   A. Timetables
   B. Goals for minority participation for each trade (Vol. 45 Federal Register pg. 65984 10/3/80)
   C. Goals for female participation in each trade (6.9%)

   These goals are applicable to all of the contractor's construction work (whether or not it is Federal or federally-assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor is also subject to the goals for both federally funded and non-federally funded construction regardless of the percentage of federal participation in funding.

   The contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training shall be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from contractor to contractor or from project to project, for the sole

purpose of meeting the contractor's goals, shall be a violation of the contract, the Executive Order, and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The contractor shall provide written notification to the Director, Office of Federal Contract Compliance Programs (OFCCP), within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of subcontract; and the geographical area in which the subcontract is to be performed.

4. As used in this notice and in the contract resulting from this solicitation, the "covered area" is **Jefferson County, Texas**.

A-04 ACCESS TO RECORDS AND REPORTS

The Contractor must maintain an acceptable cost accounting system. The Contractor agrees to provide the Sponsor, the Federal Aviation Administration, and the Comptroller General of the United States or any of their duly authorized representatives access to any books, documents, papers, and records of the contractor which are directly pertinent to the specific contract for the purpose of making audit, examination, excerpts and transcriptions. The Contractor agrees to maintain all books, records and reports required under this contract for a period of not less than three years after final payment is made and all pending matters are closed.

A-05 BUY AMERICAN CERTIFICATION

See Section 010470 "Bidder Certifications" for Contractor Buy American Certification.

A-06 DISADVANTAGED BUSINESS ENTERPRISES

Contract Assurance (§ 26.13) - The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy, as the recipient deems appropriate.

Prompt Payment (§26.29))- The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than 30 days from the receipt of each payment the prime contractor receives from Owner. The prime contractor agrees further to return retainage payments to each subcontractor within {specify the same number as above} days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the Owner. This clause applies to both DBE and non-DBE subcontractors.

A-07 ENERGY CONSERVATION REQUIREMENTS

The contractor agrees to comply with mandatory standards and policies relating to energy efficiency that are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Public Law 94-163).

A-08 FEDERAL FAIR LABOR STANDARDS ACT (FEDERAL MINIMUM WAGE)

All contracts and subcontracts that result from this solicitation incorporate the following provisions by reference, with the same force and effect as if given in full text. The contractor has full responsibility to monitor compliance to the referenced statute or regulation. The contractor must address any claims or

disputes that pertain to a referenced requirement directly with the Federal Agency with enforcement responsibilities.

Requirement	Federal Agency with Enforcement Responsibilities
Federal Fair Labor Standards Act (29 USC 201)	U.S. Department of Labor – Wage and Hour Division

A-09 LOBBYING AND INFLUENCING FEDERAL EMPLOYEES

The bidder or offeror certifies by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the bidder or offeror, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

A-10 OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970

All contracts and subcontracts that result from this solicitation incorporate the following provisions by reference, with the same force and effect as if given in full text. The contractor has full responsibility to monitor compliance to the referenced statute or regulation. The contractor must address any claims or disputes that pertain to a referenced requirement directly with the Federal Agency with enforcement responsibilities.

Requirement	Federal Agency with Enforcement Responsibilities
Occupational Safety and Health Act of 1970 (20 CFR Part 1910)	U.S. Department of Labor – Occupational Safety and Health Administration

A-11 RIGHTS TO INVENSIONS

All rights to inventions and materials generated under this contract are subject to requirements and regulations issued by the FAA and the Sponsor of the Federal grant under which this contract is executed.

A-12 TRADE RESTRICTION CLAUSE

The contractor or subcontractor, by submission of an offer and/or execution of a contract, certifies that it:

a. Is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms published by the Office of the United States Trade Representative (USTR);

b. has not knowingly entered into any contract or subcontract for this project with a person that is a citizen or national of a foreign country on said list, or is owned or controlled directly or indirectly by one or more citizens or nationals of a foreign country on said list;

c. has not procured any product nor subcontracted for the supply of any product for use on the project that is produced in a foreign country on said list.

Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR 30.17, no contract shall be awarded to a contractor or subcontractor who is unable to certify to the above. If the contractor knowingly procures or subcontracts for the supply of any product or service of a foreign country on said list for use on the project, the Federal Aviation Administration may direct through the Sponsor cancellation of the contract at no cost to the Government.

Further, the contractor agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in each contract and in all lower tier subcontracts. The contractor may rely on the certification of a prospective subcontractor unless it has knowledge that the certification is erroneous.

The contractor shall provide immediate written notice to the sponsor if the contractor learns that its certification or that of a subcontractor was erroneous when submitted or has become erroneous by reason of changed circumstances. The subcontractor agrees to provide written notice to the contractor if at any time it learns that its certification was erroneous by reason of changed circumstances.

This certification is a material representation of fact upon which reliance was placed when making the award. If it is later determined that the contractor or subcontractor knowingly rendered an erroneous certification, the Federal Aviation Administration may direct through the Sponsor cancellation of the contract or subcontract for default at no cost to the Government.

Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by this provision. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

This certification concerns a matter within the jurisdiction of an agency of the United States of America and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code, Section 1001

A-13 VETERAN'S PREFERENCE

In the employment of labor (except in executive, administrative, and supervisory positions), preference must be given to Vietnam era veterans, Persian Gulf veterans, Afghanistan-Iraq war veterans, disabled veterans, and small business concerns owned and controlled by disabled veterans as defined in Title 49 United States

Code, Section 47112. However, this preference shall apply only where the individuals are available and qualified to perform the work to which the employment relates.

A-14 COPELAND "ANTI-KICKBACK" ACT

The United States Department of Labor Wage and Hours Division oversees the Copeland "Anti-Kickback" Act requirements. All contracts and subcontracts must meet comply with the Occupational Safety and Health Act of 1970.

United States Department of Labor Wage and Hours Division can provide information regarding any specific clauses or assurances pertaining to the Copeland "Anti-Kickback" Act requirements required to be inserted in solicitations, contracts or subcontracts.

A-15 DAVIS-BACON LABOR PROVISIONS

1. Minimum Wages

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalent thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under (1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can easily be seen by the workers.

(ii) (A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
(2) The classification is utilized in the area by the construction industry; and
(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate

(including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii) (B) or (C) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2 Withholding.

The Federal Aviation Administration or the Sponsor shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of work, all or part of the wages required by the contract, the Federal Aviation Administration may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-

Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual costs incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii) (A) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant, sponsor, or owner, as the case may be, for transmission to the Federal Aviation Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/esa/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit them to the applicant, sponsor, or owner, as the case may be, for transmission to the Federal Aviation Administration, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, sponsor, or owner).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under 29 CFR § 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR § 5.5 (a)(3)(i) and that such information is correct and complete;
(2) That each laborer and mechanic (including each helper, apprentice and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations 29 CFR Part 3;
(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (3)(i) of this section available for inspection, copying or transcription by authorized representatives of the Sponsor, the

Federal Aviation Administration or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the contractor, sponsor, applicant or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and Trainees.

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate that is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee

performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal Employment Opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance With Copeland Act Requirements.

The contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this contract.

6. Subcontracts.

The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR Part 5.5(a)(1) through (10) and such other clauses as the Federal Aviation Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR Part 5.5.

7. Contract Termination: Debarment.

A breach of the contract clauses in paragraph 1 through 10 of this section may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance With Davis-Bacon and Related Act Requirements.

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes Concerning Labor Standards.

Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6 and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of Eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

A-16 EQUAL OPPORTUNITY CLAUSE

During the performance of this contract, the contractor agrees as follows:

(1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, or national origin.

(3) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(5) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(6) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(7) The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, That in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the contractor may request the United States to enter into such litigation to protect the interests of the United States.

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS

1. As used in these specifications:

a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;

b. "Director" means Director, Office of Federal Contract Compliance Programs (OFCCP), U.S. Department of Labor, or any person to whom the Director delegates authority;

c. "Employer identification number" means the Federal social security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941;

d. "Minority" includes:

(1) Black (all) persons having origins in any of the Black African racial groups not of Hispanic origin);
(2) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin regardless of race);
(3) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
(4) American Indian or Alaskan native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. Whenever the contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors shall be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each contractor or subcontractor participating in an approved plan is individually required to comply with its obligations under the EEO clause and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other contractors or subcontractors toward a goal in an approved Plan does not excuse any covered contractor's or subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4. The contractor shall implement the specific affirmative action standards provided in paragraphs 18.7a through 18.7p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in a geographical area where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement nor the failure by a union with whom the contractor has a collective bargaining agreement to refer either minorities or women shall excuse the contractor's obligations under these specifications, Executive Order 11246 or the regulations promulgated pursuant thereto.

6. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees shall be employed by the contractor during the training period and the contractor shall have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees shall be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The contractor shall document these efforts fully and shall implement affirmative action steps at least as extensive as the following:

a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the contractor's employees are assigned to work. The contractor, where possible, will assign two or more women to each construction project. The contractor shall specifically ensure that all foremen, superintendents, and other onsite supervisory personnel are aware of and carry out the contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

c. Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source, or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the contractor by the union or, if referred, not employed by the contractor, this shall be documented in the file with the reason therefore along with whatever additional actions the contractor may have taken.

d. Provide immediate written notification to the Director when the union or unions with which the contractor has a collective bargaining agreement has not referred to the contractor a minority person or female sent by the contractor, or when the contractor has other information that the union referral process has impeded the contractor's efforts to meet its obligations.

e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the contractor's employment needs, especially those programs funded or approved by the Department of Labor. The contractor shall provide notice of these programs to the sources compiled under 7b above.

f. Disseminate the contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with onsite supervisory personnel such a superintendents, general foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the contractor's EEO policy with other contractors and subcontractors with whom the contractor does or anticipates doing business.

i. Direct its recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students; and to minority and female recruitment and training organizations serving the contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the contractor shall send written notification to organizations, such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable provide after school, summer, and vacation employment to minority and female youth both on the site and in other areas of a contractor's workforce.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel, for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are non-segregated except that separate or single user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations, which assist in fulfilling one or more of their affirmative action obligations (18.7a through 18.7p). The efforts of a contractor association, joint contractor union, contractor community, or other similar groups of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 18.7a through 18.7p of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the contractor. The obligation to comply, however, is the contractor's and failure of such a group to fulfill an obligation shall not be a defense for the contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, if the particular group is employed in a substantially disparate manner (for example, even though the contractor has achieved its goals for women generally,) the contractor may be in violation of the Executive Order if a specific minority group of women is underutilized.

10. The contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

11. The contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination, and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 18.7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep records. Records shall at least include for each employee, the name, address, telephone number, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

A-17 NOTICE OF NONSEGREGATED FACILITIES REQUIREMENT

Notice to Prospective Federally Assisted Construction Contractors:

1. A Certification of Non-segregated Facilities shall be submitted prior to the award of a federally-assisted construction contract exceeding $10,000 which is not exempt from the provisions of the Equal Opportunity Clause.

2. Contractors receiving federally-assisted construction contract awards exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity Clause will be required to provide for the forwarding of the following notice to prospective subcontractors for supplies and construction contracts where the subcontracts exceed $10,000 and are not exempt from the provisions of the Equal Opportunity Clause.

3. The penalty for making false statements in offers is prescribed in 18 U.S.C. § 1001.

Notice to Prospective Subcontractors of Requirements for Certification of Non-Segregated Facilities:

1. A Certification of Non-segregated Facilities shall be submitted prior to the award of a subcontract exceeding $10,000, which is not exempt from the provisions of the Equal Opportunity Clause.

2. Contractors receiving subcontract awards exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity Clause will be required to provide for the forwarding of this notice to prospective subcontractors for supplies and construction contracts where the subcontracts exceed $10,000 and are not exempt from the provisions of the Equal Opportunity Clause.

3. The penalty for making false statements in offers is prescribed in 18 U.S.C. § 1001.

CERTIFICATION OF NONSEGREGATED FACILITIES

The federally-assisted construction contractor certifies that she or he does not maintain or provide, for his employees, any segregated facilities at any of his establishments and that she or he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally-assisted construction contractor certifies that she or he will not maintain or provide, for his employees, segregated facilities at any of his establishments and that she or he will not permit his employees to perform their services at any location under his control where segregated facilities are maintained. The federally-assisted construction contractor agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this contract.

As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms, and washrooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directives or are, in fact, segregated on the basis of race, color, religion, or national origin because of habit, local custom, or any other reason. The federally-assisted construction contractor agrees that (except where she or he has obtained identical certifications from proposed subcontractors for specific time periods) she or he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity Clause and that she or he will retain such certifications in his files.

A-18 TERMINATION OF CONTRACT

a. The Sponsor may, by written notice, terminate this contract in whole or in part at any time, either for the Sponsor's convenience or because of failure to fulfill the contract obligations. Upon receipt of such notice services must be immediately discontinued (unless the notice directs otherwise) and all materials as may have been accumulated in performing this contract, whether completed or in progress, delivered to the Sponsor.

b. If the termination is for the convenience of the Sponsor, an equitable adjustment in the contract price will be made, but no amount will be allowed for anticipated profit on unperformed services.

c. If the termination is due to failure to fulfill the contractor's obligations, the Sponsor may take over the work and prosecute the same to completion by contract or otherwise. In such case, the contractor is liable to the Sponsor for any additional cost occasioned to the Sponsor thereby.

d. If, after notice of termination for failure to fulfill contract obligations, it is determined that the contractor had not so failed, the termination will be deemed to have been effected for the convenience of the Sponsor. In such event, adjustment in the contract price will be made as provided in paragraph 2 of this clause.

e. The rights and remedies of the sponsor provided in this clause are in addition to any other rights and remedies provided by law or under this contract.

A-19 CERTIFICATE REGARDING DEBARMENT AND SUSPENSION

By submitting a bid/proposal under this solicitation, the bidder or offeror certifies that at the time the bidder or offeror submits its proposal that neither it nor its principals are presently debarred or suspended by any Federal department or agency from participation in this transaction.

CERTIFICATION REGARDING DEBARMENT AND SUSPENSION (SUCCESSFUL BIDDER REGARDING LOWER TIER PARTICIPANTS)

The successful bidder, by administering each lower tier subcontract that exceeds $25,000 as a "covered transaction", must verify each lower tier participant of a "covered transaction" under the project is not presently debarred or otherwise disqualified from participation in this federally assisted project. The successful bidder will accomplish this by:

1. Checking the System for Award Management at website: http://www.sam.gov

2. Collecting a certification statement similar to the Certificate Regarding Debarment and Suspension (Bidder or Offeror), above.

3. Inserting a clause or condition in the covered transaction with the lower tier contract

If the FAA later determines that a lower tier participant failed to tell a higher tier that it was excluded or disqualified at the time it entered the covered transaction, the FAA may pursue any available remedy, including suspension and debarment.

A-20 BREACH OF CONTRACT

Any violation or breach of terms of this contract on the part of the contractor or its subcontractors may result in the suspension or termination of this contract or such other action that may be necessary to enforce the rights of the parties of this agreement. The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder are in addition to, and not a limitation of, any duties, obligations, rights and remedies otherwise imposed or available by law.

A-21 CLEAN AIR AND WATER POLLUTION CONTROL

Contractors and subcontractors agree:

1. That any facility to be used in the performance of the contract or subcontract or to benefit from the contract is not listed on the Environmental Protection Agency (EPA) List of Violating Facilities;

2. To comply with all the requirements of Section 114 of the Clean Air Act, as amended, 42 U.S.C. 1857 et seq. and Section 308 of the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq. relating to inspection, monitoring, entry, reports, and information, as well as all other requirements specified in Section 114 and Section 308 of the Acts, respectively, and all other regulations and guidelines issued thereunder;

3. That, as a condition for the award of this contract, the contractor or subcontractor will notify the awarding official of the receipt of any communication from the EPA indicating that a facility to be used for the performance of or benefit from the contract is under consideration to be listed on the EPA List of Violating Facilities;

4. To include or cause to be included in any construction contract or subcontract which exceeds $100,000 the aforementioned criteria and requirements.

A-22 CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS

1. Overtime Requirements.

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic, including watchmen and guards, in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2 .Violation; Liability for Unpaid Wages; Liquidated Damages.

In the event of any violation of the clause set forth in paragraph (1) above, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph 1 above, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1 above.

3. Withholding for Unpaid Wages and Liquidated Damages.

The Federal Aviation Administration or the Sponsor shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any monies payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 2 above.

4. Subcontractors.

The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs 1 through 4 and also a clause requiring the subcontractor to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1 through 4 of this section.

SECTION B – STATE TERMS AND CONDITIONS

B-01 NOT USED

SECTION C – LOCAL TERMS AND CONDITIONS

C-01 CONTRACTOR'S INSURANCE

All insurance must be written by an insurer licensed to conduct business in the State of Texas, unless otherwise permitted by OWNER. The CONTRACTOR shall, at his own expense, purchase, maintain and keep in force insurance that will protect against injury and/or damages which may arise out of or result from operations under this Contract, whether the operations be himself or by any Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable of the following types and limits (No insurance policy or Certificate of Insurance required below shall contain any aggregate policy year limit unless a specific dollar amount aggregate policy year limit is expressly provided in the specification below which covers the particular insurance policy or Certificate of Insurance).

Owner:
Mr. Alex Rupp - 4875 Parker Drive, Beaumont, TX 77705. email: Arupp@co.Jefferson.tx.us

Garver:
Mr Thomas Dodson 11111 Katy Freeway, Suite 910, Houston, TX 77079. email: tddodson@garverusa.com

C-01.1 Limits

1. *Standard Worker's Compensation Insurance* (with waiver of subrogation in favor of the Jefferson County, its Officers, Agents & Employees). (Jefferson County and Contractor and all persons providing services shall comply with the workers compensation insurance requirements of Section 406.096 of the Texas Labor Code and 28 TAC Section 110.110, a copy of which is attached hereto and is hereby incorporated by reference.)

2. *Commercial General Liability* occurrence type insurance. No. "XCU" RESTRICTIONS SHALL BE APPLICABLE. Products/completed operations coverage must be included, and JEFFERSON COUNTY, its Officers, Agents, and Employees must be named as an additional Insured.
   - o Bodily Injury $500,000 single limit per occurrence, or $500,000 each person/ $500,000 per occurrence for contracts of $100,000 or less; or,
   - o Bodily Injury $1,000,000 single limit per occurrence or $1,000,000 each person/$1,000,000 per occurrence for contracts in excess of $100,000; and,
   - o Property Damage $100,000 per occurrence regardless of Contract amount; and,
   - o Minimum aggregate policy year limit of $1,000,000 for contracts of $100,000 or less; or,
   - o Minimum aggregate policy year limit of $2,000,000 for contracts in excess of $100,000.

3. Comprehensive Automobile Liability (including owned, non-owned and hired vehicles coverage).
   - o Minimum combined single limit of $500,000 per occurrence for bodily injury and property damage.
   - o If individual limits are provided, minimum limits are $300,000 per person, $500,000 per occurrence for bodily injury, and $100,000 per occurrence for property damage.

4. Contractual Liability Insurance covering the indemnity provision of this Contract in the same amount and coverage as provided for Commercial General Liability Policy, specifically referring to this Contract by date, job number and location;

5. All-Risk Builder's Risk of the non-reporting type (**NOT REQUIRED** for grading, paving projects, water and sewer line projects or projects involving lump sum payments).

CONTRACTOR shall cause CONTRACTOR'S insurance company or insurance agent to fill in all information required (including names of insurance agency, CONTRACTOR and insurance companies, and policy numbers, effective dates and expiration dates) and to date and sign and do all other things

necessary to complete and make into a valid Certificate of Insurance the CERTIFICATE OF INSURANCE form attached to and made a part of the Information To Bidders, and pertaining to the above listed Items 1, 2, 3 and 4; and before commencing any of the work and within the time otherwise specified. CONTRACTOR shall file said completed form with the OWNER.
None of the provisions in said Form shall be altered or modified in any respect except as herein expressly authorized. Said CERTIFICATE OF INSURANCE Form contains a provision that coverage's afforded under the policies will not be altered, modified or cancelled unless at least fifteen (15) days prior written notice has been given to the OWNER. CONTRACTOR shall also file with the OWNER valid CERTIFICATE(s) OF INSURANCE on like form from or for all Subcontractors and showing the Subcontractor(s) as the Insured. Said completed CERTIFICATE OF INSURANCE Form(s) shall in any event be filed with OWNER not more than ten (10) days after execution of this Contract.

The original Builder's Risk policy (if required) shall provide for fifteen (15) days written notice of alteration, modification or cancellation and shall be furnished to OWNER. Provided, however, until the Original Policy is issued and furnished to the OWNER a Certified Insurance Binder with the identical notice will be acceptable in place of the original policy, which original policy must be received by the OWNER not later than thirty (30) days after issuance of the Notice to Proceed for the project. Notwithstanding any other provision in the Contract Documents, it is further mutually understood and agreed that no payment will be due and owing or made to the CONTRACTOR for any work performed under the Contract until all of the required Insurance documentation, including the original policy specified above, are received by the OWNER.

The CONTRACTOR shall not commence work under this Contract until he has obtained all the insurance required herein and such insurance has been approved by the OWNER, nor shall the CONTRACTOR allow any Subcontractor to commence work on this Subcontract until the insurance required of the Subcontractor has been so obtained and approved.

Cancellation, Non-Renewal, and/or Impairment Notification. Contractor agrees to provide written notification to Owner and Engineer of the cancellation, non-renewal and/or impairment of such insurance coverage, for any reason whatsoever within 2 days of receiving such notice.
Notice shall be sent via email and regular mail to the following persons and addresses:

Owner:
Mr. Alex Rupp - 4875 Parker Drive, Beaumont, TX 77705. email: Arupp@co.Jefferson.tx.us

Engineer:
Mr. Thomas Dodson 11111 Katy Freeway, Suite 910, Houston, TX 77079. email: tddodson@garverusa.com

C-02 UTILITIES

All work in this contract shall be in accordance with the **16 TAC Chapter 18**. The Contractor shall abide by the most current edition of this Act.

Underground utilities exist within and adjacent to the limits of construction. An attempt has been made to locate these utilities on the plans. However, all existing utilities may not be shown and the actual locations of the utilities may vary from the locations shown.

The Contractor shall be responsible for the protection of all existing utilities or improvements crossed by or adjacent to his construction operations. Where existing utilities or service lines are cut, broken, or damaged, the Contractor shall replace or repair immediately the utilities or service lines with the same type of original material and construction or better, at his own expense.

C-03 LEGAL HOLIDAYS

Holidays that shall be observed are the following: New Year's Day (January 1); Memorial Day (last Monday in May); Independence Day (July 4); Labor Day (1st Monday in September); Thanksgiving Day (4th Thursday in November); and Christmas Day (December 25); no other days will be so considered. If a holiday falls on a Saturday or Sunday, the observed day shall be the Friday preceding the Saturday or the Monday following the Sunday. No construction observation will be furnished on legal holidays or Sundays, except in an emergency. The Contractor shall observe these legal holidays and all Sundays, and no work shall be performed on these days except in an emergency. Calendar day contract time includes delays for all holidays. Refer to Section C-06 for more information.

C-04 CLEAN UP

From time to time, the Contractor shall clean up the site, including any work areas at the airport, in order that the site presents a neat appearance and the progress of the work not be impeded. One such period of clean up shall immediately precede final inspection.

Immediately following acceptance of the work by the Owner, the Contractor shall remove all temporary plant, equipment, surplus materials, and debris resulting from his operations, and leave the site in a condition fully acceptable to the Owner.

C-05 PROJECT MEETINGS AND COORDINATION

A preconstruction conference will be called by the Engineer at a time convenient to the Owner and before the issuance of the "Notice to Proceed". The Engineer and the Contractor and such subcontractors as the Contractor may desire shall attend this meeting with the Owner.

The Owner and/or Engineer will call such coordination conferences as may seem expedient to him for the purpose of assuring coordination of the work covered by this Contract. The Contractor shall attend all such conferences. This in no way relieves the Contractor of his responsibility to fully coordinate his work under this Contract.

C-06 LIQUIDATED DAMAGES FOR DELAY

The number of calendar days allowed for completion of the project is stipulated in the Proposal and in the Contract and shall be known as the Contract Time. The Contractor agrees that time is a critical element for this Contract. Loss will accrue to the Owner due to delayed completion of the work; and the cost to the Owner of the administration of the Contract, including engineering, inspection, and supervision, will be increased as the time occupied in the work is lengthened. The Contractor agrees that for each day of delay beyond the number of calendar days herein agreed upon for the completion of the work herein specified and contracted for, the Owner may withhold, permanently, from the Contractor's total compensation, the sum of **One Thousand** Dollars (**$1,000.00**) as stipulated damages for each day of such delay. Should the amount otherwise due the Contractor be less than the amount of such ascertained and liquidated damages, the Contractor and his Surety shall be liable to the Owner for such deficiency.

It is understood and agreed by and between the Owner and the Contractor that the time of completion herein set out is a reasonable time. The Contractor shall perform fully, entirely, and in an acceptable manner, the work contracted for within the contract time stated in the Contract. The contract time shall be counted from ten days after the effective date of the "Notice to Proceed", or the date work commences, whichever occurs first; and shall include all Sundays, holidays, and non-work days. All calendar days elapsing between the effective dates of any orders of the Engineer for suspension of the prosecution of the work, due to the fault of the Contractor, shall be counted as elapsed contract time, and shall not be considered for an extension of time.

Extensions of time for completion, under the condition of 3(a) next below, will be granted; extensions may be granted under other stated conditions:

1. If the satisfactory execution and completion of the Contract shall require work or material in greater amounts or quantities than those set forth in the Contract, then the Contract time shall be increased in the same proportion as the additional work bears to the original work contracted for.

2. An average or usual number of inclement weather days, when work cannot proceed, is to be anticipated during the construction period and is not to be considered as warranting extension of time. The days included in the contract time for Normal Weather-Related Events are as follows:

(On A Monthly Basis)

Month	Normal Weather-Related Events
January	5
February	7
March	4
April	4
May	3
June	4
July	8
August	4
September	6
October	5
November	2
December	5

If, however, it appears that the Contractor is delayed by conditions of weather, outside of normal weather-related events detailed in the proceeding table, extensions of time may be granted.

3. Should the work under the Contract be delayed by other causes which could not have been prevented or contemplated by the Contractor, and which are beyond the Contractor's power to prevent or remedy, an extension of time may be granted. Such causes of delay shall include but not necessarily be limited to the following:

   a. Acts of God, acts of the public enemy, acts of the Owner except as provided in these Specifications, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather.

   b. Any delays of Subcontractors or suppliers occasioned by any of the causes specified above.

The Engineer or other authorized representative of the Owner shall keep a written record sufficient for determination as to the inclusion of that day in the computation of Contract time. This record shall be available for examination by the Contractor during normal hours of work as soon as feasible after the first of each construction month. In case of disagreement between the representative of the Owner and the Contractor, as to the classification of any day, the matter shall be referred to the Owner whose decision shall be final.

If the Contractor finds it impossible for reasons beyond his control to complete the work within the Contract time as specified, or as extended in accordance with the provisions of this subsection, he may, at any time prior to the expiration of the Contract time as extended, make a written request to the Engineer for an extension of time setting forth the reasons which he believes will justify the granting of his request. The

Contractor's plea that insufficient time was specified is not a valid reason for extension of time. If the Engineer finds that the work was delayed because of conditions beyond the control and without the fault of the Contractor, he may recommend to the Owner that the contract time be extended as conditions justify. If the Owner extends the contract, the extended time for completion shall then be in full force and effect, the same as though it were the original time for completion.

The amount of all extensions of time for whatever reason granted shall be determined by the Owner. In general, only actual and not hypothetical days of delay will be considered. The Owner shall have authority to grant additional extensions of time as the Owner may deem justifiable.

C-07 QUALITY ASSURANCE/MATERIALS TESTING

The Owner shall be responsible for quality assurance testing as stated in theses specifications; however, the Contractor shall be responsible for payment of any subsequent tests made necessary by previous unsatisfactory tests. In this event, the Owner's quality assurance representative shall conduct the additional testing and payment for such tests shall be directly deducted from the Contractor's payment. The Contractor shall pay for additional testing at the Owner's contract rate.

C-08 RECORD DOCUMENTS

The Contractor shall keep one record copy of all Specifications, Drawings, Addenda, Modifications, Shop Drawings and samples at the site, in good order, and annotated to show all changes made during the construction process. In addition, the Contractor shall note any differences between locations of underground existing facilities shown in the plans and the actual location located during construction. These record documents shall be available to the Engineer for examination and shall be delivered to the Engineer upon completion of the work.

C-09 CONTRACTOR/SUBCONTRACTOR/SUPPLIER LEGAL DISPUTES

Any fees, expenses, charges, fines or other costs borne by the Owner as a result of legal disputes or lawsuits between the contractor and his subcontractors, or between the contractor and his suppliers, shall be deducted from monies due or which may thereafter become due the contractor.

C-10 GENERAL GUARANTY

Neither the final certificate of payment nor any provision in the Contract nor partial or entire use of the improvements embraced in this contract by the Owner or the public shall constitute an acceptance of work not done in accordance with the Contract or relieve the Contractor of liability in respect to any express warranties or responsibility for faulty materials or workmanship. The Contractor shall promptly remedy any defects in the work and pay for any damage to other work resulting there, which shall appear within a period of 12 months from the date of final acceptance of the work. The Owner will give notice of defective materials and work with reasonable promptness. In the event repair work is required, the Contractor shall remedy any defects and pay for any damage to other work resulting there, which shall appear within a period of 12 months from the date of the acceptance of the repair work.

C-11 CONTRACTOR'S RELEASE AND AFFIDAVIT

At the project's completion, the Contractor shall execute the attached Release and Lien Waiver to release all claims against the Owner arising under and by virtue of his Contract. The date of the Release shall be that agreed to for the final acceptance of the project with the Owner.

C-12 SUBMITTALS

The Contractor shall prepare and submit information required by the individual Specification sections sufficiently in advance of the related work to allow an appropriate review time by the Engineer. The types of submittals are indicated in the individual Specification sections.

During the preconstruction conference, the Contractor shall review his submittal schedule and procedures, including notifying the Engineer whether electronic submittals or paper submittals will be provided for all submittal packages in the project. Mixing of package types will not be allowed. The Contractor shall provide one of the following submittal package types:

1. Submit electronic submittals via email as PDF electronic files directly to the Engineer's designated representative, or post these PDF electronic files directly to the Engineer's FTP site specifically established for this project. Electronic submittals shall be in Adobe Acrobat (*.PDF) format and shall be legible when printed.

2. Submit six (6) paper submittal copies via mail or other courier service to the Engineer's designated representative.

Submittals shall be neat, organized, and easy to interpret. Assemble complete submittal package into a single indexed electronic file or hard cover bound book, incorporating submittal requirements of an individual Specification section, the transmittal form with unique submittal numbering system, and electronic links or tabs enabling navigation to each item. Unless approved otherwise by the Engineer, all submittals for the individual Specification section shall be submitted at one time.

Submittals must come directly from the Prime Contractor; submittals from subcontractors or suppliers will not be reviewed.

Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review. Faxed submittals or submittals with extremely small or otherwise unreadable print will not be accepted. Submittals not required by the Contract Documents will be returned by the Engineer without action.

The Contractor shall retain complete copies of submittals on project site. Use only final submittals that are marked with approval notation from Engineer's submittal review stamp with comments form.

Resubmittals shall continue the unique, sequential, submittal numbering system. Resubmittals without unique numbering, example resubmittals transmitted as 005A or 005REV, are unacceptable and will be returned un-reviewed.

C-13 STORMWATER POLLUTION PREVENTION PLAN

The Contractor shall note that storm water and precipitation runoff from construction activities is regulated by the Texas Commission on Environmental Quality (TCEQ) and that construction sites where soils are disturbed are required to be permitted in accordance with **TXR150000**. This regulation is mandated by Title 40 *Code of Federal Regulations* (CFR) 122.26. The contractor shall be responsible for the preparation (permit to be obtained in the Owner's name), fees, implementation, records, and all other requirements of the Stormwater Pollution Prevention Plan (SWPPP). The contractor shall be responsible to the Owner for the payment of any fines that may be imposed upon the Owner for failure to follow stormwater regulations and/or the SWPPP. The SWPPP shall be submitted to the Owner for review and signature prior to construction and/or prior to submission of the document to TCEQ (if required). The regulation may allow an exemption for some construction sites under a certain size. However, the exemption is not automatic and does not relieve the contractor from contacting TCEQ and making his own arrangements for such an exemption. The contractor shall have a valid permit in place or shall provide evidence of an exemption to the Owner before any construction begins. There will be no

separate measurement or payment for any facilities, materials, or equipment needed by the contractor to comply with the permit.

C-14 TEST BORINGS/SUBSURFACE INFORMATION (NOT USED)

C-15 WAGE RATES

The Davis Bacon minimum wage rates for this project are applicable and included in Section L of this contract.

END OF SPECIAL PROVISIONS

RELEASE OF LIEN

FROM: Contractor's Name _____

Address _____

TO: Owner's Name _____

Address _____

DATE OF CONTRACT: _____

Upon receipt of the final payment and in consideration of that amount, the undersigned does hereby release the Owner and its agents from any and all claims arising under or by virtue of this Contract or modification thereof occurring from the undersigned's performance in connection with the

_____

_____

project.

_____
Contractor's Signature

_____
Title

Subscribed and sworn to before me this _____ day of _____, 20____.

_____
Notary Public

My Commission Expires:

_____

CONTRACTOR'S AFFIDAVIT

FROM: Contractor's Name _____

Address _____

TO: Owner's Name _____

Address _____

_____

DATE OF CONTRACT: _____

I hereby certify that all claims for material, labor, and supplies entered into contingent and incident to the construction or used in the course of the performance of the work on _____

_____

have been fully satisfied.

_____
Contractor's Signature

_____
Title

Subscribed and sworn to before me this _____ day of _____, 20___.

_____
Notary Public

My Commission Expires:

_____

The Surety Company consents to the release of the retained percentage on this project with the understanding that should any unforeseen contingencies arise having a right of action on the bond that the Surety Company will not waive liability through the consent to the release of the retained percentage.

Dated _____
Surety Company

By _____
Resident Agent, State of Texas

SECTION K
ADDENDA

JEFFERSON COUNTY, TEXAS
PURCHASING DEPARTMENT
1149 Pearl Street – First Floor
Beaumont, Texas 77701
409-835-8593

ADDENDUM TO IFB

IFB Number:	IFB 14-026/KJS
IFB Title:	Runway Safety Area Grading at Jack Brooks Regional Airport
IFB Due:	**11:00 am CST, Tuesday, July 22, 2014**
Addendum No.:	1
Issued (Date):	June 23, 2014

TO BIDDER: This Addendum is an integral part of the IFB package under consideration by you as a Bidder in connection with the subject matter herein identified. Jefferson County deems all sealed proposals to have been proffered in recognition and consideration of the entire IFB package – **including all addenda.** For purposes of clarification, **receipt of this present Addendum by a Bidder should be evidenced by returning it (signed) as part of the Bidder's sealed proposal.** If the Proposal has already been received by the Jefferson County Purchasing Department, Bidder should return this addendum in a separate sealed envelope, clearly marked with the IFB Title, IFB Number, and Opening Date and Time, as stated above.

Reason for Issuance of this addendum: Revision of Website Address where Specifications and Plans may be obtained.

Specifications and Plans may be obtained at: http://ftp.garverusa.com

Username: BPT_RSAGR8NG
Password: BPT2BIDDER

The information included herein is hereby incorporated into the documents of this present Bid matter and supersedes any conflicting documents or portion thereof previously issued.

Receipt of this Addendum is hereby acknowledged by the undersigned Bidder:

ATTEST:

_____
Witness

_____
Witness

Approved by ____ Date: _____

_____
Authorized Signature (Bidder)

_____
Title of Person Signing Above

_____
Typed Name of Business or Individual

_____
Address

11111 Katy Freeway
Suite 910
Houston, TX 77079

TEL 713.491.8333
FAX 713.973.5777

www.GarverUSA.com

July 10, 2014

Addendum No.2
To Plans, Contract Documents and Specifications
IFB 14-026/KJS, Runway Safety Area Grading

This addendum shall be a part of the Plans, Contract Documents and Specifications to the same extent as though it were originally included therein, and it shall supersede anything contained in the Plans, Contract Documents and Specifications with which it might conflict. All bidders shall acknowledge receipt of this Addendum on page C-5 of the sealed bid proposal.

Modifications to the Advertisement and Invitation to Bid:

1. Replace the second paragraph with the following: Specifications and plans are available for download at no cost. Documents can be obtained from Garver website. There is a secure ftp application that your computer must have to access the ftp site. This application is free on the website at http://www.garverusa.com/ftp/. Follow the on-screen instructions and once the program is loaded, access to the files can be made. The username is: **BPT_RSAGR8NG** and the password is: **BPT2BIDDER.** Please note that both the username and password are case-sensitive.

Modifications to the Bidding Requirements:

1. ***The bid opening time has changed*** to ***11:00 am*** on Tuesday, July 22, 2014. The location where bids are due has NOT changed.
2. A site visit for interested parties has been arranged. This is not a mandatory site visit, but will be the only opportunity to view the secured area of the project. The date and time of the visit are July 14, 2014 at 10:00 a.m. The location is the lobby of the Jerry Ware Terminal Building at 5000 Jerry Ware Drive, Beaumont, TX 77705.

Modifications to the Standard Form of Agreement:

1. **Replace Proposal with the attached Proposal.**

Modifications to the Plans:

1. **Replace Sheet A-102 with the attached revised Sheet A-102.**

digitally signed
on 07/10/2014

STATE OF TEXAS
THOMAS D. DODSON
83909
LICENSED
PROFESSIONAL ENGINEER

By: Thomas D Dodson, PE.

Attachments: Proposal: 7 pages
Agenda and Sign-in Sheet from July 8, 2014 Pre-Bid Meeting: 3 pages
Response to Bidders Questions: 1 page

11111 Katy Freeway
Suite 910
Houston, TX 77079
TEL 713.491.8333
FAX 713.973.5777
www.GarverUSA.com

Jack Brooks Regional Airport – Runway Safety Area Grading
Pre-Bid Meeting

1:30 p.m. July 8, 2014

1) **Introductions & Roles:**
   a) Alex Rupp, Airport Manager, Jack Brooks Regional Airport
   b) Duke Youmans, Operations Manager, Jack Brooks Regional Airport
   c) Deborah Syphrett-Clark, Purchasing Agent, Jefferson County
   d) Tom Dodson, Senior Project Manager, Garver

2) **Bidding Procedures**
   a) Bids proposals will be read at 11:00 am CDT on July 22, 2014. Bids are to be turned in to the Jefferson County Purchasing Division. DO NOT DELIVER BID PACKAGES TO THE AIRPORT – THEY WILL BE CONSIDERED NON-RESPONSIVE.
   b) Instructions to Bidders. Requirements are detailed in this section.
   c) Bids may be held up to 90 days for FAA funding schedule.
   d) Bid Proposal. Contract Time:
      i) 45 Calendar Days.
      ii) $1,000 Liquidated Damages
   e) Contract Award

Base Bid – Runway Safety Area Grading

3) **Federal Provisions**
   a) The DBE goal is 15.88%.
      i) Questions regarding goals and Good Faith Efforts should be directed to Sarah Conner at FAA.

4) **FAA General Provisions**
   a) Provisions are included in the project manual portion of the bid documents.
   b) Section 120 covers the use of nuclear density gauges.

5) **Technical Specifications**
   a) Safety Plan Compliance Document – this is a documentation requirement for working on the airfield.

6) **Construction Plans**
   a) Security background checks and driver training. These are to be provided by the Contractor at his own expense for employees that will be driving on the airfield.

GARVER

Runway Safety Area Grading
Jack Brooks Regional Airport

Pre-Bid Meeting
1:30 P.M., Tuesday, 07/08/14

SIGN-IN SHEET

Name	Representing	Phone #	Email
John Daigle	Allco	409-860-4459	bharrison@allco.com
John Grice	Townway-Wong Enc	409-840-4214	jgrice@twemc.com
Garrett Thomas	APAC-Texas, Inc.	409-866-1444	garrett.thomas@apac.com
Lynida Reaup	Bruces General Construction Inc	4098666245	ryan@brucesgeneralconstruction.com
Duke Youmans	Airport	409-719-4961	dyoumans@co.jefferson.tx.us

Runway Safety Area Grading
Jack Brooks Regional Airport
Pre-Bid Meeting
1:30 P.M., Tuesday, 07/08/14

SIGN-IN SHEET

Name	Representing	Phone #	Email
Tom Dodson	Garver	713-491-8333	tddodson@garverusa.com
Jeremy Hemmings	LD Construction	409-718-8082	Jhemm6@gmail.com
McClain McDonald	L&L General Contractors	409-796-1344	landlinc@att.net
Mike Kelley	MK Constructors	409-769-0089	Sales@MKConstructors.com

11111 Katy Freeway
Suite 910
Houston, TX 77079

TEL 713.491.8333
FAX 713.973.5777

www.GarverUSA.com

MEMORANDUM

To: Potential Bidders **Date:** July 10, 2014

From: Thomas D Dodson, PE

RE: Jack Brooks Regional Airport – Runway Safety Area Grading Project
Bidder Questions

See below for responses to Bidder questions regarding the Runway Safety Area Grading project at the Jack Brooks Regional Airport.

Question 1: The ftp site is not automatically loading. How do you get access to the files?
Answer 1: There is a secure ftp application that your computer must have to access the ftp site. This application is free on our website at http://www.garverusa.com/ftp/. Follow the on-screen instructions and once the program is loaded, access to the files can be made. The username is: **BPT_RSAGR8NG** and the password is: **BPT2BIDDER**. Please note that both the username and password are case-sensitive.

Question 2: Are ATC radios required for this project?
Answer 2: Yes, radios are required as noted on sheet G-102, Safety Plan/ Work Restrictions note 3. The radios shall be two-way radios tunable to BEAUMONT GROUND: 124.85

N:\2013\13121730 - BPT Taxiway D\Correspondence\Bidding\Bids 2014\RSA Grading\Q and A.2014-07-10.docx

SECTION L
WAGE RATES

Article 5159a of the Revised Civil Statutes of Texas, passed by the 43rd Legislature Acts of 1933, Page 91, Chapter 45, provides that any government subdivision shall ascertain the general prevailing rate of per diem wages in the locality in which the work is to be performed for each craft or type of workman or mechanic and shall specify in the call for bids and in the Contract the prevailing rate of per diem wages which shall be paid for each craft type of workman. This Article further provides that the CONTRACTOR shall forfeit, as a penalty, to the City, County, or State, or other political subdivision, Ten Dollars ($10.00) per day for each laborer, or workman, or mechanic who is not paid the stipulated wage for the type of work performed by him as set up on the wage scale. The OWNER is authorized to withhold from the CONTRACTOR, after full investigation by the awarding body, the amount of this penalty in any payment that might be claimed by the CONTRACTOR or Subcontractor. The Act makes the CONTRACTOR responsible for the acts of the Subcontractor in this respect.

The Article likewise requires that the CONTRACTOR and Subcontractor keep an accurate record of the names and occupations of all persons employed by him and show the actual per diem wages paid to each worker, and these records are open to the inspection of the OWNER.

The Davis Bacon minimum wage rates for this project are as follows:

LABOR CLASSIFICATION AND MINIMUM WAGE SCALE
General Decision Number: TX140056 01/03/2014 TX56
Superseded General Decision Number: TX20130056
State: Texas

Construction Type: Highway

Counties: Austin, Brazoria, Chambers, Fort Bend, Galveston, Hardin, Harris, Jefferson, Liberty, Montgomery, Orange, San Jacinto and Waller Counties in Texas.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction;bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Modification Number	Publication Date
0	01/03/2014

* SUTX2011-013 08/10/2011

Description	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER (Paving and Structures)	$ 12.98	
ELECTRICIAN	$ 27.11	
FORM BUILDER/FORM SETTER		
Paving & Curb	$ 12.34	
Structures	$ 12.23	
LABORER		
Asphalt Raker	$ 12.36	
Flagger	$ 10.33	
Laborer, Common	$ 11.02	

Laborer, Utility	$ 11.73
Pipelayer	$ 12.12
Work Zone Barricade Servicer	$ 11.67
PAINTER (Structures)	$ 18.62
POWER EQUIPMENT OPERATOR:	
Asphalt Distributor	$ 14.06
Asphalt Paving Machine	$ 14.32
Broom or Sweeper	$ 12.68
Concrete Pavement Finishing Machine	$ 13.07
Concrete Paving, Curing, Float, Texturing Machine	$ 11.71
Concrete Saw	$ 13.99
Crane, Hydraulic 80 tons or less	$ 13.86
Crane, Lattice boom 80 tons or less	$ 14.97
Crane, Lattice boom over 80 Tons	$ 15.80
Crawler Tractor	$ 13.68
Excavator, 50,000 pounds or less	$ 12.71
Excavator, Over 50,000 pounds	$ 14.53
Foundation Drill, Crawler Mounted	$ 17.43
Foundation Drill, Truck Mounted	$ 15.89
Front End Loader 3 CY or Less	$ 13.32
Front End Loader, Over 3 CY	$ 13.17
Loader/Backhoe	$ 14.29
Mechanic	$ 16.96
Milling Machine	$ 13.53
Motor Grader, Fine Grade	$ 15.69
Motor Grader, Rough	$ 14.23
Off Road Hauler	$ 14.60
Pavement Marking Machine	$ 11.18
Piledriver	$ 14.95
Roller, Asphalt	$ 11.95
Roller, Other	$ 11.57
Scraper	$ 13.47
Spreader Box	$ 13.58
Servicer	$ 13.97
Steel Worker	
Reinforcing Steel	$ 15.15
Structural Steel Welder	$ 12.85
Structural Steel	$ 14.39
TRUCK DRIVER	
Low Boy Float	$ 16.03
Single Axle	$ 11.46
Single or Tandem Axle Dump	$ 11.48
Tandem Axle Tractor w/Semi Trailer	$ 12.27

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses

(29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification.

Example: PLUM0198-005 07/01/2011. The first four letters PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rate.

0000/9999: weighted union wage rates will be published annually each January.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

For current Wage Determination Decisions, see the Department of Labor website (http://www.wdol.gov/dba.aspx#0).

SECTION M
CHANGE ORDER FORM

Change Order

No. _____

Date of Issuance: Effective Date:
Project: Owner: Owner's Contract No.:
Contract: Date of Contract:
Contractor: Engineer's Project No.:

The Contract Documents are modified as follows upon execution of this Change Order:

Description:

Attachments: (List documents supporting change):

CHANGE IN CONTRACT PRICE:
Original Contract Price:

CHANGE IN CONTRACT TIMES:
Original Contract Times:
□ Working days □ Calendar days

Substantial completion (days or date):
$ Ready for final payment (days or date):
[Increase] [Decrease] from previously approved Change

Orders No._____ to No._____:

[Increase] [Decrease] from previously approved Change Orders
No._____ to No._____:

Substantial completion (days):

$ Ready for final payment (days):
Contract Price prior to this Change Order: Contract Times prior to this Change Order:

Substantial completion (days or date):

$ Ready for final payment (days or date):
[Increase] [Decrease] of this Change Order: [Increase] [Decrease] of this Change Order:
Substantial completion (days or date):

$ Ready for final payment (days or date):
Contract Price incorporating this Change Order: Contract Times with all approved Change Orders:

Substantial completion (days or date):
$ Ready for final payment (days or date):

RECOMMENDED:	ACCEPTED:	ACCEPTED:
By:	By:	By:
Engineer (Authorized Signature)	Owner (Authorized Signature)	Contractor (Authorized signature)
Date:	Date:	Date:

Approved by Funding Agency (if applicable): Date:

SECTION N
TECHNICAL SPECIFICATIONS

ITEM SS-101 SAFETY PLAN COMPLIANCE DOCUMENT (SPCD)

DESCRIPTION

101-1.1 The contractor shall thoroughly review the approved Construction Safety and Phasing Plan (CSPP) and shall comply with approved CSPP. The contractor shall certify such compliance by completing the attached SPCD and submitting to the Engineer for approval.

Contractor Safety Plan Compliance Documents

Owner Name: Jack Brooks Regional Airport / Jefferson County

Airport: Jack Brooks Regional Airport

Project Description: Runway Safety Area Grading

Contractor: APAC-Texas, Inc.

Each item listed below corresponds to a specific section of the approved CSPP. The contractor shall certify that he/she will comply with each section of the approved CSPP. Each certified section with a "no" response must be fully explained in an attachment to the SPCD. The document shall be signed and dated by a principle or owner in the Contractor's company. All other requested information shall be completed by the Contractor and submitted to the Engineer for approval as part of the SPCD.

1. **Section 1 - Correspondence:** This project shall be completed in accordance with Section 1 "Coordination" of the approved Construction Safety Plan Compliance Document.

Owner:	
Contact: Alex Rupp	**Phone: 409-719-4900**
Engineer:	
Project Manager: Tom Dodson	**Phone: 713-491-8333**
Project Engineer: Thomas Sikora	**Phone: 713-491-8333**
Construction Observer:	**Phone:**
Materials Testing:	**Phone:**
Contractor:	
Project Manager: Johnathan Murphy	**Phone:** 409-284-4124
Superintendent: Mike Welble	**Phone:** 409-781-2082
Subcontractors: American Remediation Options, Inc.	
LIST ALL SUBS	

Yes SB No *

2. **Section 2 - Phasing:** This project shall be completed in accordance with Section 2 "Phasing" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

3. **Section 3 – Areas of Operations Affected by Construction Activity:** This project shall be completed in accordance with Section 3 "Areas of Operations Affected by Construction Activity" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

4. **Section 4 – Protection of Navigational Aids (NAVAIDS):** This project shall be completed in accordance with Section 4 "Protection of Navigational Aids (NAVAIDS)" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

5. **Section 5 – Contractor Access:** This project shall be completed in accordance with Section 5 "Contractor Access" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

6. **Section 6 – Wildlife Management:** This project shall be completed in accordance with Section 6 "Wildlife Management" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

7. **Section 7 – Foreign Object Debris (FOD) Management:** This project shall be completed in accordance with Section 7 "Foreign Object Debris (FOD) Management" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

8. **Section 8 – Hazardous Materials (HAZMAT) Management:** This project shall be completed in accordance with Section 8 "Hazardous Materials (HAZMAT) Management" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

9. **Section 9 – Notification of Construction Activities:** This project shall be completed in accordance with Section 9 "Notification of Construction Activities" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

10. **Section 10 – Inspection Requirements:** This project shall be completed in accordance with Section 10 "Inspection Requirements" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

11. **Section 11 – Underground Utilities:** This project shall be completed in accordance with Section 11 "Underground Utilities" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

12. **Section 12 – Penalties:** This project shall be completed in accordance with Section 12 "Penalties" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

13. **Section 13 – Special Conditions:** This project shall be completed in accordance with Section 13 "Special Conditions" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

14. **Section 14 – Runway and Taxiway Visual Aids:** This project shall be completed in accordance with 14 "Runway and Taxiway Visual Aids" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

15. **Section 15 – Marking and Signs for Access Routes:** This project shall be completed in accordance with Section 15 "Marking and Signs for Access Routes" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

16. **Section 16 – Hazard Marking and Lighting:** This project shall be completed in accordance with Section 16 "Hazard Marking and Lighting" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

17. **Section 17 – Protection of Safety Areas, Object Free Areas, Object Free Zones, and Approach / Departure Surfaces:** This project shall be completed in accordance with Section 17 "Protection of Safety Areas, Object Free Areas, Object Free Zones, and Approach / Departure Surfaces" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

18. **Section 18 – Other Limitations on Construction:** This project shall be completed in accordance with Section 18 "Other Limitations on Construction" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

I certify that, for the project identified herein, the responses to the foregoing items are correct as marked, and that I shall comply with the approved Construction Safety and Plan.

Signed: _____
Contractor's Authorized Representative

Date: 9/11/2014

Scott Blanchard Asst. Secretary
Print Name and Title of Contractor's Representative

END OF ITEM SS-101

ITEM SS-120 SITE PREPARATION AND MOBILIZATION

DESCRIPTION

120-1.1 This item covers the preparation of the site for construction of the proposed improvements. The attention of the bidder is directed to the necessity for careful examination of the entire project site to determine, at the time of bid preparation, the full extent of work to be done under the item "Site Preparation." The entire job site shall be cleared of all man-made obstructions and debris, of whatever nature, and made ready in all respects for the construction of the proposed improvements.

The item "Site Preparation" shall include:

1. Mobilization
2. Temporary Field Office
3. Lighted Barricades and Closed Taxiway and Runway Markings
4. Contractor's Access/Haul Road
5. Contractor's Staging Areas
6. Airport Security Requirements
7. Airport Safety Requirements
8. Instrument Control
9. Clean Up

CONSTRUCTION METHODS

120-2.1 MOBILIZATION. The Contractor shall consider and include his cost for providing personnel, equipment, materials, bonds, etc. required for the prosecution of the work under this item.

120-2.2 TEMPORARY FIELD OFFICE. In addition to any office space Contractor chooses to provide for his personnel, Contractor is to also provide a temporary field office space for Resident Project Representative (RPR) for the project duration. The space for the temporary field office shall be for the exclusive use by the Engineer as a field office and shall conform to the requirements listed below. The dimensions and other requirements specified herein are minimums and the building may be built by the Contractor for the specific purposes noted herein and/or may be connected to his own field office(s). It is not intended to prohibit the use of commercially built trailers or prefabricated buildings which may deviate in minor dimension or detail from the requirements listed herein but may in some features exceed the listed requirements and in all major respects be entirely suitable for the purpose intended. The Contractor is to submit information on proposed temporary field office for approval by the Engineer prior to furnishing the office space on-site.

Minimum requirements for office:

a. Office space to be at least 8' X 8' lighted and conditioned space.

b. The space may be entirely or a part of a portable or other suitable type building with 7-ft minimum ceiling height; must be floored, weatherproof and reasonably dustproof. The space must have at least one door provided with a substantial lock the isolates the space from Contractors space(s) with keys placed in the possession of the Engineer. The building need not be new but the facility furnished under this item shall be neat, clean, sound and usable for the purpose intended.

c. The building shall be provided with electric lights and power outlets. The building shall be provided with desk, chair, file cabinet, and layout table in good working order. In cold weather the space shall be provided with adequate vented space heating facilities and fuel for heating. In hot weather the building shall be equipped with adequate air conditioning units. Heating and cooling and utility service will be furnished at no cost to the Owner or Engineer.

d. The space shall be provided with internet access with a minimum download speed of at least 3 megabytes per second (Mbps). This service shall be provided for the length of the contract or construction project, whichever is greater. Additionally, within this space the Contractor is to provide a scanner or similar device for transmitting printed material via email or internet ftp. Contractor is to establish this service within 2 weeks of Notice to Proceed.

Furnishing the field office will not be measured for separate payment, but will be considered subsidiary to "Site Preparation." The building shall remain the property of the Contractor and be returned to him at the close of the construction period.

120-2.3 LIGHTED BARRICADES AND CLOSED TAXIWAY AND RUNWAY MARKINGS. The Contractor shall furnish, install, maintain, and remove closed taxiway and runway markings and lighted barricades in accordance with details on the plans and as directed by the Engineer. The closed taxiway and runway markers shall be aviation yellow, nylon-reinforced vinyl. The markers shall be secured to the pavement/ground as shown on the plans and as directed by the Engineer. The lighted barricades shall be constructed and installed as shown on the plans. All lighted barricades and closed taxiway and runway markings shall be constructed in accordance with AC 150/5370-2F Operational Safety on Airports During Construction.

All work involved in the furnishing, installation, maintenance, and removal of lighted barricades, barrels and closed runway markings will not be measured for separate payment, but will be considered subsidiary to the bid item "Site Preparation."

120-2.4 CONTRACTOR'S ACCESS/HAUL ROAD. The Contractor shall layout, construct, maintain, and repair all access/haul roads needed to construct the work. The existing access roads shown on the plans shall be repaired, as determined necessary by the Engineer, at the close of the project. All such work, including all materials and labor, involved in the layout, construction, maintenance, and repair of the Contractor's access/haul roads will not be measured for separate payment but will be considered subsidiary to the bid item "Site Preparation." Temporary pipe culverts shall be installed and maintained as required and shall be of the size as directed by the Engineer. The type of pipe used for temporary pipe shall be at the option of the Contractor. Temporary pipe culverts will not be measured for separate payment, but will be considered subsidiary to the access/haul road. All temporary pipe culverts shall be removed by the Contractor and shall remain his property at the close of the project.

120-2.5 CONTRACTOR'S STAGING AREAS. The areas designated in the plans or by the Engineer as the Contractor's staging area shall be cleared and graded by the Contractor as needed for use by the Contractor in constructing the work on this project. All areas used or otherwise occupied by the Contractor for his operations shall be cleaned, regraded, and seeded, as directed by the Engineer, prior to the final acceptance of the project by the Airport. All work involved in the preparation and restoration of areas used or occupied by the Contractor, including clearing, grubbing, regrading, seeding, and installing and removing fence, will not be measured for separate payment but will be considered subsidiary to the bid item "Site Preparation."

120-2.6 AIRPORT SECURITY REQUIREMENTS. The Contractor shall abide by the Airport Security requirements that are outlined in the Construction Safety and Phasing Plan (CSPP) of the plans. Any costs associated with the Airport Security requirements will not be measured for separate payment but will be considered subsidiary to the bid item "Site Preparation."

120-2.7 AIRPORT SAFETY REQUIREMENTS. The Contractor shall abide by the Airport Safety requirements that are outlined in the Construction Safety and Phasing Plan (CSPP) of the plans. All costs associated with the Airport Safety requirements will not be measured for separate payment but will be considered subsidiary to the bid item "Site Preparation."

120-2.8 INSTRUMENT CONTROL. The Contractor will be furnished survey baselines and benchmarks to control the work as shown on the Plans. The Contractor shall be responsible for the additional instrument control necessary to layout and construct the work. The Contractor shall provide the instrument control as provided for in Section 50 of the General Provisions. The Contractor's instrument control of the work shall not be measured for separate payment, but will be considered subsidiary to the bid item "Site Preparation".

120-2.9 CLEAN UP. From time to time, the Contractor shall clean up the site in order that the site presents a neat appearance and that the progress of work will not be impeded. One such clean up shall immediately precede final inspection.

Immediately following acceptance of the work by the Owner, the Contractor shall remove all temporary equipment, surplus materials, and debris resulting from his operations, and leave the site in a condition fully acceptable to the Owner.

MEASUREMENT AND PAYMENT

120-3.1 Site preparation will be measured as a lump sum complete item. Work completed and accepted under this item will be paid for at the contract lump sum price bid for "Site Preparation," which price shall be full compensation for furnishing all labor, tools, equipment and incidentals necessary to complete the work.

Payment will be made under:

Item SS-120-1 Site Preparation - per Lump Sum

A minimum of two (2) partial payments will be made for Site Preparation. Periodic payments will be made in proportion to the amount of work accepted for payment in monthly pay applications, as outlined in the table below.

Monthly Pay Application Total exceeds	***Partial Payment of Site Preparation***
1% of total Contract value	**50% of Site Preparation less retainage, up to 2.5% of total Contract value**
5% of total Contract value	**100% of Site Preparation, less retainage, up to 5% of total Contract value**

Any remaining partial payments for "Site Preparation" will be made less retainage when the work is completed to 95% of the Contract total value.

END OF ITEM SS-120

ITEM D-754 CONCRETE GUTTERS, DITCHES, AND FLUMES is hereby amended with respect to the paragraphs and sections cited below.

Replace Section 754-4.1 as noted:

754-4.1 Items under this item shall be measured by the lump sum.

Delete Section 754-4.2 in its entirety.

Replace Section 754-5.1 as noted:

BASIS OF PAYMENT

754-5.1 Payment shall be made at the respective ***Lump Sum price for "Swale Confluence Slope Paving".*** This price shall be full compensation for furnishing all materials and for all preparation, excavation, backfilling, and placing of the materials; and connections to other structures as may be required to complete the item as shown on the plans; and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item D-754-1	***Swale Confluence Slope Paving—per Lump Sum***

END OF MOD D-754

TEM D-754 CONCRETE GUTTERS, DITCHES, AND FLUMES

DESCRIPTION

754-1.1 This item shall consist of portland cement concrete gutters, ditches, and flumes constructed in accordance with these specifications at the specified locations in accordance with the dimensions, lines, and grades as shown on the plans.

MATERIALS

754-2.1 Concrete, plain and reinforced concrete shall meet the requirements of Item P-610.

754-2.2 JOINTS. Joint filler materials and premolded joint material shall conform to Item P-610.

CONSTRUCTION METHODS

754-3.1 PREPARING SUBGRADE. Excavation shall be made to the required width and depth, and the subgrade upon which the item is to be built shall be compacted to a firm uniform grade. All soft and unsuitable material shall be removed and replaced with suitable approved material. When required, a layer of approved granular material, compacted to the thickness indicated on the plans, shall be placed to form a subbase. The underlying course shall be checked and accepted by the Engineer before placing and spreading operations are started.

754-3.2 PLACING. The forms for and the mixing, placing, finishing, and curing of concrete shall conform to the requirements of Item P-610 and shall be in accordance with the following requirements.

The concrete shall be tamped and spaded until it is consolidated and mortar entirely covers and forms the top surface. The surface of the concrete shall be floated smooth and the edges rounded to the radii shown on the plans. Before the concrete is given the final finishing, the surface shall be tested with a 10-foot (3 m) straightedge, and any irregularities of more than 1/4 inch (6 mm) in 10 feet (3 m) shall be eliminated.

The concrete shall be placed with dummy-grooved joints not to exceed 25 feet (7.5 m) apart, except where shorter lengths are necessary for closures, but no section shall be less than 4 feet (120 cm) long.

Expansion joints of the type called for in the plans shall be constructed to replace a dummy groove at spacings of approximately 100 feet (30 m). When the gutter is placed next to concrete pavement, expansion joints in the gutter shall be located opposite expansion joints in the pavement. When a gutter abuts a pavement or other structure, an expansion joint shall be placed between the gutter and the other structure.

Forms shall not be removed within 24 hours after the concrete has been placed. Minor defects shall be repaired with mortar containing 1 part cement and 2 parts fine aggregate.

The operations of depositing, compacting, and finishing the item shall be conducted so as to build a satisfactory structure. If any section of concrete is found to be porous, other than minor defects that may be plastered, or is otherwise defective, it shall be removed and replaced by the Contractor without additional compensation.

754-3.3 BACKFILLING. After the concrete has set sufficiently, the spaces adjacent to the structure shall be refilled to the required elevation with material specified on the plans and compacted by mechanical equipment to at least 90% of the maximum density as determined by ASTM D 698. The in-place density shall be determined in accordance with ASTM D 1556.

754-3.4 CLEANING AND RESTORATION OF SITE. After the backfill is completed, the Contractor shall dispose of all surplus material, dirt, and rubbish from the site. Surplus dirt may be deposited in

embankments, shoulders, or as ordered by the Engineer. The Contractor shall restore all disturbed areas to their original condition.

After all work is completed, the Contractor shall remove all tools and equipment, leaving the entire site free, clear and in good condition.

Performance of the work described in this section is not payable directly but shall be considered as a subsidiary obligation of the Contractor, covered under the contract unit price for the structure.

754-4.1 Concrete shall be measured by the cubic yard (cubic meter) in accordance with the dimensions shown on the plans or ordered by the Engineer. No deductions shall be made for the volume occupied by reinforcing steel, anchors, conduits, weep holes, or piling.

754-4.2 Reinforcing steel shall be measured by the pound (kg), based on the theoretical number of pounds (kg) complete in place as shown on the plans or placed as ordered by the Engineer.

BASIS OF PAYMENT

754-5.1 The accepted quantities of structural concrete will be paid for at the contract unit price per cubic yard (cubic meter) complete in place.

754-5.2 The accepted quantities of reinforcing steel will be paid for at the contract price per pound (kg) complete in place. No allowance shall be made for clips, wire, or other material used for fastening reinforcement in place.

Payment will be made under:

Item D-754-5.1	Structural Concrete—per cubic yard (cubic meter)
Item D-754-5.2	Reinforcing Steel—per pound (kg)

TESTING REQUIREMENTS

ASTM D 698	Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 5.5 lb (2.49 kg) Rammer and 12-inch (300 mm) Drop
ASTM D 1556	Density of Soil in Place by the Sand-Cone Method

END OF ITEM D-754

ITEM P-151 CLEARING AND GRUBBING is hereby amended with respect to the paragraphs and sections cited below.

Replace the first paragraph of Section 151-2.1 as noted:

151-2.1 GENERAL. The areas denoted on the plans to be cleared or cleared and grubbed shall be staked on the ground by the ***Contractor and approved by the*** Engineer. The clearing and grubbing shall be done at a satisfactory distance in advance of the grading operations.

Insert the following sentence into the end of the second paragraph of Section 151-2.1:

All burning times and locations shall be coordinated with the Engineer to ensure aircraft approaches for the airport are not disturbed.

Insert the following sentence into the end of the fifth paragraph of Section 151-2.1:

No blasting is expected to take place within this project. If the Contractor deems blasting necessary for the continuation of the project, he shall only do so after gaining approval of the Engineer in writing.

Replace the sixth paragraph of Section 151-2.1 as noted:

The removal of existing structure and utilities required to permit orderly progress of work shall be accomplished by local agencies, unless otherwise shown on the plans. Whenever a telephone or telegraph pole, pipeline, conduit, sewer, roadway, or other utility ***outside the scope of the project*** is encountered and must be removed or relocated, the Contractor shall advise the Engineer who will notify the proper local authority or owner and attempt to secure prompt action.

When the existing ground has been altered due to Contractor's clearing or clearing and grubbing, the completed area shall be graded to maintain positive drainage on the disturbed site and seeded in accordance with Item T-901.

Replace Section 151-4 as noted:

BASIS OF PAYMENT

151-4.1 Payment shall be made at the contract unit price per acre (square meter) ***or fraction thereof,*** for clearing. This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-151-1	**Clearing—per acre (square meter)**

END OF MOD P-151

ITEM P-151 CLEARING AND GRUBBING

DESCRIPTION

151-1.1 This item shall consist of clearing or clearing and grubbing, including the disposal of materials, for all areas within the limits designated on the plans or as required by the Engineer.

Clearing shall consist of the cutting and removal of all trees, stumps, brush, logs, hedges, the removal of fences and other loose or projecting material from the designated areas. The grubbing of stumps and roots will not be required.

Clearing, when so designated, shall consist of the cutting and removal of isolated single trees or isolated groups of trees. The cutting of all the trees of this classification shall be in accordance with the requirements for the particular area being cleared, or as shown on the plans, or as directed by the Engineer. The trees shall be considered isolated when they are 40 feet (12 m) or more apart, with the exception of a small clump of approximately five trees or less.

Clearing and grubbing shall consist of clearing the surface of the ground of the designated areas of all trees, stumps, down timber, logs, snags, brush, undergrowth, hedges, heavy growth of grass or weeds, fences, structures, debris, and rubbish of any nature, natural obstructions or such material which in the opinion of the Engineer is unsuitable for the foundation of strips, pavements, or other required structures, including the grubbing of stumps, roots, matted roots, foundations, and the disposal from the project of all spoil materials resulting from clearing and grubbing by burning or otherwise.

CONSTRUCTION METHODS

151-2.1 GENERAL. The areas denoted on the plans to be cleared or cleared and grubbed shall be staked on the ground by the Engineer. The clearing and grubbing shall be done at a satisfactory distance in advance of the grading operations.

All spoil materials removed shall be disposed of by removal to approved disposal areas. When burning of material is permitted, it shall be burned under the constant care of competent watchmen so that the surrounding vegetation and other adjacent property will not be jeopardized. Burning shall be done in accordance with all applicable laws, ordinances, and regulations. Before starting any burning operations, the Contractor shall notify the agency having jurisdiction.

As far as practicable, waste concrete and masonry shall be placed on slopes of embankments or channels. When embankments are constructed of such material, this material shall be placed in accordance with requirements for formation of embankments. Any broken concrete or masonry that cannot be used in construction, and all other materials not considered suitable for use elsewhere, shall be disposed of by the Contractor. In no case shall any discarded materials be left in windrows or piles adjacent to or within the airport limits. The manner and location of disposal of materials shall be subject to the approval of the Engineer and shall not create an unsightly or objectionable view. When the Contractor is required to locate a disposal area outside the airport property limits at his/her own expense, he shall obtain and file with the Engineer, permission in writing from the property owner for the use of private property for this purpose.

If the plans or the specifications require the saving of merchantable timber, the Contractor shall trim the limbs and tops from designated trees, saw them into suitable lengths, and make the material available for removal by other agencies.

Any blasting necessary shall be done at the Contractor's responsibility, and the utmost care shall be taken not to endanger life or property.

The removal of existing structure and utilities required to permit orderly progress of work shall be accomplished by local agencies, unless otherwise shown on the plans. Whenever a telephone or

telegraph pole, pipeline, conduit, sewer, roadway, or other utility is encountered and must be removed or relocated, the Contractor shall advise the Engineer who will notify the proper local authority or owner and attempt to secure prompt action.

151-2.2 CLEARING. The Contractor shall clear the staked or indicated area of all objectionable materials. Trees unavoidably falling outside the specified limits must be cut up, removed, and disposed of in a satisfactory manner. In order to minimize damage to trees that are to be left standing, trees shall be felled toward the center of area being cleared. The Contractor shall preserve and protect from injury all trees not to be removed. The trees, stumps, and brush shall be cut to a height of not more than 12 inches (300 mm) above the ground. The grubbing of stumps and roots will not be required.

When isolated trees are designated for clearing, the trees shall be classed in accordance with the butt diameter size as measured at a point 18 inches (45 cm) above the ground level or at a designated height specified in the proposal.

Fences shall be removed and disposed of when directed by the Engineer. Fence wire shall be neatly rolled and the wire and posts stored on the airport if they are to be used again, or stored at a designated location if the fence is to remain the property of a local owner or of a civic authority.

151-2.3 CLEARING AND GRUBBING. In areas designated to be cleared and grubbed, all stumps, roots, buried logs, brush, grass, and other unsatisfactory materials shall be removed, except where embankments exceeding 3-1/2 feet (105 cm) in depth are to be made outside of paved areas. In cases where such depth of embankments is to be made, all unsatisfactory materials shall be removed, but sound trees, stumps, and brush can be cut off within 6 inches (150 mm) above the ground and allowed to remain. Tap roots and other projections over 1-1/2 inches (37 mm) in diameter shall be grubbed out to a depth of at least 18 inches (45 cm) below the finished subgrade or slope elevation.

Any buildings and miscellaneous structures that are shown on the plans to be removed shall be demolished or removed, and all materials there from shall be disposed of either by burning or otherwise removed from the site. The remaining or existing foundations, wells, cesspools, and all like structures shall be destroyed by breaking out or breaking down the materials of which the foundations, wells, cesspools, etc., are built to a depth at least 2 feet (60 cm) below the existing surrounding ground. Any broken concrete, blocks, or other objectionable material that cannot be used in backfill shall be removed and disposed of. The holes or openings shall be backfilled with acceptable material and properly compacted.

All holes remaining after the grubbing operation in embankment areas shall have the sides broken down to flatten out the slopes, and shall be filled with acceptable material, moistened and properly compacted in layers to the density required in Item P-152. The same construction procedure shall be applied to all holes remaining after grubbing in excavation areas where the depth of holes exceeds the depth of the proposed excavation.

METHOD OF MEASUREMENT

151-3.1 The quantities of clearing or clearing and grubbing as shown by the limits on the plans or as ordered by the Engineer shall be the number of acres (square meters) or fractions thereof, of land specifically cleared or cleared and grubbed.

When isolated trees are designated for clearing, the quantities of trees, as determined in accordance with ranges of butt diameter size, measured at a point 18 inches (45 cm) above the ground level at the tree, shall be paid for according to the schedule of sizes as follows:

The number of trees:

From 0 to 2-1/2 feet (75 cm), butt diameter
From 2-1/2 to 5 feet (75 to 150 cm), butt diameter

For 5 feet (150 cm) or more, butt diameter

BASIS OF PAYMENT

151-4.1 Payment shall be made at the contract unit price per acre (square meter) for clearing. This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item.

151-4.2 Payment shall be made at the contract unit price for clearing isolated trees. This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item.

151-4.3 Payment shall be made at the contract unit price per acre (square meter) for clearing and grubbing. This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-151-4.1	Clearing—per acre (square meter)

END OF ITEM P-151

ITEM P-152 EXCAVATION AND EMBANKMENT is hereby amended with respect to the paragraphs and sections cited below.

Revise the following paragraph as noted:

152-1.2 CLASSIFICATION.

e. Borrow Excavation. Borrow excavation shall consist of approved material required for the construction of embankment or for other portions of the work in excess of the quantity of ***potentially*** usable material available from required excavations. Borrow material shall be obtained from areas within the limits of the airport property but outside the normal limits of necessary grading, or from areas outside the airport.

Revise the following paragraph as noted:

152-1.3 Unsuitable Excavation. Any material containing vegetable or organic matter, such as muck, peat, organic silt, or sod shall be considered unsuitable for use in embankment construction. Material, when approved by the Engineer as suitable to support vegetation, may be used on the embankment slope. ***Material not considered by the Engineer to be suitable for use on the embankment slope shall be disposed of off-site or as directed by the Engineer. Undercutting of material unsatisfactory for subgrade foundation, roads, shoulders, or areas intended for turfing shall be considered unsuitable excavation and shall be excavated to the depth specified by the Engineer below the subgrade.***

Revise the following paragraph as noted:

152-2.2 EXCAVATION. No excavation shall be started until the work has been staked out by the Contractor and the Engineer has obtained elevations and measurements of the ground surface. All suitable excavated material shall be used in the formation of embankment, subgrade, or for other purposes shown on the plans. All unsuitable material shall be disposed of as ***described in Section 152-1.3*** ~~shown on the plans~~.

Revise the following paragraph as noted:

152-2.2 EXCAVATION.

a. Selective Grading. When ***the quality of material varies significantly*** ~~selective grading is indicated on the plans~~, the more suitable material as designated by the Engineer shall be used in constructing the embankment or in capping the pavement subgrade. If, at the time of excavation, it is not possible to place this material in its final location, it shall be stockpiled in approved areas ~~so that it can be measured for payment for rehandling as specified in paragraph 3.3~~. ***Selective grading will not be measured for separate payment but will be considered subsidiary to "Unclassified Excavation".***

Revise the following paragraph as noted:

152-2.2 EXCAVATION.

b. Undercutting. Rock, shale, hardpan, loose rock, boulders, or other material unsatisfactory for safety areas, subgrades, roads, shoulders, or any areas intended for turfing shall be excavated to a minimum depth of 12 in (300 mm), or to the depth specified by the Engineer, below the subgrade. Muck, peat, matted roots, or other yielding material, unsatisfactory for subgrade foundation, shall be removed to the depth specified. Unsuitable materials shall be disposed of ***as directed in section P-152-1.3*** ~~at locations shown on the plans~~. This excavated material shall be paid for at the contract unit price per cubic yard (per cubic meter) for ***Unsuitable Excavation***. The excavated area shall be

refilled with suitable material obtained from the grading operations or borrow areas and compacted to specified densities. The necessary refilling will constitute a part of ***Unsuitable Excavation*** ~~the embankment~~. Where rock cuts are made and refilled with selected material, any pockets created in the rock surface shall be drained ***as directed by the Engineer*** ~~in accordance with the details shown on the plans~~.

Revise the following paragraph as noted:

152-2.2 EXCAVATION.

d. Removal of Utilities. The removal of ***some*** existing structures and utilities required to permit the orderly progress of work ***may*** ~~will~~ be accomplished by someone other than the Contractor, for example, the utility unless otherwise shown on the plans. All existing foundations shall be excavated for at least 2 feet (60 cm) below the top of subgrade or as indicated on the plans, and the material disposed of as directed. All foundations thus excavated shall be backfilled with suitable material and compacted as specified herein. ***All work associated with the excavation, removal, backfill, disposal and/or stockpiling of the existing structures and culverts will not be measured for separate payment but will be considered subsidiary to "Unclassified Excavation".***

Replace the second paragraph of Section 152-2.2.e as noted:

The in-place field density shall be determined in accordance with ~~ASTM D 1556 or ASTM D 2167~~ ***ASTM D 6938, but shall be verified by the Engineer by either ASTM D1556 or ASTM D2167 using a "one-point Proctor" method for each type of soil proposed as embankment.*** Stones or rock fragments larger than 4 inches (100 mm) in their greatest dimension will not be permitted in the top 6 inches (150 mm) of the subgrade. The finished grading operations, conforming to the typical cross section, shall be completed and maintained at least 1,000 feet (300 m) ahead of the paving operations or as directed by the Engineer.

Revise the following paragraph as noted:

152-2.3 BORROW EXCAVATION. Borrow area(s) within the airport property are indicated on the plans. Borrow excavation shall be made only at these designated locations and within the horizontal and vertical limits as staked or as directed. ***Contractor is to measure volume of available borrow material by conducting surveys of the defined borrow stockpiles and compute volume based on average end-area method. Contractor is to provide calculations of borrow area to Engineer prior to beginning any earth-moving activities.***

Replace the seventh paragraph of Section 152-2.6 FORMATION OF EMBANKMENTS as noted:

The in-place field density shall be determined in accordance with ***ASTM D 6938*** ~~ASTM D 1556 or ASTM D 2167~~.

Add the following paragraph as noted:

METHOD OF MEASUREMENT

152-3.1 The quantity of excavation to be paid for shall be the number of cubic yards (cubic meters) measured in its original position.

Measurement shall not include the quantity of materials excavated without authorization beyond normal slope lines, or the quantity of material used for purposes other than those directed.

Measurement of excavation/embankment shall be based on plan quantities. These quantities are believed to be correct and shall be utilized for final excavation quantity payment not withstanding and adjustments to the project by written direction of the Engineer. Should the contractor find discrepancies and/or errors, he/she shall bring the discrepancy and/or error to

the attention of the Engineer immediately and corrections shall be made to the quantity of excavation to be paid for by change order. It is expressly understood by the contractor that upon disturbance of the existing ground and no notification to the engineer of possible errors, that the contractor accepts as final payment the quantities of excavation as detailed on the plans and laid out in the proposal. No adjustment has been made to the plan quantities for the construction or demolition of existing drainage structures. The Contractor shall make his own determination as to the amount of unsuitable excavated material which may be encountered and the resulting additional borrow material required for the construction of the embankment. There will be no adjustment for additional embankment required to construct the project if the excavated material is deemed unsuitable.

Replace the following section as noted:

152-3.4 For payment specified by the cubic yard (cubic meter), measurement for all **excavation and embankment** shall be computed by the average end area method. The end area is that bound by the original ground line established by field cross sections and the final theoretical pay line established by cross sections shown on the plans, subject to verification by the Engineer. After completion of all **excavation and embankment** operations and prior to the placing of base or subbase material, the final **excavation and embankment** shall be verified by the Engineer by means of field cross sections taken randomly at intervals not exceeding 500 linear feet (150 meters).

Final field cross sections shall be employed if the following changes have been made:

a. Plan width of embankments or excavations are changed by more than plus or minus 1.0 ft (0.3 meter); or

b. Plan elevations of embankments or excavations are changed by more than plus or minus 0.5 ft (0.15 meter).

In cut sections, the additional cut required to construct the topsoil layer to the plan grade has not been measured and will not be measured for separate payment but will be subsidiary to "Unclassified Excavation". In fill sections, the additional fill required to replace the stripped material has not been measured and will not be measured for payment but will be subsidiary to "Unclassified Excavation".

No allowance has been made in the measurement for shrink/swell. The Contractor shall make his own determination as to the amount of shrink/swell involved in the construction of the embankment.

The Contractor shall make his own determination as to the suitability of the excavated material to be placed in embankments and the resulting additional off-site material required for the construction of the embankment. Additional off-site material required for the formation of embankment shall not be measured for separate payment but shall be considered subsidiary to "Unclassified Excavation".

152-3.5 Unsuitable excavation shall be measured from the surface of the ground, after stripping has been accomplished, or from the bottom of the planned excavation, to the depth of the excavation as directed by the Engineer. Measurements will be taken by the Engineer, and the volume of excavation will be calculated by the average end area method. The necessary refilling of unsuitable areas will not be measured for separate payment but will be subsidiary to "Unsuitable Excavation". Only that amount of excavation directed by the Engineer will be measured for payment.

Replace the following section "Basis of Payment" as noted:

BASIS OF PAYMENT

152-4.1 For "Unclassified excavation" payment shall be made at the contract unit price per cubic yard (cubic meter). ***Payment will be made based on the plan quantity.*** This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

152-4.5 For "Borrow Excavation" payment shall be made at the contract unit price per cubic yard (cubic meter). ***Payment will be made based on the plan quantity.*** This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-152-1	**Unclassified Excavation—per Cubic Yard (cubic meter)**
Item P-152-2	**Borrow Excavation—per Cubic Yard (cubic meter)**

END OF MOD P-152

ITEM P-152 EXCAVATION AND EMBANKMENT

DESCRIPTION

152-1.1 This item covers excavation, disposal, placement, and compaction of all materials within the limits of the work required to construct safety areas, runways, taxiways, aprons, and intermediate as well as other areas for drainage, building construction, parking, or other purposes in accordance with these specifications and in conformity to the dimensions and typical section(s) shown on the plans.

152-1.2 CLASSIFICATION. All material excavated shall be classified as defined below:

a. Unclassified Excavation. Unclassified excavation shall consist of the excavation and disposal of all material, regardless of its nature, which is not otherwise classified and paid for under the following items.

b. Borrow Excavation. Borrow excavation shall consist of approved material required for the construction of embankment or for other portions of the work in excess of the quantity of usable material available from required excavations. Borrow material shall be obtained from areas within the limits of the airport property but outside the normal limits of necessary grading, or from areas outside the airport.

152-1.3 Unsuitable Excavation. Any material containing vegetable or organic matter, such as muck, peat, organic silt, or sod shall be considered unsuitable for use in embankment construction. Material, when approved by the Engineer as suitable to support vegetation, may be used on the embankment slope.

CONSTRUCTION METHODS

152-2.1 General. Before beginning excavation, grading, and embankment operations in any area, the area shall be completely cleared and grubbed in accordance with Item P-151.

The suitability of material to be placed in embankments shall be subject to approval by the Engineer. All unsuitable material shall be disposed of in waste areas shown on the plans. All waste areas shall be graded to allow positive drainage of the area and of adjacent areas. The surface elevation of waste areas shall not extend above the surface elevation of adjacent usable areas of the airport, unless specified on the plans or approved by the Engineer.

When the Contractor's excavating operations encounter artifacts of historical or archaeological significance, the operations shall be temporarily discontinued. At the direction of the Engineer, the Contractor shall excavate the site in such a manner as to preserve the artifacts encountered and allow for their removal. Such excavation will be paid for as extra work.

Those areas outside of the pavement areas in which the top layer of soil material has become compacted, by hauling or other activities of the Contractor shall be scarified and disked to a depth of 4 inches (100 mm), in order to loosen and pulverize the soil.

If it is necessary to interrupt existing surface drainage, sewers or under-drainage, conduits, utilities, or similar underground structures, the Contractor shall be responsible for and shall take all necessary precautions to preserve them or provide temporary services. When such facilities are encountered, the Contractor shall notify the Engineer, who shall arrange for their removal if necessary. The Contractor shall, at his/her own expense, satisfactorily repair or pay the cost of all damage to such facilities or structures that may result from any of the Contractor's operations during the period of the contract.

152-2.2 EXCAVATION. No excavation shall be started until the work has been staked out by the Contractor and the Engineer has obtained elevations and measurements of the ground surface. All suitable excavated material shall be used in the formation of embankment, subgrade, or for other purposes shown on the plans. All unsuitable material shall be disposed of as shown on the plans.

When the volume of the excavation exceeds that required to construct the embankments to the grades indicated, the excess shall be used to grade the areas of ultimate development or disposed of as directed. When the volume of excavation is not sufficient for constructing the fill to the grades indicated, the deficiency shall be obtained from borrow areas.

The grade shall be maintained so that the surface is well drained at all times. When necessary, temporary drains and drainage ditches shall be installed to intercept or divert surface water that may affect the work.

a. Selective Grading. When selective grading is indicated on the plans, the more suitable material as designated by the Engineer shall be used in constructing the embankment or in capping the pavement subgrade. If, at the time of excavation, it is not possible to place this material in its final location, it shall be stockpiled in approved areas so that it can be measured for payment for rehandling as specified in paragraph 3.3.

b. Undercutting. Rock, shale, hardpan, loose rock, boulders, or other material unsatisfactory for safety areas, subgrades, roads, shoulders, or any areas intended for turfing shall be excavated to a minimum depth of 12 inches (300 mm), or to the depth specified by the Engineer, below the subgrade. Muck, peat, matted roots, or other yielding material, unsatisfactory for subgrade foundation, shall be removed to the depth specified. Unsuitable materials shall be disposed of at locations shown on the plans. This excavated material shall be paid for at the contract unit price per cubic yard (per cubic meter) for Unclassified Excavation. The excavated area shall be refilled with suitable material obtained from the grading operations or borrow areas and compacted to specified densities. The necessary refilling will constitute a part of the embankment. Where rock cuts are made and refilled with selected material, any pockets created in the rock surface shall be drained in accordance with the details shown on the plans.

c. Overbreak. Overbreak, including slides, is that portion of any material displaced or loosened beyond the finished work as planned or authorized by the Engineer. The Engineer shall determine if the displacement of such material was unavoidable and his/her decision shall be final. All overbreak shall be graded or removed by the Contractor and disposed of as directed; however, payment will not be made for the removal and disposal of overbreak that the Engineer determines as avoidable. Unavoidable overbreak will be classified as "Unclassified Excavation."

d. Removal of Utilities. The removal of existing structures and utilities required to permit the orderly progress of work will be accomplished by someone other than the Contractor, e.g., the utility unless otherwise shown on the plans. All existing foundations shall be excavated for at least 2 feet (60 cm) below the top of subgrade or as indicated on the plans, and the material disposed of as directed. All foundations thus excavated shall be backfilled with suitable material and compacted as specified herein.

e. Compaction Requirements. The subgrade under areas to be paved shall be compacted to a depth of ***16 inches*** and to a density of not less than **95** percent of the maximum density as determined by ASTM **D 1557.** The material to be compacted shall be within +/- 2 percent of optimum moisture content before rolled to obtain the prescribed compaction (except for expansive soils).

The in-place field density shall be determined in accordance with ASTM D 1556 or ASTM D 2167. Stones or rock fragments larger than 4 inches (100 mm) in their greatest dimension will not be permitted in the top 6 inches (150 mm) of the subgrade. The finished grading operations, conforming to the typical cross section, shall be completed and maintained at least 1,000 feet (300 m) ahead of the paving operations or as directed by the Engineer.

In cuts, all loose or protruding rocks on the back slopes shall be barred loose or otherwise removed to line of finished grade of slope. All cut-and-fill slopes shall be uniformly dressed to the slope, cross section, and alignment shown on the plans or as directed by the Engineer.

Blasting will be permitted only when proper precautions are taken for the safety of all persons, the work, and the property. All damage done to the work or property shall be repaired at the Contractor's expense. All operations of the Contractor in connection with the transportation, storage, and use of explosives shall conform to all state and local regulations and explosive manufacturers' instructions, with applicable approved permits reviewed by the Engineer. Any approval given, however, will not relieve the Contractor of his/her responsibility in blasting operations.

Where blasting is approved, the Contractor shall employ a vibration consultant, approved by the Engineer, to advise on explosive charge weights per delay and to analyze records from seismograph recordings. The seismograph shall be capable of producing a permanent record of the three components of the motion in terms of particle velocity, and in addition shall be capable of internal dynamic calibration.

In each distinct blasting area, where pertinent factors affecting blast vibrations and their effects in the area remain the same, the Contractor shall submit a blasting plan of the initial blasts to the Engineer for approval. This plan must consist of hole size, depth, spacing, burden, type of explosives, type of delay sequence, maximum amount of explosive on any one delay period, depth of rock, and depth of overburden if any. The maximum explosive charge weights per delay included in the plan shall not be increased without the approval of the engineering.

The Contractor shall keep a record of each blast fired—its date, time and location; the amount of explosives used, maximum explosive charge weight per delay period, and, where necessary, seismograph records identified by instrument number and location.

These records shall be made available to the Engineer on a monthly basis or in tabulated form at other times as required.

152-2.3 BORROW EXCAVATION. Borrow area(s) within the airport property are indicated on the plans. Borrow excavation shall be made only at these designated locations and within the horizontal and vertical limits as staked or as directed.

When borrow sources are outside the boundaries of the airport property, it shall be the Contractor's responsibility to locate and obtain the supply, subject to the approval of the Engineer. The Contractor shall notify the Engineer, at least 15 days prior to beginning the excavation, so necessary measurements and tests can be made. All unsuitable material shall be disposed of by the Contractor. All borrow pits shall be opened up to expose the vertical face of various strata of acceptable material to enable obtaining a uniform product. Borrow pits shall be excavated to regular lines to permit accurate measurements, and they shall be drained and left in a neat, presentable condition with all slopes dressed uniformly.

152-2.4 DRAINAGE EXCAVATION. Drainage excavation shall consist of excavating for drainage ditches such as intercepting; inlet or outlet, for temporary levee construction; or for any other type as designed or as shown on the plans. The work shall be performed in the proper sequence with the other construction. All satisfactory material shall be placed in fills; unsuitable material shall be placed in waste areas or as directed. Intercepting ditches shall be constructed prior to starting adjacent excavation operations. All necessary work shall be performed to secure a finish true to line, elevation, and cross section.

The Contractor shall maintain ditches constructed on the project to the required cross section and shall keep them free of debris or obstructions until the project is accepted.

152-2.5 PREPARATION OF EMBANKMENT AREA. Where an embankment is to be constructed to a height of 4 feet (120 cm) or less, all sod and vegetable matter shall be removed from the surface upon which the embankment is to be placed, and the cleared surface shall be completely broken up by plowing or scarifying to a minimum depth of 6 inches (150 mm). This area shall then be compacted as indicated in paragraph 2.6. When the height of fill is greater than 4 feet (120 cm), sod not required to be removed shall be thoroughly disked and recompacted to the density of the surrounding ground before construction of embankment.

Where embankments are to be placed on natural slopes steeper than 3 to 1, horizontal benches shall be constructed as shown on the plans.

No direct payment shall be made for the work performed under this section. The necessary clearing and grubbing and the quantity of excavation removed will be paid for under the respective items of work.

152-2.6 FORMATION OF EMBANKMENTS. Embankments shall be formed in successive horizontal layers of not more than 8 inches (200 mm) in loose depth for the full width of the cross section, unless otherwise approved by the Engineer.

The grading operations shall be conducted, and the various soil strata shall be placed, to produce a soil structure as shown on the typical cross section or as directed. Materials such as brush, hedge, roots, stumps, grass and other organic matter, shall not be incorporated or buried in the embankment.

Operations on earthwork shall be suspended at any time when satisfactory results cannot be obtained because of rain, freezing, or other unsatisfactory conditions of the field. The Contractor shall drag, blade, or slope the embankment to provide proper surface drainage.

The material in the layer shall be within +/-2 percent of optimum moisture content before rolling to obtain the prescribed compaction. In order to achieve a uniform moisture content throughout the layer, wetting or drying of the material and manipulation shall be required when necessary. Should the material be too wet to permit proper compaction or rolling, all work on all of the affected portions of the embankment shall be delayed until the material has dried to the required moisture content. Sprinkling of dry material to obtain the proper moisture content shall be done with approved equipment that will sufficiently distribute the water. Sufficient equipment to furnish the required water shall be available at all times. Samples of all embankment materials for testing, both before and after placement and compaction, will be taken for each ***1,000 SY of each lift of embankment***. Based on these tests, the Contractor shall make the necessary corrections and adjustments in methods, materials or moisture content in order to achieve the correct embankment density.

Rolling operations shall be continued until the embankment is compacted to not less than 95 percent of maximum density for noncohesive soils, and 90 percent of maximum density for cohesive soils as determined by ASTM ***D 1557***. Under all areas to be paved, the embankments shall be compacted to a depth of ***16 inches*** and to a density of not less than ***95*** percent of the maximum density as determined by ASTM ***D 1557***.

On all areas outside of the pavement areas, no compaction will be required on the top 4 inches (100 mm).

The in-place field density shall be determined in accordance with ASTM D 1556 or ASTM D 2167.

Compaction areas shall be kept separate, and no layer shall be covered by another until the proper density is obtained.

During construction of the embankment, the Contractor shall route his/her equipment at all times, both when loaded and when empty, over the layers as they are placed and shall distribute the travel evenly over the entire width of the embankment. The equipment shall be operated in such a manner that hardpan, cemented gravel, clay, or other chunky soil material will be broken up into small particles and become incorporated with the other material in the layer.

In the construction of embankments, layer placement shall begin in the deepest portion of the fill; as placement progresses, layers shall be constructed approximately parallel to the finished pavement grade line.

When rock and other embankment material are excavated at approximately the same time, the rock shall be incorporated into the outer portion of the embankment and the other material shall be

incorporated under the future paved areas. Stones or fragmentary rock larger than 4 inches (100 mm) in their greatest dimensions will not be allowed in the top 6 inches (150 mm) of the subgrade. Rockfill shall be brought up in layers as specified or as directed and every effort shall be exerted to fill the voids with the finer material forming a dense, compact mass. Rock or boulders shall not be disposed of outside the excavation or embankment areas, except at places and in the manner designated by the Engineer.

When the excavated material consists predominantly of rock fragments of such size that the material cannot be placed in layers of the prescribed thickness without crushing, pulverizing or further breaking down the pieces, such material may be placed in the embankment as directed in layers not exceeding 2 feet (60 cm) in thickness. Each layer shall be leveled and smoothed with suitable leveling equipment and by distribution of spalls and finer fragments of rock. These type lifts shall not be constructed above an elevation 4 feet (120 cm) below the finished subgrade.

Frozen material shall not be placed in the embankment nor shall embankment be placed upon frozen material.

There will be no separate measurement of payment for compacted embankment, and all costs incidental to placing in layers, compacting, disking, watering, mixing, sloping, and other necessary operations for construction of embankments will be included in the contract price for excavation, borrow, or other items.

152-2.7 FINISHING AND PROTECTION OF SUBGRADE. After the subgrade has been substantially completed the full width shall be conditioned by removing any soft or other unstable material that will not compact properly. The resulting areas and all other low areas, holes or depressions shall be brought to grade with suitable select material. Scarifying, blading, rolling and other methods shall be performed to provide a thoroughly compacted subgrade shaped to the lines and grades shown on the plans.

Grading of the subgrade shall be performed so that it will drain readily. The Contractor shall take all precautions necessary to protect the subgrade from damage. He/she shall limit hauling over the finished subgrade to that which is essential for construction purposes.

All ruts or rough places that develop in a completed subgrade shall be smoothed and recompacted.

No subbase, base, or surface course shall be placed on the subgrade until the subgrade has been approved by the Engineer.

152-2.8 HAUL. All hauling will be considered a necessary and incidental part of the work. Its cost shall be considered by the Contractor and included in the contract unit price for the pay of items of work involved. No payment will be made separately or directly for hauling on any part of the work.

152-2.9 TOLERANCES. In those areas upon which a subbase or base course is to be placed, the top of the subgrade shall be of such smoothness that, when tested with a 16-foot (4.8 m) straightedge applied parallel and at right angles to the centerline, it shall not show any deviation in excess of 1/2-inch (12 mm), or shall not be more than 0.05-foot (.015 m) from true grade as established by grade hubs or pins. Any deviation in excess of these amounts shall be corrected by loosening, adding, or removing materials; reshaping; and recompacting by sprinkling and rolling.

On safety areas, intermediate and other designated areas, the surface shall be of such smoothness that it will not vary more than 0.10 foot (0.03 m) from true grade as established by grade hubs. Any deviation in excess of this amount shall be corrected by loosening, adding or removing materials, and reshaping.

152-2.10 TOPSOIL. When topsoil is specified or required as shown on the plans or under Item T-905, it shall be salvaged from stripping or other grading operations. The topsoil shall meet the requirements of Item T-905. If, at the time of excavation or stripping, the topsoil cannot be placed in its proper and final section of finished construction, the material shall be stockpiled at approved locations. Stockpiles shall not be placed within ***1,000*** feet of runway pavement or ***500*** feet of taxiway pavement and shall not be placed on areas that subsequently will require any excavation or embankment. If, in the judgment of the

Engineer, it is practical to place the salvaged topsoil at the time of excavation or stripping, the material shall be placed in its final position without stockpiling or further rehandling.

Upon completion of grading operations, stockpiled topsoil shall be handled and placed as directed, or as required in Item T-905.

No direct payment will be made for topsoil as such under Item P-152. The quantity removed and placed directly or stockpiled shall be paid for at the contract unit price per cubic yard (cubic meter) for "Unclassified Excavation."

When stockpiling of topsoil and later rehandling of such material is directed by the Engineer, the material so rehandled shall be paid for at the contract unit price per cubic yard (cubic meter) for "Topsoiling," as provided in Item T-905.

METHOD OF MEASUREMENT

152-3.1 The quantity of excavation to be paid for shall be the number of cubic yards (cubic meters) measured in its original position.

Measurement shall not include the quantity of materials excavated without authorization beyond normal slope lines, or the quantity of material used for purposes other than those directed.

152-3.2 Borrow material shall be paid for on the basis of the number of cubic yards (cubic meters) measured in its original position at the borrow pit.

152-3.3 Stockpiled material shall be paid for on the basis of the number of cubic yards (cubic meters) measured in the stockpiled position as soon as the material has been stockpiled.

152-3.4 For payment specified by the cubic yard (cubic meter), measurement for all **[excavation] [embankment]** shall be computed by the average end area method. The end area is that bound by the original ground line established by field cross sections and the final theoretical pay line established by **[excavation] [embankment]** cross sections shown on the plans, subject to verification by the Engineer. After completion of all **[excavation] [embankment]** operations and prior to the placing of base or subbase material, the final **[excavation] [embankment]** shall be verified by the Engineer by means of field cross sections taken randomly at intervals not exceeding 500 linear feet (150 meters).

Final field cross sections shall be employed if the following changes have been made:

a. Plan width of embankments or excavations are changed by more than plus or minus 1.0 foot (0.3 meter); or

b. Plan elevations of embankments or excavations are changed by more than plus or minus 0.5 foot (0.15 meter).

BASIS OF PAYMENT

152-4.1 For "Unclassified excavation" payment shall be made at the contract unit price per cubic yard (cubic meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

152-4.2 For "Rock Excavation" payment shall be made at the contract unit price per cubic yard (cubic meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

152-4.3 For "Muck Excavation" payment shall be made at the contract unit price per cubic yard (cubic meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

152-4.4 For "Drainage Excavation" payment shall be made at the contract unit price per cubic yard (cubic meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

152-4.5 For "Borrow Excavation" payment shall be made at the contract unit price per cubic yard (cubic meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

152-4.6 For "Stockpiled Material" payment shall be made at the contract unit price per cubic yard (cubic meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

152-4.7 For "Embankment in Place" payment shall be made at the contract unit price per cubic yard (cubic meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-152-4.1	Unclassified Excavation—per cubic yard (cubic meter)
Item P-152-4.2	Rock Excavation—per cubic yard (cubic meter)
Item P-152-4.3	Muck Excavation—per cubic yard (cubic meter)
Item P-152-4.4	Drainage Excavation—per cubic yard (cubic meter)
Item P-152-4.5	Borrow Excavation—per cubic yard (cubic meter)
Item P-152-4.6	Stockpiled material—per cubic yard (cubic meter)
Item P-152-4.7	Embankment in Place—per cubic yard (cubic meter)

TESTING REQUIREMENTS

ASTM D 698	Test for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5-pound (2.49 kg) Rammer and 12-inch (305 mm) Drop
ASTM D 1556	Test for Density of Soil In Place by the Sand-Cone Method
ASTM D 1557	Test for Laboratory Compaction Characteristics of Soil Using Modified Effort
ASTM D 2167	Test for Density and Unit Weight of Soil In Place by the Rubber Ballon Method.
ASTM D 6938	Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods.

END OF ITEM P-152

ITEM P-156 TEMPORARY AIR AND WATER POLLUTION, SOIL EROSION, AND SILTATION CONTROL is hereby amended with respect to the paragraphs and sections cited below.

Add the following paragraph as noted:

156-1.2 This item covers the application of Temporary Erosion Control items at locations shown on the Plans, as directed by the Engineer, and as required for permit compliance, and the requirement of the Contractor to produce, execute, and maintain a specific Storm Water Pollution Prevention Plan (SWPPP) for the project in accordance with the requirements of the Texas Commission on Environmental Quality (TCEQ). The Contractor will be required to request and obtain all necessary federal, TCEQ, and local permits. The temporary erosion control measures shown in the Plans do not represent the extent of work and coordination by the Contractor under this item.

Replace the following paragraph as noted:

156-2.5 TEMPORARY SEDIMENT CONTROL FENCE. Provide sediment control fence for temporary use as detailed in the plans, meeting the requirements Item 506 of the specifications of the Texas Department of Transportation.

Add the following paragraph as noted:

156-2.5 OTHER. All other materials shall ~~meet commercial grade standards and shall be approved by the Engineer before being incorporated into the project~~ ***be in accordance with the Plans, except as modified or augmented herein. Heavy Duty silt fencing (with welded wire in the fabric) may be required on steep slopes if the Engineer determines that the silt fence used by the Contractor is not performing satisfactory.***

Add the following paragraph as noted:

156-3.5 CONSTRUCTION METHODS. Providing the temporary erosion control items and devices shown on the Plans is intended to minimize the erosion of soils during construction. However, the items and devices shown are not intended to represent all of the necessary items or procedures required to be implemented by the Contractor. The plans and specifications show the Engineer's estimate of a minimum effort needed to maintain proper erosion control during construction. Additional effort and materials may be required by the Contractor to minimize the erosion of soils during construction. It shall be the Contractor's responsibility to install and maintain all the items shown in the Plans and to coordinate, submit, obtain, and comply with all necessary Federal, State, and local permits. The coordination with governing agencies shall include, but not limited to the following:

- ***Filing the Notice of Intent with the Texas Commission on Environmental Quality (TCEQ), and paying fees,***
- ***Producing and maintaining an approved Storm Water Pollution Prevention Plan,***
- ***Coordinating and obtaining all local permits regarding grading operations for the proposed improvements, Contractor's staging area, spoil placement and any other grading operations related to the project as directed by the local governing agency.***
- ***Filing the Notice of Termination with the Texas Commission on Environmental Quality (TCEQ), and paying fees upon completion of the Project.***

Revise the following paragraph as noted:

156-4.1 Temporary erosion and pollution control work required which is not attributed to the Contractor's negligence, carelessness, or failure to install permanent controls will be performed as scheduled or ordered by the Engineer. Completed and accepted work will be measured as ***one complete item. This work includes obtaining all necessary federal, state, and local permits required to complete this project.*** ~~follows:~~

~~**a.** Temporary seeding and mulching will be measured by the square yard (square meter).~~

~~**b.** Temporary slope drains will be measured by the linear foot (meter).~~

~~**c.** Temporary benches, dikes, dams, and sediment basins will be measured by the cubic yard (cubic meter) of excavation performed, including necessary cleaning of sediment basins, and the cubic yard (cubic meter) of embankment placed at the direction of the Engineer, in excess of plan lines and elevations.~~

~~**d.** All fertilizing will be measured by the ton (kg).~~

Replace Section 156-5.1 in its entirety as noted:

156-5.1 Temporary erosion control acceptably completed will be paid for at the contract lump sum price bid for "TEMPORARY EROSION CONTROL," which price shall be full compensation for furnishing all materials, tools, equipment, labor, and incidentals necessary to complete the work. Periodic payments will be made under this item in proportion to the amount of work accomplished, as determined by the Engineer. Payment for "TEMPORARY EROSION CONTROL" will also include obtaining and compliance with the SWPPP, which shall include compensation for drainage-way inspections, report preparation, housekeeping practices, cleaning and maintenance, and other actions outlined in the SWPPP prepared by the Contractor necessary to execute the Plan. This item consists of all erosion control items not listed as a separate pay item in the Unit Price Schedule. Any fines issued to the Owner as a result of the Contractor's insufficient execution of the SWPPP will be assessed to the Contractor. Such deductions shall not be limited to the lump sum price of this item.

Payment will be made under:

Item P-156-1	***Temporary Erosion Control—per Lump Sum***

~~**156-5.1** Accepted quantities of temporary water pollution, soil erosion, and siltation control work ordered by the Engineer and measured as provided in paragraph 156-4.1 will be paid for under:~~

~~Item P-156-5.1~~	~~Temporary seeding and mulching—per square yard (square meter)~~
~~Item P-156-5.2~~	~~Temporary slope drains—per linear foot (meter)~~
~~Item P-156-5.3~~	~~Temporary benches, dikes, dams and sediment basins—per cubic yard (cubic meter)~~
~~Item P-156-5.4~~	~~Fertilizing—per ton (kilogram)~~

~~Where other directed work falls within the specifications for a work item that has a contract price, the units of work shall be measured and paid for at the contract unit price bid for the various items.~~

~~Temporary control features not covered by contract items that are ordered by the Engineer will be paid for in accordance with Section 90-05.~~

END OF MOD P-156

ITEM P-156 TEMPORARY AIR AND WATER POLLUTION, SOIL EROSION, AND SILTATION CONTROL

DESCRIPTION

156-1.1 This item shall consist of temporary control measures as shown on the plans or as ordered by the Engineer during the life of a contract to control water pollution, soil erosion, and siltation through the use of berms, dikes, dams, sediment basins, fiber mats, gravel, mulches, grasses, slope drains, and other erosion control devices or methods.

The temporary erosion control measures contained herein shall be coordinated with the permanent erosion control measures specified as part of this contract to the extent practical to assure economical, effective, and continuous erosion control throughout the construction period.

Temporary control may include work outside the construction limits such as borrow pit operations, equipment and material storage sites, waste areas, and temporary plant sites.

MATERIALS

156-2.1 GRASS. Grass that will not compete with the grasses sown later for permanent cover shall be a quick-growing species (such as ryegrass, Italian ryegrass, or cereal grasses) suitable to the area providing a temporary cover.

156-2.2 MULCHES. Mulches may be hay, straw, fiber mats, netting, bark, wood chips, or other suitable material reasonably clean and free of noxious weeds and deleterious materials.

156-2.3 FERTILIZER. Fertilizer shall be a standard commercial grade and shall conform to all Federal and state regulations and to the standards of the Association of Official Agricultural Chemists.

156-2.4 SLOPE DRAINS. Slope drains may be constructed of pipe, fiber mats, rubble, portland cement concrete, bituminous concrete, or other materials that will adequately control erosion.

156-2.5 OTHER. All other materials shall meet commercial grade standards and shall be approved by the Engineer before being incorporated into the project.

CONSTRUCTION REQUIREMENTS

156-3.1 GENERAL. In the event of conflict between these requirements and pollution control laws, rules, or regulations of other Federal, state, or local agencies, the more restrictive laws, rules, or regulations shall apply.

The Engineer shall be responsible for assuring compliance to the extent that construction practices, construction operations, and construction work are involved.

156-3.2 SCHEDULE. Prior to the start of construction, the Contractor shall submit schedules for accomplishment of temporary and permanent erosion control work, as are applicable for clearing and grubbing; grading; construction; paving; and structures at watercourses. The Contractor shall also submit a proposed method of erosion and dust control on haul roads and borrow pits and a plan for disposal of waste materials. Work shall not be started until the erosion control schedules and methods of operation for the applicable construction have been accepted by the Engineer.

156-3.3 AUTHORITY OF ENGINEER. The Engineer has the authority to limit the surface area of erodible earth material exposed by clearing and grubbing, to limit the surface area of erodible earth material exposed by excavation, borrow and fill operations, and to direct the Contractor to provide immediate permanent or temporary pollution control measures to minimize contamination of adjacent streams or other watercourses, lakes, ponds, or other areas of water impoundment.

156-3.4 CONSTRUCTION DETAILS. The Contractor will be required to incorporate all permanent erosion control features into the project at the earliest practicable time as outlined in the accepted schedule. Except where future construction operations will damage slopes, the Contractor shall perform the permanent seeding and mulching and other specified slope protection work in stages, as soon as substantial areas of exposed slopes can be made available. Temporary erosion and pollution control measures will be used to correct conditions that develop during construction that were not foreseen during the design stage; that are needed prior to installation of permanent control features; or that are needed temporarily to control erosion that develops during normal construction practices, but are not associated with permanent control features on the project.

Where erosion is likely to be a problem, clearing and grubbing operations should be scheduled and performed so that grading operations and permanent erosion control features can follow immediately thereafter if the project conditions permit; otherwise, temporary erosion control measures may be required between successive construction stages.

The Engineer will limit the area of clearing and grubbing, excavation, borrow, and embankment operations in progress, commensurate with the Contractor's capability and progress in keeping the finish grading, mulching, seeding, and other such permanent control measures current in accordance with the accepted schedule. Should seasonal limitations make such coordination unrealistic, temporary erosion control measures shall be taken immediately to the extent feasible and justified.

In the event that temporary erosion and pollution control measures are required due to the Contractor's negligence, carelessness, or failure to install permanent controls as a part of the work as scheduled or are ordered by the Engineer, such work shall be performed by the Contractor at his/her own expense.

The Engineer may increase or decrease the area of erodible earth material to be exposed at one time as determined by analysis of project conditions.

The erosion control features installed by the Contractor shall be acceptably maintained by the Contractor during the construction period.

Whenever construction equipment must cross watercourses at frequent intervals, and such crossings will adversely affect the sediment levels, temporary structures should be provided.

Pollutants such as fuels, lubricants, bitumen, raw sewage, wash water from concrete mixing operations, and other harmful materials shall not be discharged into or near rivers, streams, and impoundments or into natural or manmade channels leading thereto.

METHOD OF MEASUREMENT

156-4.1 Temporary erosion and pollution control work required which is not attributed to the Contractor's negligence, carelessness, or failure to install permanent controls will be performed as scheduled or ordered by the Engineer. Completed and accepted work will be measured as follows:

a. Temporary seeding and mulching will be measured by the square yard (square meter).

b. Temporary slope drains will be measured by the linear foot (meter).

c. Temporary benches, dikes, dams, and sediment basins will be measured by the cubic yard (cubic meter) of excavation performed, including necessary cleaning of sediment basins, and the cubic yard (cubic meter) of embankment placed at the direction of the Engineer, in excess of plan lines and elevations.

d. All fertilizing will be measured by the ton (kilogram).

156-4.2 Control work performed for protection of construction areas outside the construction limits, such as borrow and waste areas, haul roads, equipment and material storage sites, and temporary plant sites, will not be measured and paid for directly but shall be considered as a subsidiary obligation of the Contractor with costs included in the contract prices bid for the items to which they apply.

BASIS OF PAYMENT

156-5.1 Accepted quantities of temporary water pollution, soil erosion, and siltation control work ordered by the Engineer and measured as provided in paragraph 156-4.1 will be paid for under:

Item P-156-5.1	Temporary seeding and mulching—per square yard (square meter)
Item P-156-5.2	Temporary slope drains—per linear foot (meter)
Item P-156-5.3	Temporary benches, dikes, dams and sediment basins—per cubic yard (cubic meter)
Item P-156-5.4	Fertilizing—per ton (kilogram)

Where other directed work falls within the specifications for a work item that has a contract price, the units of work shall be measured and paid for at the contract unit price bid for the various items.

Temporary control features not covered by contract items that are ordered by the Engineer will be paid for in accordance with Section 90-05.

END OF ITEM P-156

ITEM P-610 STRUCTURAL PORTLAND CEMENT CONCRETE is hereby amended with respect to the paragraphs and sections cited below.

Replace Section 610-4.1 as noted:

610-4.1 There will be no measurement for payment under this item.

Delete Section 610-4.2 in its entirety.

Replace Section 610-5.1 as noted:

610-5.1 There will be no separate payment under this Item. Include costs associated in this item as subsidiary to other items.

END OF MOD P-610

ITEM P-610 STRUCTURAL PORTLAND CEMENT CONCRETE

DESCRIPTION

610-1.1 This item shall consist of **reinforced** structural portland cement concrete, prepared and constructed in accordance with these specifications, at the locations and of the form and dimensions shown on the plans.

MATERIALS

610-2.1 GENERAL. Only approved materials, conforming to the requirements of these specifications, shall be used in the work. They may be subjected to inspection and tests at any time during the progress of their preparation or use. The source of supply of each of the materials shall be approved by the Engineer before delivery or use is started. Representative preliminary samples of the materials shall be submitted by the Contractor, when required, for examination and test. Materials shall be scored and handled to insure the preservation of their quality and fitness for use and shall be located to facilitate prompt inspection. All equipment for handling and transporting materials and concrete must be clean before any material or concrete is placed therein.

In no case shall the use of pit-run or naturally mixed aggregates be permitted. Naturally mixed aggregate shall be screened and washed, and all fine and coarse aggregates shall be stored separately and kept clean. The mixing of different kinds of aggregates from different sources in one storage pile or alternating batches of different aggregates will not be permitted.

a. Reactivity. Aggregates shall be tested for deleterious reactivity with alkalis in the cement, which may cause excessive expansion of the concrete. Separate tests of coarse and fine aggregate shall be made in accordance with ASTM C 1260. If the expansion of coarse or fine aggregate test specimens, tested in accordance with ASTM C 1260, does not exceed 0.10 % at 28 days (30 days from casting), the coarse or fine aggregates shall be accepted.

If the expansion of any aggregate, coarse or fine, at 28 days is greater than 0.10%, tests of combined materials shall be made in accordance with ASTM C 1567 using the aggregates, cementitious materials, and/or specific reactivity reducing chemicals in the proportions proposed for the mixture design. If the expansion of the proposed combined materials test specimens, tested in accordance with ASTM C 1567, does not exceed 0.10 % at 28 days, the proposed combined materials will be accepted. If the expansion of the proposed combined materials test specimens is greater than 0.10% at 28 days, the aggregates will not be accepted unless adjustments to the combined materials mixture can reduce the expansion to less than 0.10 % at 28 days, or new aggregates shall be evaluated and tested.

610-2.2 COARSE AGGREGATE. The coarse aggregate for concrete shall meet the requirements of ASTM C 33. Crushed stone aggregate shall have a durability factor, as determined by ASTM C 666, greater than or equal to 95. The Engineer may consider and reserve final approval of other State classification procedures addressing aggregate durability.

Coarse aggregate shall be well graded from coarse to fine and shall meet one of the gradations shown in Table 1, using ASTM C 136.

610-2.3 FINE AGGREGATE. The fine aggregate for concrete shall meet the requirements of ASTM C 33.

The fine aggregate shall be well graded from fine to coarse and shall meet the requirements of Table 2 when tested in accordance with ASTM C 136:

TABLE 1. GRADATION FOR COARSE AGGREGATE

Sieve Designation (square openings)	Percentage by Weight Passing Sieves						
	2"	1-1/2"	1"	3/4"	1/2"	3/8"	No.4
No. 4 to 3/4 in. (4.75-19.0 mm)			100	90-100		20-55	0-10
No. 4 to 1 in. (4.75-25.0 mm)		100	90-100		25-60		0-10
No. 4 to 1-1/2 in. (4.75-38.1 mm)	100	95-100		35-70		10-30	0-5

TABLE 2. GRADATION FOR FINE AGGREGATE

Sieve Designation (square openings)	Percentage by Weight Passing Sieves
3/8 inch (9.5 mm)	100
No. 4 (4.75 mm)	95-100
No. 16 (1.18 mm)	45-80
No. 30 (0.60 mm)	25-55
No. 50 (0.30 mm)	10-30
No. 100 (0.15 mm)	2-10

Blending will be permitted, if necessary, in order to meet the gradation requirements for fine aggregate. Fine aggregate deficient in the percentage of material passing the No. 50 mesh sieve may be accepted, provided that such deficiency does not exceed 5% and is remedied by the addition of pozzolanic or cementitious materials other than portland cement, as specified in 610-2.6 on admixtures, in sufficient quantity to produce the required workability as approved by the Engineer.

610-2.4 CEMENT. Cement shall conform to the requirements of **ASTM C 150** Type **I or II**

The Contractor shall furnish vendors' certified test reports for each carload, or equivalent, of cement shipped to the project. The report shall be delivered to the Engineer before permission to use the cement is granted. All such test reports shall be subject to verification by testing sample materials received for use on the project.

610-2.5 WATER. The water used in concrete shall be free from sewage, oil, acid, strong alkalies, vegetable matter, and clay and loam. If the water is of questionable quality, it shall be tested in accordance with AASHTO T 26.

610-2.6 ADMIXTURES. The use of any material added to the concrete mix shall be approved by the Engineer. Before approval of any material, the Contractor shall be required to submit the results of complete physical and chemical analyses made by an acceptable testing laboratory. Subsequent tests shall be made of samples taken by the Engineer from the supply of the material being furnished or proposed for use on the work to determine whether the admixture is uniform in quality with that approved.

Pozzolanic admixtures shall be flyash or raw or calcined natural pozzolans meeting the requirements of ASTM C 618, Class F or N with the exception of loss of ignition, where the maximum shall be less than 6 percent. Class F or N flyash for use in mitigating alkali-silica reactivity shall have a Calcium Oxide (CaO) content of less than 13 percent and a total equivalent alkali content less than 3 percent.

Air-entraining admixtures shall meet the requirements of ASTM C 260. Air-entraining admixtures shall be added at the mixer in the amount necessary to produce the specified air content.

Water-reducing, set-controlling admixtures shall meet the requirements of ASTM C 494, Type A, water-reducing or Type D, water-reducing and retarding. Water-reducing admixtures shall be added at the mixer separately from air-entraining admixtures in accordance with the manufacturer's printed instructions.

610-2.7 PREMOLDED JOINT MATERIAL. Premolded joint material for expansion joints shall meet the requirements of ASTM **D 1752.**

610-2.8 JOINT FILLER. The filler for joints shall meet the requirements of Item P-605, unless otherwise specified in the proposal.

610-2.9 STEEL REINFORCEMENT. Reinforcing shall consist of **steel bars or welded deformed steel fabric** conforming to the requirements of **ASTM A 497.**

610-2.10 COVER MATERIALS FOR CURING. Curing materials shall conform to one of the following specifications:

Waterproof paper for curing concrete	ASTM C 171
Polyethylene Sheeting for Curing Concrete	ASTM C 171
Liquid Membrane-Forming Compounds for Curing Concrete	ASTM C 309, Type 2

CONSTRUCTION METHODS

610-3.1 GENERAL. The Contractor shall furnish all labor, materials, and services necessary for, and incidental to, the completion of all work as shown on the drawings and specified herein. All machinery and equipment owned or controlled by the Contractor, which he proposes to use on the work, shall be of sufficient size to meet the requirements of the work, and shall be such as to produce satisfactory work; all work shall be subject to the inspection and approval of the Engineer.

610-3.2 CONCRETE COMPOSITION. The concrete shall develop a compressive strength of **3500 psi** in 28 days as determined by test cylinders made in accordance with ASTM C 31 and tested in accordance with ASTM C 39. The concrete shall contain not less than 470 pounds of cement per cubic yard (280 kg per cubic meter). The concrete shall contain 5 percent of entrained air, plus or minus 1 percent, as determined by ASTM C 231 and shall have a slump of not more than 4 inches (10 cm) as determined by ASTM C 143.

610-3.3 ACCEPTANCE SAMPLING AND TESTING. Concrete for each structure will be accepted on the basis of the compressive strength specified in paragraph 3.2. The concrete shall be sampled in accordance with ASTM C 172. Compressive strength specimens shall be made in accordance with ASTM C 31 and tested in accordance with ASTM C 39.

Concrete cylindrical test specimens shall be made in accordance with ASTM C 31 and tested in accordance with ASTM C 39. The Contractor shall cure and store the test specimens under such conditions as directed. The Engineer will make the actual tests on the specimens at no expense to the Contractor.

610-3.4 PROPORTIONING AND MEASURING DEVICES. When package cement is used, the quantity for each batch shall be equal to one or more whole sacks of cement. The aggregates shall be measured separately by weight. If aggregates are delivered to the mixer in batch trucks, the exact amount for each mixer charge shall be contained in each batch compartment. Weighing boxes or hoppers shall be approved by the Engineer and shall provide means of regulating the flow of aggregates into the batch box so that the required and exact weight of aggregates can be readily obtained.

610-3.5 CONSISTENCY. The consistency of the concrete shall be checked by the slump test specified in ASTM C 143.

610-3.6 MIXING. Concrete may be mixed at the construction site, at a central point, or wholly or in part in truck mixers. The concrete shall be mixed and delivered in accordance with the requirements of ASTM C 94.

610-3.7 MIXING CONDITIONS. The concrete shall be mixed only in quantities required for immediate use. Concrete shall not be mixed while the air temperature is below 40°F (4°C) without permission of the Engineer. If permission is granted for mixing under such conditions, aggregates or water, or both, shall be heated and the concrete shall be placed at a temperature not less than 50°F (10°C) nor more than 100°F (38°C). The Contractor shall be held responsible for any defective work, resulting from freezing or injury in any manner during placing and curing, and shall replace such work at his/her expense.

Retempering of concrete by adding water or any other material shall not be permitted.

The delivery of concrete to the job shall be in such a manner that batches of concrete will be deposited at uninterrupted intervals.

610-3.8 FORMS. Concrete shall not be placed until all the forms and reinforcements have been inspected and approved by the Engineer. Forms shall be of suitable material and shall be of the type, size, shape, quality, and strength to build the structure as designed on the plans. The forms shall be true to line and grade and shall be mortar-tight and sufficiently rigid to prevent displacement and sagging between supports. The Contractor shall bear responsibility for their adequacy. The surfaces of forms shall be smooth and free from irregularities, dents, sags, and holes.

The internal ties shall be arranged so that, when the forms are removed, no metal will show in the concrete surface or discolor the surface when exposed to weathering. All forms shall be wetted with water or with a non-staining mineral oil, which shall be applied shortly before the concrete is placed. Forms shall be constructed so that they can be removed without injuring the concrete or concrete surface. The forms shall not be removed before the expiration of at least 30 hours from vertical faces, walls, slender columns, and similar structures; forms supported by falsework under slabs, beams, girders, arches, and similar construction shall not be removed until tests indicate that at least 60% of the design strength of the concrete has developed.

610-3.9 PLACING REINFORCEMENT. All reinforcement shall be accurately placed, as shown on the plans, and shall be firmly held in position during concreting. Bars shall be fastened together at intersections. The reinforcement shall be supported by approved metal chairs. Shop drawings, lists, and bending details shall be supplied by the Contractor when required.

610-3.10 EMBEDDED ITEMS. Before placing concrete, any items that are to be embedded shall be firmly and securely fastened in place as indicated. All such items shall be clean and free from coating, rust, scale, oil, or any foreign matter. The embedding of wood shall be avoided. The concrete shall be spaded and consolidated around and against embedded items.

610-3.11 PLACING CONCRETE. All concrete shall be placed during daylight, unless otherwise approved. The concrete shall not be placed until the depth and character of foundation, the adequacy of forms and falsework, and the placing of the steel reinforcing have been approved. Concrete shall be placed as soon as practical after mixing and in no case later than 1 hour after water has been added to the mix. The method and manner of placing shall be such to avoid segregation and displacement of the reinforcement. Troughs, pipes, and chutes shall be used as an aid in placing concrete when necessary. Dropping the concrete a distance of more than 5 feet (1.5 m), or depositing a large quantity at one point, will not be permitted. Concrete shall be placed upon clean, damp surfaces, free from running water, or upon properly consolidated soil.

The concrete shall be compacted with suitable mechanical vibrators operating within the concrete. When necessary, vibrating shall be supplemented by hand spading with suitable tools to assure proper and adequate compaction. Vibrators shall be manipulated so as to work the concrete thoroughly around the reinforcement and embedded fixtures and into corners and angles of the forms. The vibration at any joint shall be of sufficient duration to accomplish compaction but shall not be prolonged to the point where segregation occurs. Concrete deposited under water shall be carefully placed in a compact mass in its final position by means of a tremie, a closed bottom dump bucket, or other approved method and shall not be disturbed after being deposited.

610-3.12 CONSTRUCTION JOINTS. When the placing of concrete is suspended, necessary provisions shall be made for joining future work before the placed concrete takes its initial set. For the proper bonding of old and new concrete, such provisions shall be made for grooves, steps, keys, dovetails, reinforcing bars or other devices as may be prescribed. The work shall be arranged so that a section begun on any day shall be finished during daylight of the same day. Before depositing new concrete on or against concrete that has hardened, the surface of the hardened concrete shall be cleaned by a heavy steel broom, roughened slightly, wetted, and covered with a neat coating of cement paste or grout.

610-3.13 EXPANSION JOINTS. Expansion joints shall be constructed at such points and of such dimensions as may be indicated on the drawings. The premolded filler shall be cut to the same shape as that of the surfaces being joined. The filler shall be fixed firmly against the surface of the concrete already in place in such manner that it will not be displaced when concrete is deposited against it.

610-3.14 DEFECTIVE WORK. Any defective work discovered after the forms have been removed shall be immediately removed and replaced. If any dimensions are deficient, or if the surface of the concrete is bulged, uneven, or shows honeycomb, which in the opinion of the Engineer cannot be repaired satisfactorily, the entire section shall be removed and replaced at the expense of the Contractor.

610-3.15 SURFACE FINISH. All exposed concrete surfaces shall be true, smooth, and free from open or rough spaces, depressions, or projections. The concrete in horizontal plane surfaces shall be brought flush with the finished top surface at the proper elevation and shall be struck-off with a straightedge and floated. Mortar finishing shall not be permitted, nor shall dry cement or sand-cement mortar be spread over the concrete during the finishing of horizontal plane surfaces.

When directed, the surface finish of exposed concrete shall be a rubbed finish. If forms can be removed while the concrete is still green, the surface shall be pointed and wetted and then rubbed with a wooden float until all irregularities are removed. If the concrete has hardened before being rubbed, a carborundum stone shall be used to finish the surface. When approved, the finishing can be done with a rubbing machine.

610-3.16 CURING AND PROTECTION. All concrete shall be properly cured and protected by the Contractor. The work shall be protected from the elements, flowing water, and from defacement of any nature during the building operations. The concrete shall be cured as soon as it has sufficiently hardened by covering with an approved material. Water-absorptive coverings shall be thoroughly saturated when placed and kept saturated for a period of at least 3 days. All curing mats or blankets shall be sufficiently weighted or tied down to keep the concrete surface covered and to prevent the surface from being exposed to currents of air. Where wooden forms are used, they shall be kept wet at all times until removed to prevent the opening of joints and drying out of the concrete. Traffic shall not be allowed on concrete surfaces for 7 days after the concrete has been placed.

610-3.17 DRAINS OR DUCTS. Drainage pipes, conduits, and ducts that are to be encased in concrete shall be installed by the Contractor before the concrete is placed. The pipe shall be held rigidly so that it will not be displaced or moved during the placing of the concrete.

610-3.18 COLD WEATHER PROTECTION. When concrete is placed at temperatures below 40°F (4°C), the Contractor shall provide satisfactory methods and means to protect the mix from injury by freezing.

The aggregates, or water, or both, shall be heated in order to place the concrete at temperatures between 50°F and 100°F (10°C and 38°C).

Calcium chloride may be incorporated in the mixing water when directed by the Engineer. Not more than 2 pounds (908 grams) of Type 1 nor more than 1.6 pounds (726 grams) of Type 2 shall be added per bag of cement. After the concrete has been placed, the Contractor shall provide sufficient protection such as cover, canvas, framework, heating apparatus, etc., to enclose and protect the structure and maintain the temperature of the mix at not less than 50°F (10°C) until at least 60% of the designed strength has been attained.

610-3.19 FILLING JOINTS. All joints that require filling shall be thoroughly cleaned, and any excess mortar or concrete shall be cut out with proper tools. Joint filling shall not be started until after final curing and shall be done only when the concrete is completely dry. The cleaning and filling shall be carefully done with proper equipment and in a manner to obtain a neat looking joint free from excess filler.

METHOD OF MEASUREMENT

610-4.1 Portland cement concrete shall be measured by the number of cubic yards (cubic meters) of concrete complete in place and accepted. In computing the yardage of concrete for payment, the dimensions used shall be those shown on the plans or ordered by the Engineer. No measurements or other allowances shall be made for forms, falsework, cofferdams, pumping, bracing, expansion joints, or finishing of the concrete. No deductions in yardage shall be made for the volumes of reinforcing steel or embedded items.

610-4.2 Reinforcing steel shall be measured by the calculated theoretical number of pounds (kg) placed, as shown on the plans, complete in place and accepted. The unit weight used for deformed bars shall be the weight of plain square or round bars of equal nominal size. If so indicated on the plans, the poundage to be paid for shall include the weight of metal pipes and drains, metal conduits and ducts, or similar materials indicated and included.

BASIS OF PAYMENT

610-5.1 Payment shall be made at the contract unit price per cubic yard (cubic meter) for structural portland cement concrete and per pound (kg) for reinforcing steel. These prices shall be full compensation for furnishing all materials and for all preparation, delivery and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-610-5.1	Structural Portland Cement Concrete—per cubic yard (cubic meter)
Item P-610-5.1	Steel Reinforcement—per pound (kg)

TESTING REQUIREMENTS

ASTM C 31	Making and Curing Test Specimens in the Field
ASTM C 39	Compressive Strength of Cylindrical Concrete Specimens
ASTM C 136	Sieve Analysis of Fine and Coarse Aggregates
ASTM C 138	Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
ASTM C 143	Slump of Hydraulic Cement Concrete

ASTM C 231	Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C 666	Resistance of Concrete to Rapid Freezing and Thawing
ASTM C 1077	Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation
ASTM C 1260	Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)

MATERIAL REQUIREMENTS

ASTM A 184	Specification for Fabricated Deformed Steel Bar or Rod Mats for Concrete Reinforcement
ASTM A 185	Steel Welded Wire Fabric, Plain, for Concrete Reinforcement
ASTM A 497	Steel Welded Wire Fabric, Deformed, for Concrete Reinforcement
ASTM A 615	Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
ASTM A 704	Welded Steel Plain Bars or Rod Mats for Concrete Reinforcement
ASTM C 33	Concrete Aggregates
ASTM C 94	Ready-Mixed Concrete
ASTM C 150	Portland Cement
ASTM C 171	Sheet Materials for Curing Concrete
ASTM C 172	Sampling Freshly Mixed Concrete
ASTM C 260	Air-Entraining Admixtures for Concrete
ASTM C 309	Liquid Membrane-Forming Compounds for Curing Concrete
ASTM C 494	Chemical Admixtures for Concrete
ASTM C 595	Blended Hydraulic Cements
ASTM C 618	Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete
ASTM D 1751	Specification for Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types)
ASTM D 1752	Specification for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction
AASHTO T 26	Quality of Water to be Used in Concrete

END OF ITEM P-610

ITEM T-901 SEEDING is hereby amended with respect to the paragraphs and sections cited below.

Replace the third paragraph of Section 901-2.1 as noted:

Seeds shall be applied as follows:

Seed	*Rate of Application Pounds Pure Live Seed per Acre*
Green Sprangletop	*0.3*
Bermudagrass	*15.0*
Sideoats Grama (Haskell)	*4.5*

Delete Section 901-2.2.

Delete Section 901-3.2.a.

Add the following to Section 901-3.4:

Watering of the seeded areas shall be coordinated with the Owner and Airport Operations. Contractor will not be permitted to enter the airport secure areas to water without advance approval. Closure of the runway will be required to water the seeded areas.

Replace Section 901-4.1 as noted:

The quantity of seeding to be paid for shall be the number of units **acres (square meters)** measured on the ground surface, completed and accepted. ***Seeding shall be measured to the nearest tenth (0.1) of an acre. Fertilizer and watering will not be measured for separate payment but will be considered subsidiary to seeding.***

END OF MOD T-901

ITEM T-901 SEEDING

DESCRIPTION

901-1.1 This item shall consist of soil preparation, **seeding , fertilizing, and watering** the areas shown on the plans or as directed by the Engineer in accordance with these specifications.

MATERIALS

901-2.1 SEED The species and application rates of grass, legume, and cover-crop seed furnished shall be those stipulated herein. Seed shall conform to the requirements of Fed. Spec. JJJ-S-181.

Seed shall be furnished separately or in mixtures in standard containers with the seed name, lot number, net weight, percentages of purity and of germination and hard seed, and percentage of maximum weed seed content clearly marked for each kind of seed. The Contractor shall furnish the Engineer duplicate signed copies of a statement by the vendor certifying that each lot of seed has been tested by a recognized laboratory for seed testing within 6 months of date of delivery. This statement shall include: name and address of laboratory, date of test, lot number for each kind of seed, and the results of tests as to name, percentages of purity and of germination, and percentage of weed content for each kind of seed furnished, and, in case of a mixture, the proportions of each kind of seed.

Seeds shall be applied as follows:

Seed	Minimum Seed Purity (Percent)	Minimum Germination (Percent)	Rate of Application lb./acre (or lb./1,000 S.F.)

Seeding shall be performed during the period between **January 15** and **May 15** inclusive, unless otherwise approved by the Engineer.

901-2.2 LIME.
Lime shall be ground limestone containing not less than 85% of total carbonates, and shall be ground to such fineness that 90% will pass through a No. 20 mesh sieve and 50% will pass through a No. 100 mesh sieve. Coarser material will be acceptable, providing the rates of application are increased to provide not less than the minimum quantities and depth specified in the special provisions on the basis of the two sieve requirements above. Dolomitic lime or a high magnesium lime shall contain at least 10% of magnesium oxide. Lime shall be applied at the rate of [ ]. All liming materials shall conform to the requirements of ASTM C 602.

901-2.3 FERTILIZER. Fertilizer shall be standard commercial fertilizers supplied separately or in mixtures containing the percentages of total nitrogen, available phosphoric acid, and water-soluble potash. They shall be applied at the rate and to the depth specified herein, and shall meet the requirements of Fed. Spec. A-A-1909 and applicable state laws. They shall be furnished in standard containers with name, weight, and guaranteed analysis of contents clearly marked thereon. No cyanamide compounds or hydrated lime shall be permitted in mixed fertilizers.

The fertilizers may be supplied in one of the following forms:

a. A dry, free-flowing fertilizer suitable for application by a common fertilizer spreader;

b. A finely-ground fertilizer soluble in water, suitable for application by power sprayers; or

c. A granular or pellet form suitable for application by blower equipment.

Fertilizers shall be **30-30-30 ratio** commercial fertilizer and shall be spread at the rate of **150 pounds per acre**.

901-2.4 SOIL FOR REPAIRS. The soil for fill and topsoiling of areas to be repaired shall be at least of equal quality to that which exists in areas adjacent to the area to be repaired. The soil shall be relatively free from large stones, roots, stumps, or other materials that will interfere with subsequent sowing of seed, compacting, and establishing turf, and shall be approved by the Engineer before being placed.

CONSTRUCTION METHODS

901-3.1 ADVANCE PREPARATION AND CLEANUP. After grading of areas has been completed and before applying fertilizer and ground limestone, areas to be seeded shall be raked or otherwise cleared of stones larger than 2 inches (50 mm) in any diameter, sticks, stumps, and other debris that might interfere with sowing of seed, growth of grasses, or subsequent maintenance of grass-covered areas. If any damage by erosion or other causes has occurred after the completion of grading and before beginning the application of fertilizer and ground limestone, the Contractor shall repair such damage. This may include filling gullies, smoothing irregularities, and repairing other incidental damage.

An area to be seeded shall be considered a satisfactory seedbed without additional treatment if it has recently been thoroughly loosened and worked to a depth of not less than 5 inches (125 mm) as a result of grading operations and, if immediately prior to seeding, the top 3 inches (75 mm) of soil is loose, friable, reasonably free from large clods, rocks, large roots, or other undesirable matter, and if shaped to the required grade.

However, when the area to be seeded is sparsely sodded, weedy, barren and unworked, or packed and hard, any grass and weeds shall first be cut or otherwise satisfactorily disposed of, and the soil then scarified or otherwise loosened to a depth not less than 5 inches (125 mm). Clods shall be broken and the top 3 inches (75 mm) of soil shall be worked into a satisfactory seedbed by discing, or by use of cultipackers, rollers, drags, harrows, or other appropriate means.

901-3.2 DRY APPLICATION METHOD.

a. Liming. Lime shall be applied separately and prior to the application of any fertilizer or seed and only on seedbeds that have previously been prepared as described above. The lime shall then be worked into the top 3 inches (75 mm) of soil after which the seedbed shall again be properly graded and dressed to a smooth finish.

b. Fertilizing. Following advance preparations and cleanup fertilizer shall be uniformly spread at the rate that will provide not less than the minimum quantity stated in paragraph 901-2.3.

c. Seeding. Grass seed shall be sown at the rate specified in paragraph 901-2.1 immediately after fertilizing, and the fertilizer and seed shall be raked within the depth range stated in the special provisions. Seeds of legumes, either alone or in mixtures, shall be inoculated before mixing or sowing, in accordance with the instructions of the manufacturer of the inoculant. When seeding is required at other than the seasons shown on the plans or in the special provisions, a cover crop shall be sown by the same methods required for grass and legume seeding.

d. Rolling. After the seed has been properly covered, the seedbed shall be immediately compacted by means of an approved lawnroller, weighing 40 to 65 pounds per foot (60 to 97 kg per meter) of width for clay soil (or any soil having a tendency to pack), and weighing 150 to 200 pounds per foot (223 to 298 kg per meter) of width for sandy or light soils.

901-3.3 WET APPLICATION METHOD.

a. General. The Contractor may elect to apply seed and fertilizer (and lime, if required) by spraying them on the previously prepared seedbed in the form of an aqueous mixture and by using the methods and equipment described herein. The rates of application shall be as specified in the special provisions.

b. Spraying Equipment. The spraying equipment shall have a container or water tank equipped with a liquid level gauge calibrated to read in increments not larger than 50 gallons (190 liters) over the entire range of the tank capacity, mounted so as to be visible to the nozzle operator. The container or tank shall also be equipped with a mechanical power-driven agitator capable of keeping all the solids in the mixture in complete suspension at all times until used.

The unit shall also be equipped with a pressure pump capable of delivering 100 gallons (380 liters) per minute at a pressure of 100 pounds per square inch (690 kPa). The pump shall be mounted in a line that will recirculate the mixture through the tank whenever it is not being sprayed from the nozzle. All pump passages and pipe lines shall be capable of providing clearance for 5/8 inch (15 mm) solids. The power unit for the pump and agitator shall have controls mounted so as to be accessible to the nozzle operator. There shall be an indicating pressure gauge connected and mounted immediately at the back of the nozzle.

The nozzle pipe shall be mounted on an elevated supporting stand in such a manner that it can be rotated through 360 degrees horizontally and inclined vertically from at least 20 degrees below to at least 60 degrees above the horizontal. There shall be a quick-acting, three-way control valve connecting the recirculating line to the nozzle pipe and mounted so that the nozzle operator can control and regulate the amount of flow of mixture delivered to the nozzle. At least three different types of nozzles shall be supplied so that mixtures may be properly sprayed over distance varying from 20 to 100 feet (6 to 30 m). One shall be a close-range ribbon nozzle, one a medium-range ribbon nozzle, and one a long-range jet nozzle. For case of removal and cleaning, all nozzles shall be connected to the nozzle pipe by means of quick-release couplings.

In order to reach areas inaccessible to the regular equipment, an extension hose at least 50 feet (15 m) in length shall be provided to which the nozzles may be connected.

c. Mixtures. Lime, if required, shall be applied separately, in the quantity specified, prior to the fertilizing and seeding operations. Not more than 220 pounds (100 kg) of lime shall be added to and mixed with each 100 gallons (380 liters) of water. Seed and fertilizer shall be mixed together in the relative proportions specified, but not more than a total of 220 pounds (100 kg) of these combined solids shall be added to and mixed with each 100 gallons (380 liters) of water.

All water used shall be obtained from fresh water sources and shall be free from injurious chemicals and other toxic substances harmful to plant life. Brackish water shall not be used at any time. The Contractor shall identify to the Engineer all sources of water at least 2 weeks prior to use. The Engineer may take samples of the water at the source or from the tank at any time and have a laboratory test the samples for chemical and saline content. The Contractor shall not use any water from any source that is disapproved by the Engineer following such tests.

All mixtures shall be constantly agitated from the time they are mixed until they are finally applied to the seedbed. All such mixtures shall be used within 2 hours from the time they were mixed or they shall be wasted and disposed of at locations acceptable to the Engineer.

d. Spraying. Lime, if required, shall be sprayed only upon previously prepared seedbeds. After the applied lime mixture has dried, the lime shall be worked into the top 3 inches (8 cm), after which the seedbed shall again be properly graded and dressed to a smooth finish.

Mixtures of seed and fertilizer shall only be sprayed upon previously prepared seedbeds on which the lime, if required, shall already have been worked in. The mixtures shall be applied by means of a

high-pressure spray that shall always be directed upward into the air so that the mixtures will fall to the ground like rain in a uniform spray. Nozzles or sprays shall never be directed toward the ground in such a manner as might produce erosion or runoff.

Particular care shall be exercised to insure that the application is made uniformly and at the prescribed rate and to guard against misses and overlapped areas. Proper predetermined quantities of the mixture in accordance with specifications shall be used to cover specified sections of known area. Checks on the rate and uniformity of application may be made by observing the degree of wetting of the ground or by distributing test sheets of paper or pans over the area at intervals and observing the quantity of material deposited thereon.

On surfaces that are to be mulched as indicated by the plans or designated by the Engineer, seed and fertilizer applied by the spray method need not be raked into the soil or rolled. However, on surfaces on which mulch is not to be used, the raking and rolling operations will be required after the soil has dried.

901-3.4 MAINTENANCE OF SEEDED AREAS. The Contractor shall protect seeded areas against traffic or other use by warning signs or barricades, as approved by the Engineer. Surfaces gullied or otherwise damaged following seeding shall be repaired by regrading and reseeding as directed. The Contractor shall mow, water as directed, and otherwise maintain seeded areas in a satisfactory condition until final inspection and acceptance of the work.

When either the dry or wet application method outlined above is used for work done out of season, it will be required that the Contractor establish a good stand of grass of uniform color and density to the satisfaction of the Engineer. A grass stand shall be considered adequate when bare spots are one square foot or less, randomly dispersed, and do not exceed 3% of the area seeded. If at the time when the contract has been otherwise completed it is not possible to make an adequate determination of the color, density, and uniformity of such stand of grass, payment for the unaccepted portions of the areas seeded out of season will be withheld until such time as these requirements have been met.

METHOD OF MEASUREMENT

901-4.1 The quantity of seeding to be paid for shall be the number of **acres (square meters)** measured on the ground surface, completed and accepted.

BASIS OF PAYMENT

901-5.1 Payment shall be made at the contract unit price per **acre (square meters)** or fraction thereof, which price and payment shall be full compensation for furnishing and placing all material and for all labor, equipment, tools, and incidentals necessary to complete the work prescribed in this item.

Payment will be made under:

Item T-901-1	Seeding, including fertilizing and watering – per acre (square meters)

MATERIAL REQUIREMENTS

ASTM C 602	Agricultural Liming Materials
ASTM D 977	Emulsified Asphalt
FED SPEC A-A-1909	Fertilizer
FED SPEC A-A-2671	Seeds, Agriculture

END OF ITEM T-901

11111 Katy Freeway
Suite 910
Houston, TX 77079

TEL 713.491.8333
FAX 713.973.5777

www.GarverUSA.com

July 30, 2014

Mr. Alex Rupp
Jack Brooks Regional Airport
4875 Parker Dr.
Beaumont, TX 77705

Re: JACK BROOKS REGIONAL AIRPORT – RUNWAY 16/34 REHABILITATION
Recommendation of Award

Dear Mr. Rupp:

Bids were received for the Jack Brooks Regional Airport Runway 16/34 Rehabilitation project at the Jefferson County Courthouse at 11:00 am on July 22, 2014. A tabulation of the bid received is enclosed with this letter.

Garver has reviewed the bid proposal for compliance with the “Instructions to Bidders”. Each bid was to include the following.

- Bid Bond
- Proposal
- Acceptance of Addenda

A total of one bid was received on the project; and that bidder provided the required information. The bid has been evaluated based on the total amount bid. The apparent low bidder, APAC-Texas Inc. submitted a bid in the amount of $305,518.00.

In our review of the bid, we did not find any errors. All unit price calculations were verified and appear correct. Based on these findings we feel that it is in the best interest of Jefferson County and Jack Brooks Regional Airport to award the Runway 16/34 Rehabilitation project contract to APAC-Texas, Inc.. of Beaumont, Texas.

Please call me if you have any questions.

Sincerely,

Thomas D Dodson, PE
Senior Project Manager

Attachments: Bid Tabulation

n:\2013\13121730 - bpt taxiway d\correspondence\outgoing\bpt - 14-027kjs recommendation of award.doc

JACK BROOKS REGIONAL AIRPORT
RUNWAY 16-34 REHABILITATION
BID TABULATION
BID OPENING: July 22, 2014; 11:00 AM

ITEM NO.	SPEC. NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	ENGINEER'S ESTIMATE UNIT PRICE	ENGINEER'S ESTIMATE AMOUNT	APAC- Texas, Inc. UNIT PRICE	APAC- Texas, Inc. AMOUNT
1	SS-120-1	SITE PREPARATION	LS	100%	$28,000.00	$28,000.00	$53,000.00	$53,000.00
2	P-101-5.1	CRACK SEAL ASPHALT PAVEMENT	LF	800	$2.00	$1,600.00	$4.05	$3,240.00
3	P-152-4.1	EXCAVATION AND EMBANKMENT	CY	2	$10.00	$20.00	$850.00	$1,700.00
4	P-501-8.1a	CONCRETE SPALL REPAIR - ELASTOMERIC CONCRETE	SF	600	$60.00	$36,000.00	$90.00	$54,000.00
5	P-501-8.1b	CONCRETE SPALL REPAIR - PORTLAND CEMENT CONCRETE	SF	50	$25.00	$1,250.00	$425.00	$21,250.00
6	P-605-5.1	CONCRETE JOINT CLEAN AND SEAL	LF	200	$3.00	$600.00	$4.05	$810.00
7	P-620-5.1	RETRO-REFLECTIVE PAVEMENT MARKINGS	SF	52,500	$1.50	$78,750.00	$0.65	$34,125.00
8	P-620-5.2	PREFORMED RUNWAY HOLD SIGN MARKINGS	SF	1,750	$15.00	$26,250.00	$32.00	$56,000.00
9	P-620-5.3	NON-REFLECTIVE BLACK OUTLINE	SF	13,700	$0.50	$6,850.00	$0.55	$7,535.00
10	P-620-5.4	PAVEMENT MARKING REMOVAL	LS	100%	$71,050.00	$71,050.00	$34,000.00	$34,000.00
11	P-631-5.1	RUNWAY 16/34 REFINED COAL TAR EMULSION WITH ADDITIVES FOR SLURRY SEAL COAT	GAL	7,500	$4.00	$30,000.00	$5.30	$39,750.00
12	T-904-5.1	SODDING	SY	15	$18.00	$270.00	$7.20	$108.00
				Total (Base Bid):		$280,640.00		$305,518.00

Corrected Prices

APAC 3114
669

JACK BROOKS REGIONAL AIRPORT
RUNWAY 16/34 REHABILITATION
AIP NO. 3-48-0018-030-2014

JEFFERSON COUNTY COMMISSIONERS COURT
JEFFERSON COUNTY, TEXAS
Jefferson County Project 14-027/KJS

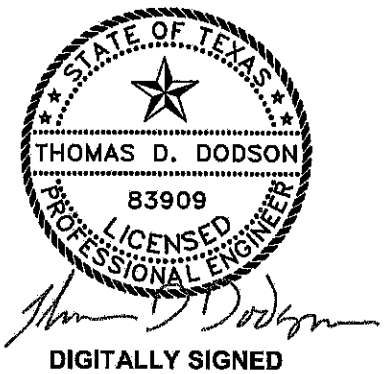
Garver Project Number 14121800

June 2014

GARVER, LLC - TEXAS REGISTERED ENGINEERING FIRM F-5713

JACK BROOKS REGIONAL AIRPORT
RUNWAY 16/34 REHABILITATION
AIP NO. 3-48-0018-030-2014

JEFFERSON COUNTY COMMISSIONERS COURT
JEFFERSON COUNTY, TEXAS
Jefferson County Project 14-027/KJS



DIGITALLY SIGNED
06/06/2014

GARVER

Garver Project Number 14121800

June 2014

TEXAS REGISTERED ENGINEERING FIRM F-5713

TABLE OF CONTENTS

A. ADVERTISEMENT AND INVITATION TO BID

B. INSTRUCTIONS TO BIDDERS

C. BID FORM AND PROPOSAL

D. STATEMENT OF BIDDERS QUALIFICATIONS

E. BID SURETY

F. CONTRACT

G. NOTICE OF AWARD
NOTICE TO PROCEED

H. PERFORMANCE BOND
PAYMENT BOND
CERTIFICATE OF INSURANCE

I. GENERAL PROVISIONS (FAA AC 150/5370-10F)
- Section 10 Definitions of Terms
- Section 20 Proposal Requirements and Conditions
- Section 30 Award and Execution of Contract
- Section 40 Scope of Work
- Section 50 Control of Work
- Section 60 Control of Materials
- Section 70 Legal Regulations and Responsibility to Public
- Section 80 Prosecution and Progress
- Section 90 Measurement and Payment
- Section 100 Contractor Quality Control Program
- Section 110 Method of Estimating Percentage of Material Within Specification Limits
- Section 120 Nuclear Gauges

J. SPECIAL PROVISIONS

K. ADDENDA

L. WAGE RATES

M. CHANGE ORDER FORM

N. TECHNICAL SPECIFICATIONS
- Item SS-101 Contractor Safety Plan Compliance Document
- Item SS-120 Site Preparation
- P-101M Surface Preparation (Modifications)

P-101	Surface Preparation
P-152	Excavation and Embankment (Modifications)
P-152	Excavation and Embankment
P-501M	Portland Cement Concrete Pavement (Modifications)
P-501	Portland Cement Concrete Pavement
P-605M	Joint Sealing Filler (Modifications)
P-605	Joint Sealing Filler
P-620M	Runway and Taxiway Painting (Modifications)
P-620	Runway and Taxiway Painting
P-631M	Refined Coal Tar Emulsion with Additives, Slurry Seal Surface Treatment (Modifications)
P-631	Refined Coal Tar Emulsion with Additives, Slurry Seal Surface Treatment
T-904	Sodding (Modifications)
T-904	Sodding

SECTION A
ADVERTISEMENT AND INVITATION TO BID

JEFFERSON COUNTY PURCHASING DIVISION

Deborah L. Clark, County Purchasing Agent

1149 Pearl Street, Beaumont, TX 77701 409-835-8593 Fax 409-835-8456

June 16, 2014
Legal Notice Invitation for Bid

Dear Bidders:

You are invited to submit bids in accordance with specifications packet, Invitation for Bid (IFB) **14-027/KJS**, Runway 16/34 Rehabilitation at Jack Brooks Regional Airport with an original and three (3) copies to the Jefferson County Purchasing Agent, 1149 Pearl Street, 1st Floor, Beaumont, Texas 77701, no later than 11:30 AM CDT, July 22, 2014. Bids will be opened at that time.

Specifications and plans are available for download at no cost. Documents can be obtained from Garver website at ftp://ftp.garverusa.com/. Username: BPT_RW1634 Password: BPT2BIDDER

A Pre-Bid Conference will be held on Tuesday, July 8, 2014, at 2:30 PM CDT. The conference will be held in the Jack Brooks Regional Airport Commercial Terminal Media Room, 6000 Air Line Dr. Beaumont, Texas 77705. This conference will be bidder's only opportunity to view secured areas of the project.

The County shall require the bidder to furnish a bid security in the amount of five percent (5%) of the total contract cost. The bid bond must be executed with a surety company authorized to do business in the State of Texas. Within ten (10) days after the date of the signing of a contract, the bidder shall furnish a performance bond to the County for the full amount of the contract, if the contract exceeds one hundred thousand dollars ($100,000). If the contract is for one hundred thousand dollars ($100,000) or less, the County may provide that no money be paid to the contractor until completion and acceptance of the work or the fulfillment of the purchase obligation to the County.

All bidders and proposers shall make good faith efforts, as defined by Appendix A of 49 CFR Part 26, Regulations of the Office of the Secretary of Transportation, to subcontract a minimum of 15.88% of the dollar value of the prime contract to small business concerns owned and controlled by socially and economically disadvantaged individuals (DBE).

Jefferson County reserves the right to reject any or all bids, to waive irregularities in the bids and bidding deemed to be in the best interests of Jefferson County, and to reject nonconforming, nonresponsive, or conditional bids.
Bids will remain in effect for **ninety (90) calendar days** after the bid opening date.

Any questions relating to these requirements should be directed to Karen J. Smith, MBA, Assistant Purchasing Agent, at 409-835-8693.

All Bids shall be submitted to the Jefferson County Purchasing Agent in a sealed envelope marked:

BID NAME:	**Runway 16/34 Rehabilitation at Jack Brooks Regional Airport**
BID NO:	**14-027/KJS**
DUE DATE/TIME:	**July 22, 2014/11:30 AM CDT**
MAIL OR DELIVER TO:	**Jefferson County Purchasing Division** **1149 Pearl Street, 1st Floor** **Beaumont, Texas 77701**

Sincerely,

Deborah L. Clark
Purchasing Agent

Publish: Beaumont Enterprise, & Port Arthur News – June 18 and June 25, 2014

SECTION B
INSTRUCTIONS TO BIDDERS

INSTRUCTIONS TO BIDDERS

1. PREPARATION OF BID

Each bid must be submitted on the prescribed form (Proposal) and Unit Price Schedule(s). All blank spaces must be filled in legibly with ink. All blank spaces for bid prices on the Unit Price Schedules must be filled in and the extended total for each item shall be entered in figures only. If the unit price and the extended total of any item are not in agreement, the unit price shall govern and the extended total is corrected to conform thereto. Erasures or other corrections on the Proposal form or Unit Price Schedules shall be initialed by the signer of the bid. All bids must be signed in ink by an individual authorized to bind the Bidder. All bids must be regular in every respect and no interlineations, excisions, or special conditions shall be made or included in the Proposal by the Bidder.

There is a base bid unit price schedule. Bidders must submit proposals on both schedules. Bidders must quote on all items within a specific schedule; failure to do so may disqualify the bid.

There must be a bid on all items that may appear on the Unit Price Schedule(s). No bid will be considered which covers only a part of the work. A conditional bid will not be considered.

The Proposal and Unit Price Schedule(s) shall not be detached, but shall be submitted in the original binding as furnished by the Engineer. Submission must be at the place, and at or prior to the time specified in the Advertisement for Bids.

Each bid must be submitted in a sealed envelope clearly marked on the outside that it contains a bid for **Runway 16/34 Rehabilitation** and with the time and date of bid opening shown thereon. The name, address, and Texas Contractor's License Number of the Bidder shall appear in the upper left-hand corner of the envelope. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope.

A bid that obviously is unbalanced may be rejected.

2. INTERPRETATIONS AND ADDENDA

No oral interpretation will be made to any Bidder as to the meaning of the Contract Documents or any part thereof. Every request for such an interpretation shall be made in writing to Garver, 11111 Katy Freeway, Suite 910, Houston, Tx 77079. Any inquiry received forty-eight (48) hours prior to the opening of bids will be given consideration. Every interpretation made to a Bidder will be in the form of an Addendum to the contract Documents, and when issued, will be on file in the office of the Engineer at least twenty-four (24) hours before bids are opened. In addition, all Addenda will be faxed/mailed to each person holding Contract Documents, but it shall be the Bidder's responsibility to make inquiry as to the Addenda issued. All such Addenda shall become part of the Contract and all Bidders shall be bound by such Addenda, whether or not received by the Bidders.

3. INSPECTION OF SITE

Each Bidder shall visit the site of the proposed work and fully acquaint himself with the existing conditions there relating to construction and labor, and shall fully inform himself as the facilities involved, and the difficulties and restrictions attending the performance of the Contract. The Bidder shall thoroughly examine and familiarize himself with the Plans, Technical Specifications, and other Contract Documents. The Contractor by the execution of the Contract shall not be relieved of any obligation under it due to his failure to receive or examine any form or legal instrument or to visit the site and acquaint himself with the conditions there existing, and the Owner will be justified in rejecting any claim based on facts regarding which he should have been on notice as a result thereof.

4. BID GUARANTY

The bids must be accompanied by a Bid Guaranty, which shall not be less than five percent (5%), of the amount of the bid. At the option of the Bidder, the guaranty may be a certified check, or may be a Bid Bond substantially in the form attached. No bid will be considered unless it is accompanied by the required guaranty. Certified check must be payable to the order of Jack Brooks Regional Airport. Cash deposits will not be accepted. The Bid Guaranty shall insure the execution of the Agreement and the furnishing of the surety bond or bonds by the successful Bidder, all as required by the Contract Documents.

Certified check, or Bid Bonds, of unsuccessful Bidders, will be returned upon request as soon as feasible after the opening of the bids.

5. COLLUSION; SUBCONTRACTS

A Bidder submitting a Proposal to the Owner for the work contemplated by the Documents on which bidding is based shall not collude with any other person, firm, or corporation in regard to any bid submitted.

Before executing any subcontract, the successful Bidder shall submit the name of any proposed Subcontractor for prior approval of the Owner.

6. STATEMENT OF BIDDER'S QUALIFICATIONS

Each Bidder shall submit, on the form furnished for that purpose (a copy of which is included in the Contract Documents), a statement of the Bidder's qualifications, his experience record in construction of work similar to that which here is involved, and his organization and equipment available for the work contemplated; and when specifically requested by the Owner, a detailed financial statement. The Owner shall have the right to take such steps as it deems necessary to determine the ability of the Bidder to perform his obligations under the Contract and the Bidder shall furnish the Owner all such information and data for this purpose as it may request. The right is reserved to reject any bid where an investigation of the available evidence or information does not satisfy the Owner that the Bidder is qualified to carry out properly the terms of the Contract.

7. BALANCED BIDS; VARIATIONS IN QUANTITIES

The lump sum price and unit price for each of the several items in the Proposal of each Bidder shall be balanced and shall include its pro rata share of overhead.

The Owner shall have the right to increase or decrease the extent of the work, to change the location or gradient, or the dimensions of any part of the work, provided that the length of the improvement is not increased or decreased in excess of twenty-five percent (25%) of the length as determined by the Contract, or that the quantities of work to be done or the materials to be furnished are not increased or decreased in money value in excess of twenty-five percent (25%) of the total as determined by the Contract. Such changes shall not be considered as a waiver of any conditions of the Contract nor invalidate any of the provisions thereof. The Contractor shall perform the work as increased or decreased within the qualifying limits named and no allowance will be made for anticipated profits or increases or decreases so incurred. Change in length or in money value, within the twenty-five percent (25%) limits set out, shall not be cause for adjustment of any lump sum or unit price. Changes in items of work covered by unit prices and/or lump sum prices, within the twenty-five percent (25%) limits set out, shall not be cause for adjustment of any other (non-involved) lump sum or unit price.

Increases or decreases in items of work, and the cost thereof, shall be done in accordance with the Section entitled, SECTION 40-02 under GENERAL CONDITIONS.

8. TIME FOR RECEIVING BIDS

A bid received prior to the advertised hour of opening will be kept securely, and will remain sealed until the hour of opening. The officer whose duty it is to open them will decide when the specified time has arrived, and any bid received subsequent to that time will be returned unopened.

9. OPENING OF BIDS

At the time and place fixed for the opening of bids, the Owner will cause the bids to be opened and publicly read aloud, irrespective of any irregularities therein. Bidders and other persons properly interested may be present, in person or by representative. Bid qualification may be evaluated before and/or after the bid opening, at the Owner's discretion.

10. WITHDRAWAL OF BIDS

Bids may be withdrawn on written request if the request is received prior to the time fixed for the opening of bids.

11. AWARD OF CONTRACT; REJECTION OF BIDS

The Contract will be awarded to the responsible Bidder submitting the lowest total bid complying with the conditions of the Advertisement for Bids and other parts of these Contract Documents. Proposals will be evaluated on the basis of cost, the Bidder's financial responsibility, performance responsibility, technical feasibility, his equipment, and his past performance in completing similar work. The Bidder to whom the award is made will be notified at the earliest possible date, but not later than sixty (60) days after the opening of bids. The Owner, however, reserves the right to reject any or all bids and to waive any informality in bids received whenever such rejection or waiver is in its interests.

The Owner reserves the right to consider as unqualified to do the work any Bidder who does not habitually perform with his own forces the major portions of such work as is involved in construction of these improvements.

12. EXECUTION OF AGREEMENT; PERFORMANCE AND PAYMENT BOND

Subsequent to the award and within ten (10) days after the prescribed forms are presented for signature, the successful Bidder shall execute and deliver to the Owner an Agreement in the form included in the Contract Documents in such number of copies as the Owner may require.

Having satisfied all conditions of award as set forth elsewhere in these Documents, the successful Bidder shall, within the period specified above, furnish a surety bond in a penal sum not less than the amount of the Contract as awarded, as security for the faithful performance of the Contract, and for the payment of all persons, firms or corporations to whom the Contractor may become legally indebted for labor, materials, tools, equipment, or services of any nature, including utility and transportation services employed or used by him in performing the work. Such bond shall be as included in the Contract Documents and shall bear the same date as, or a date subsequent to, that of the Agreement. The current power of attorney for the person who signs for any surety company shall be attached to such bond.

The failure of the successful Bidder to execute such Agreement and to supply the required bond or bonds within ten (10) days after the prescribed forms are presented for signature, or within such extended period as the Owner may grant, based upon reasons determined sufficient by the Owner, shall constitute a default, and the Owner may either award the Contract to the next lowest responsible Bidder or readvertise for bids.

13. BONDS AND INSURANCE

Bids must be accompanied by a bid security made payable to Jefferson County in the amount of five percent (5%) of the maximum bid price provided, including alternatives. Bid security may be by certified check, money order, or Bid bond issued by a surety.

All companies furnishing Bid Bonds and Performance Bonds shall furnish evidence of being on the U.S. Treasury Department's most current list (Circular 570, as amended) and be authorized to transact business in the State of Texas.

14. CONTRACTOR'S LIABILITY INSURANCE REQUIREMENTS

The Bidder shall provide with the Proposal a listing of both automobile and personal liability insurance coverage currently in force, along with a copy of a Certificate of Insurance as verification of that coverage. In addition, the Bidder shall provide a statement of premium cost issued by the agent or insurance carrier for that coverage.

In the event the Owner determines that the low Bidder's coverage in force is inadequate, the Owner may require the low Bidder to procure additional coverage in amounts specified by the Owner. The cost of premiums for such additional coverage shall be paid by the Owner in the form of a reimbursement under the contract.

In the event the lower Bidder is unable, after diligent effort, to procure such additional coverage as may be required by the Owner, the Owner shall provide such additional coverage, naming the Contractor as insured or, at the option of the Owner, reduce the amount of additional coverage required or waive any requirement for additional coverage.

15. THIRD PARTY COVERAGE

The Contractor shall provide insurance coverage for the Engineer and the Owner as indicated in the Supplemental Conditions for Jefferson County, attached herein.

16. SIGNATORY AND CONTRACT SUBMITTALS

The Contract Documents call for all Bidders, and for the awarded Contractor, to complete and/or submit information concerning equal employment opportunity, quality control, labor items, etc. Following is a list of the items that each Bidder on the project must complete/submit with the sealed bid:

- Bid Bond
- Proposal (all pages including Unit Price Schedule)
- Statement of Bidder's Qualifications
- List of Proposed Subcontractors
- Current Automobile and Liability Insurance Coverage

The following is a list of completed forms/submittals that the apparent low Bidder will be required to complete before execution and award of the contract:

- Contract (all pages)
- Performance Bond
- Payment Bond
- Certificates of Insurance and Insurance Policies
- Third Party Insurance

The following is a list of completed forms/submittals that the awarded Contractor will be required to submit

before construction begins:

- Safety Plan Compliance Document
- Construction Schedule

Additional certifications and submittals will be required for construction materials and other items in the technical specifications.

17. LEGAL QUALIFICATIONS

All Bidders, in order to submit a bonafide Proposal, must comply with the applicable terms of the State of Texas and be certified to do business in the State of Texas.

18. MODIFICATION OF BID

No modification of any bid already submitted will be considered unless such modification is received prior to the hour set for opening for bids.

END OF INSTRUCTIONS TO BIDDERS

SECTION C
BID FORM AND PROPOSAL

PROPOSAL

Place Jefferson County, Texas

Date July 22, 2014

Proposal of APAC-Texas, Inc.,

a corporation organized and existing under the laws of the State of Delaware,

or

Proposal of N/A,

a partnership consisting of _____,

or

Proposal of N/A,

an individual doing business as _____,

To: Jack Brooks Regional Airport

This bid results from your advertisement for bids for the construction of the **RUNWAY 16/34 REHABILITATION.**

The undersigned Bidder, having visited the site of the work, having examined the Plans, Specifications, and other Contract Documents including all Addenda, and being familiar with all of the conditions relating to the construction of the proposed project, hereby agrees to comply with all other conditions or requirements set forth in the Plans, Specifications, and other Contract Documents, and further proposes to; furnish all material, supplies, equipment, and appliances; to furnish all labor, tools, equipment and incidentals to complete the work in accordance with the Plans, Specifications, and other Contract Documents at and for the lump sum and unit prices proposed in the attached Bid Form(s).

The undersigned Bidder agrees to begin work within ten (10) calendar days after the issuance by, or on behalf of, the Owner of a "Work Order" or "Notice to Proceed" (except as modified in accordance with the GENERAL FAA PROVISIONS of these Contract Documents). Should the work fail to be completed within the time herein stated, the Contractor shall pay to the Owner, as fixed and agreed liquidated damages, and not as a penalty, the sum, for each day of delay until the work is completed and accepted, as stipulated in GENERAL FAA PROVISIONS of these Contract Documents. It is understood that additional time for the completion of the project is to be allowed only for delays as stipulated in GENERAL FAA PROVISIONS of these Contract Documents.

List of Plans

Sheet No.	Title
G-101	COVER SHEET
G-102	GENERAL NOTES
G-103	CONCURRENT PROJECTS
G-201	CONSTRUCTION SAFETY AND PHASING
G-202	CONSTRUCTION SAFETY AND PHASING DETAILS
C-101	RUNWAY 16-34 REHABILITATION
C-102	RUNWAY 16-34 REHABILITATION DETAILS

Sheet No.	Title
M-101	MARKING DETAILS
M-102	MARKING DETAILS II
M-201	RUNWAY 16-34 MARKING REMOVAL PLAN
M-202	RUNWAY 16-34 MARKING PLAN

List of Technical Specifications

Specification Item No.	Description
Item SS-101	Contractor Safety Plan Compliance Document
Item SS-120	Site Preparation
	Modification to Item P-101
Item P-101	Surface Preparation
	Modification to Item P-152
Item P-152	Excavation and Embankment
	Modification to Item P-501
Item P-501	Portland Cement Concrete Pavement
	Modification to Item P-605
Item P-605	Joint Sealing Filler
	Modification to Item P-620
Item P-620	Runway and Taxiway Painting
	Modification to Item P-631
Item P-631	Refined Coal Tar Emulsion with Additives, Slurry Seal Surface Treatment
	Modification to Item T-904
Item T-904	Sodding

Bidder acknowledges receipt of the following addendum (addenda):

Addendum No. 1 dated June 23, 2014

Addendum No. 2 dated July 10, 2014

Addendum No. _____ dated _____

The undersigned Bidder agrees that this bid shall be good and shall not be withdrawn for a period of ninety (90) calendar days after the opening thereof. If written notice of the acceptance of this Proposal is mailed, telegraphed, or delivered to the undersigned within ninety (90) days after the opening thereof, or at any time thereafter before this Proposal is withdrawn, the undersigned agrees to execute and deliver an Agreement (Contract) in the prescribed form, and furnish the required Performance and Payment Bond, within ten (10) days after the Agreement is presented to him for signature.

It is understood by the undersigned Bidder that the Owner reserves the right to reject any or all bids.

The following provisions are also included by reference:

- Davis Bacon Act (29 CFR Part 5.5)
- EEO Compliance Reports (41 CFR Part 60-1.7)
- Trade Restriction Certification (49 CFR Part 30)
- Buy American Preferences (Title 49 United States Code, Chapter 501)
- Certification of Non-Segregated Facilities (41 CFR Part 60-1.8)
- Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion (49 CFR Part 29)

Accompanying this Proposal as bid security is a certified ~~check~~/bid bond (*strike one*)

In the amount of five percent of bid total Dollars

($ 5 % of bid total), being not less than five percent (5%) of the total amount of the bid for the base bid plus all alternates, as applicable. If the undersigned Bidder is the successful Bidder, but fails or refuses to execute the contract and furnish the required bond within the prescribed ten (10) days of the notification of award, then this bid security is to become the property of the Owner as liquidated damages for the delay and additional expense to the Owner caused by such failure or refusal.

JACK BROOKS REGIONAL AIRPORT
RUNWAY 16/34 REHABILITATION
BID FORM

BASE BID

BID ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	BID AMOUNT
SS-120-1	SITE PREPARATION	LS	100%	$ 53,000.00	$ 53,000.00
	Unit price in words: fifty three thousand dollars and zero /100				
P-101-5.1	CRACK SEAL ASPHALT PAVEMENT	LF	800	$ 4.05	$ 3240.00
	Unit price in words: four dollars and five /100				
P-152-4.1	EXCAVATION AND EMBANKMENT	CY	2	$ 850.00	$ 1,700.00
	Unit price in words: eight hundred fifty dollars and zero /100				
P-501-8.1a	CONCRETE SPALL REPAIR – ELASTOMERIC CONCRETE	SF	600	$ 90.00	$ 54,000.00
	Unit price in words: ninety dollars and zero /100				
P-501-8.1b	CONCRETE SPALL REPAIR – PORTLAND CEMENT CONCRETE	SF	50	$ 425.00	$ 21,250.00
	Unit price in words: four hundred twenty five dollars and zero /100				
P-605-5.1	CONCRETE JOINT CLEAN AND SEAL	LF	200	$ 4.05	$ 810.00
	Unit price in words: four dollars and five /100				
P-620-5.1	RETRO-REFLECTIVE PAVEMENT MARKINGS	SF	52,500	$ 0.65	$ 34,125.00
	Unit price in words: zero dollars and sixty-five /100				

JACK BROOKS REGIONAL AIRPORT
RUNWAY 16/34 REHABILITATION
BID FORM

BID ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	BID AMOUNT
P-620-5.2	PREFORMED RUNWAY HOLD SIGN MARKINGS	SF	1,750	$ 32.00	$ 56,000.00
	Unit price in words: thirty-two dollars and zero /100				
P-620-5.3	NON-REFLECTIVE BLACK OUTLINE	SF	13,700	$ 0.55	$ 7535.00
	Unit price in words: zero dollars and fifty-five /100				
P-620-5.4	PAVEMENT MARKING REMOVAL	LS	100%	$ 34,000.00	$ 34,000.00
	Unit price in words: thirty-four thousand dollars and zero /100				
P-631-5.1	RUNWAY 16/34 REFINED COAL TAR EMULSION WITH ADDITIVES FOR SLURRY SEAL COAT	GAL	7,500	$ 5.30	$ 39,750.00
	Unit price in words: five dollars and thirty /100				
T-904-5.1	SODDING	SY	15	$ 7.20	$ 108.00
	Unit price in words: seven dollars and twenty /100				

TOTAL (BASE BID) $ 305,518.00

Total price in words: three hundred five thousand, five hundred eighteen dollars and zero /100

It is understood the quantities of work to be done at unit prices are approximate and are intended for bidding purposes only. Amounts are to be shown in both words and figures. In case of discrepancy the amount shown in words shall govern.

Contract Award will be based on the lowest qualified bidder, depending on the availability of funds.

Bidders understand the Owner reserves the right to reject any irregular proposal and the right to waive technicalities if such waiver is in the best interest of the Owner and conforms to State and local laws and ordinances pertaining to the letting of construction contracts. Funding availability will be considered in selecting the bid award. The bidder agrees this bid shall be honored and may not be withdrawn for a period of 90 calendar days after the scheduled closing time for receiving bids.

Bidder hereby agrees to commence work under this contract on or before a date to be specified in a written "Notice to Proceed" and to fully complete the project within:

- **30 Calendar Days** thereafter.

Bidder further agrees to pay as liquidated damages the sum of **One Thousand** Dollars **($1,000.00)** for each calendar day to complete the work beyond the allotted time or as extended by an approved Change Order or Supplemental Agreement.

Melin McKague
(Witness)

APAC-Texas, Inc.
(Name of Bidder)

By

Scott Blanchard, Asst. Secretary
(Print Name and Title)

(Address)

12907 US Hwy 90

Beaumont, TX 77713
(Office Address of Bidder)

SEAL (If Bidder is a corporation)

NOTES: Sign in ink. Do not detach.
Items must be bid upon as specified in the Bid Form.

SECTION D
STATEMENT OF BIDDER'S QUALIFICATIONS

STATEMENT OF BIDDER'S QUALIFICATIONS

All questions must be answered and the data given must be clear and comprehensive. This statement must be notarized. If necessary, questions may be answered on separate attached sheets. The Bidder may submit any additional information he desires.

1. Name of Bidder APAC-Texas, Inc.
2. Permanent main office address
   12907 US Hwy 90
   Beaumont, TX 77713
3. When organized 1945
4. If a corporation, where incorporated 1980
5. How many years have been engaged in the contracting business under your present firm or trade name? 68
6. Contracts on hand: (Schedule these, showing amount of each contract and the appropriate anticipated dates of completion)
   Please see attached.

   General character of work performed by your company Road, highway and bridge construction
7. Have you ever failed to complete any work awarded to you? No
8. Have you ever defaulted on a Contract? No
   If so, where and why?
9. Have you ever been fined or had your license suspended by a Contractor's Licensing Board? No
   If so, where and why?
10. List the more important projects recently completed by your company, stating the approximate cost for each, and the month and year completed (attach to back of this document). Please see attached.
11. List your major equipment available for this Contract (attach to back of this document). Please see attached.
12. List your experience in construction work similar in scope and scale to this project (attach to back of this document). Please see attached.
13. Background and experience of the principal members of your organization, including the officers (attach to back of this document). Please see attached.
14. Credit available: $ Available upon request.
15. Give Bank reference: Bank of America Lois Marshall FAX: 415-343-9310

16. Will you, upon request, fill out a detailed financial statement and furnish any other information that may be required by the Owner? Yes

The undersigned hereby authorizes and requests any person, firm, or corporation to furnish any information requested by the Owner, in verification of the recitals comprising this statement of Bidder's Qualifications.

The Bidder shall provide a brief description of any litigation or administrative proceeding of the following types, either pending or concluded within the proceeding year, to which the Bidder (and the ultimate controlling person, if different from the Bidder) or any of its directors or executive officers was a party or of which the property of any such person is or was the subject; the names of the parties and the court or agency in which such litigation or proceeding is or was pending shall be given:

(a) Administrative or judicial proceedings of any state federal agency or authority concerning environmental violations;

(b) Proceedings which may have a material effect upon the solvency of the ultimate holding company, including but not necessarily limited to, bankruptcy and receivership; and

(c) Criminal proceedings.

Dated at APAC-Texas, Inc. this 22nd day of July, 20 14.

APAC-Texas, Inc.
(Name of Bidder)
By
Scott Blanchard
Title Asst. Secretary

STATE OF Texas)
) §.
COUNTY OF Jefferson)

Scott Blanchard being duly sworn deposes and says that he is
Asst. Secretary of APAC-Texas, Inc.
(Name of Organization)

and that the answers to the foregoing questions and all statements therein contained are true and correct.
SUBSCRIBED AND SWORN TO BEFORE ME this 22nd day of July, 20 14.

(Notary Public) Melissa McKague

My Commission Expires:
June 14, 2016

MELISSA MCKAGUE
Notary Public, State of Texas
My Commission Expires
June 14, 2016

SECTION E
BID SURETY

INSERT BID SURETY HERE

SECTION F
CONTRACT

CONTRACT

THIS AGREEMENT made this _____ day of _____, 2014, by and between **APAC-Texas, Inc.** a Corporation organized and existing under the laws of the State of **TEXAS** hereinafter called the "Contractor", and **JEFFERSON COUNTY, TEXAS**, hereinafter called the "Owner".

WITNESSETH:

That the Contractor and the Owner for the consideration stated herein mutually agree as follows:

ARTICLE 1. Statement of Work. The Contractor shall furnish all supervision, technical personnel, labor, materials, machinery, tools, equipment, incidentals and services, including utility and transportation services and perform and complete all work required for the construction of **RUNWAY 16/34 REHABILITATION at Jack Brooks Regional Airport** in strict accordance with the Contract Documents.

ARTICLE 2. The Contract Price. The Owner will pay the Contractor, because of his performance of the Contract, for the total quantities of work performed at the lump sum and unit prices stipulated in the Proposal for the **Base Bid, not to exceed a total contract value of Three hundred and five thousand, five hundred eighteen dollars and no /100 ($305,518.00)** subject to additions, and deductions as provided in the Section entitled "CHANGES IN THE WORK" under GENERAL PROVISIONS.

ARTICLE 3. Contract Time. The Contractor agrees to begin work within ten (10) calendar days after issuance by the Owner of a "Work Order" or "Notice to Proceed" and to complete the work within **THIRTY (30)** consecutive calendar days thereafter (except as modified in accordance with the GENERAL PROVISIONS of these Contract Documents). If the Contractor shall fail to complete the work within the time specified, he and his Surety shall be liable for payment to the Owner, as liquidated damages ascertained and agreed, and not in the nature of a penalty, the amount specified in the PROPOSAL of these Contract Documents for each day of delay. To the extent sufficient in amount, liquidated damages shall be deducted from the payments to be made under this Contract.

ARTICLE 4. Contract. The executed Contract Documents shall consist of the following:

a. Advertisement and Invitation to Bidders
b. Instructions to Bidders
c. Bid Form and Proposal
d. Executed Contract
e. Statement of Bidder's Qualifications
f. List of Proposed Subcontractors
g. Performance and Payment Bonds
h. Certificates of Insurance and Insurance Policies
i. General Provisions (FAA AC 150/5370-10F)
j. Special Provisions
k. Addenda (if any)
l. Wage Rates
m. Technical Specifications
n. Drawings
o. Third Party Insurance

This Agreement, together with other Documents enumerated in this Article 4, which said other Documents are as fully a part of the Contract as if hereto attached or herein repeated, form the Contract between the parties hereto. In the event that any provisions in any component part of this Contract conflicts with any

provision of any other component part, the conflict shall be resolved by the Engineer whose decision shall be final.

ARTICLE 5. Surety. The Surety on the Performance-Payment Bond shall be a surety company of financial resources satisfactory to the Owner, authorized to do business in the State of Texas, and shall comply with applicable Texas laws.

IN WITNESS WHEREOF, the parties hereto have caused this AGREEMENT to be executed in four (4) counterparts, each of which shall be considered an original on the day and year first above written.

APAC-Texas, Inc.
(Contractor)

ATTEST: _____ By _____

Title: Asst. Secretary

12907 US Highway 90
(Street)

Beaumont, Texas 77713
(City)

JEFFERSON COUNTY, TEXAS,
(Owner)

ATTEST: _____ By _____

_____ Title: _____
(Print the names underneath all signatures)

SECTION G
NOTICE OF AWARD AND NOTICE TO PROCEED

NOTICE OF AWARD

DATED: August 28, 2014

TO: APAC-Texas, Inc.

ADDRESS: 12907 US Hwy 90
Beaumont, TX 77713

PROJECT OWNER: JEFFERSON COUNTY

FAA AIP GRANT No. 3-48-0018-030-2014

CONTRACT FOR: RUNWAY 16/34 REHABILITATION

CONSTRUCTION OF: JACK BROOKS REGIONAL AIRPORT

****

You are notified that your Bid dated July 22, 2014 for the above Contract has been considered. You are the apparent Successful Bidder and have been awarded a contract for Base Bid .

The Contract Price of your contract is Three hundred and five thousand, five hundred eighteen dollars and no /100 ($305,518.00) .

You must comply with the following conditions precedent within FIFTEEN (15) days of the date of this *Notice of Award* that is by, September 12, 2014.

1. You must deliver to the **OWNER** 4 fully executed counterparts of the Agreement including all the Contract Documents.

2. You must deliver with the executed Agreement the Contract Security (Bonds) as specified in the Advertisement for Bids, General Conditions (Article 2), and Supplementary Conditions.

3. You must deliver to the **OWNER** 4 original ***Certificates of Insurance***, naming the Owner ***(Jefferson County)*** and Engineer ***(Garver, LLC.)*** and their respective agents and employees, to be expressly named as additional insured's, in accordance with the General Conditions.

Failure to comply with these conditions within the time specified will entitle OWNER to consider your bid in default, to annul this Notice of Award, and to declare your Bid Security forfeited.

Within ten (10) days after you comply with the above conditions, OWNER will return to you one (1) fully signed counterpart of the Agreement with the Contract Documents attached.

Sincerely,
GARVER, LLC

For Thomas D Dodson, PE
Senior Project Manager

ACCEPTANCE OF AWARD:
CONTRACTOR:
APAC-Texas, Inc.
BY:
TITLE: Asst. Secretary
DATE: 9/3/2014

NOTICE TO PROCEED
DATED:_____ , 2014

TO:

ADDRESS:

PROJECT: RUNWAY 16/34 REHABILITATION for Jack Brooks Regional Airport
CONTRACT: 14-027/KJS

****

You are notified that the Contract Times under the above contract will commence to run on _____, 2014. By that date, you are to start performing your obligations under the Contract Documents. In accordance with Articles of the Agreement the dates of Substantial Completion and completion and readiness for final payment are _____, 2014.

Before you may start any Work at the site, Section A of the Supplemental General Conditions provides that you must deliver to the Engineer and or County Certificates of Insurance which you are required to purchase and maintain in accordance with the Supplemental General Conditions.

JEFFERSON COUNTY, TEXAS,
(OWNER)

BY: _____

_____
(TITLE)

ACCEPTANCE OF AWARD:
BY:
APAC-Texas, Inc.
(CONTRACTOR)
(AUTHORIZED SIGNATURE)
Asst. Secretary
(TITLE)
9/3/2014
(DATE)

SECTION H
PAYMENT, PERFORMANCE BONDS and CERTIFICATE of INSURANCE

PERFORMANCE BOND

Bond Number: SUR7404075

KNOW ALL MEN BY THESE PRESENTS, that we

APAC - TEXAS, INC.
12907 U.S. HIGHWAY 90, BEAUMONT, TX 77713

, as Principal (the "Principal"), and XL Specialty Insurance Company, a corporation duly organized under the laws of the State of Delaware, as Surety (the "Surety"), are held and firmly bound unto

JEFFERSON COUNTY ,
1149 PEARL STREET, 1ST FLOOR, BEAUMONT, TX 77701

, as Obligee (the "Obligee"), in the penal sum of Three Hundred And Five Thousand Five Hundred And Eighteen And 00/100

Dollars ($305,518.00),

for the payment of which sum well and truly to be made, the Principal and the Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has by written agreement, dated_____ , entered into a contract (the "Contract") with the Obligee for RUNWAY 16/34 REHABILITATION AT JACK BROOKS REGIONAL AIRPORT - CONTRACT NO. 14-027/KJS

which Contract is by reference made a part hereof.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the Principal shall promptly and faithfully perform the Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

PROVIDED AND SUBJECT TO THE CONDITIONS PRECEDENT:

1. Whenever the Principal shall be, and be declared by the Obligee to be in default under the Contract, the Obligee having performed the Obligee's obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

   1.1 Complete the contract in accordance with its terms and conditions, or

   1.2 Obtain a bid or bids from alternative contracts to complete the Contract in accordance with its terms and conditions, and upon determination by the Surety of the lowest responsible bidder, or if the Obligee elects, upon determination by the Obligee and the Surety jointly of the lowest responsible bidder, arrange for a contract between such bidder and the Obligee, and make available as work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph of this bond. The term "balance of the contract price," as used in this paragraph, shall mean the total amount payable by the Obligee to the Principal under the Contract and any amendments thereto, less the amount properly paid by the Obligee to the Principal.

2. Notwithstanding any other provision of this bond or the Contract, or otherwise, the Surety is not responsible for and shall not be held liable to the Obligee for any hazardous waste removal and the Surety shall not be held liable to, or in any other respect be responsible to, the Obligee by way of indemnity, claims or otherwise, or to any public authority or to any other person, firm or corporation, for or on account of any fines or claims by any public authority or for bodily injuries or property damage to any person or thing, including, but not limited to, injury or damage due to the release or threat of release of hazardous substances of any kind or damage to real estate or to the environment or clean-up costs or other damages of whatever kind or nature arising out of any act of commission or omission by the Principal, the Principal's agents, servants, employees, subcontractors or suppliers or any other person in connection with the performance of the Contract. This limitation applies regardless of when any such fine is assessed, claim is made, or injury, damage, release or threat of release occurs and without regard to any term of condition of the Contract.

PAYMENT BOND

Bond Number: SUR7404075

KNOW ALL MEN BY THESE PRESENTS, that we

APAC - TEXAS, INC.
12907 U.S. HIGHWAY 90, BEAUMONT, TX 77713

, as Principal (the "Principal"), and XL Specialty Insurance Company, a corporation duly organized under the laws of the State of Delaware, as Surety (the "Surety"), are held and firmly bound unto

JEFFERSON COUNTY ,
1149 PEARL STREET, 1ST FLOOR, BEAUMONT, TX 77701

, as Obligee (the "Obligee"), in the penal sum of Three Hundred And Five Thousand Five Hundred And Eighteen And 00/100

Dollars ($305,518.00),

for the payment of which sum well and truly to be made, the Principal and the Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has by written agreement, dated_____ , entered into a contract (the "Contract") with the Obligee for RUNWAY 16/34 REHABILITATION AT JACK BROOKS REGIONAL AIRPORT - CONTRACT NO. 14-027/KJS

which Contract is by reference made a part hereof.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the Principal shall promptly make payment to all Claimants, as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

PROVIDED AND SUBJECT TO THE CONDITIONS PRECEDENT:

1. A "Claimant" is defined as one having a direct contract with the Principal or with a subcontractor of the Principal for labor, material, or both, used or reasonably required for use in the performance of the Contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.

2. The Principal and the Surety hereby jointly and severally agree with the Obligee that every Claimant, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such Claimant's work or labor was done or performed, or materials were furnished by such Claimant, may sue on this bond for the use of such Claimant, prosecute the suit to final judgment for such sum or sums as may be justly due Claimant, and have execution thereon. The Obligee shall not be liable for the payment of any costs or expenses of any such suit.

3. No suit or action shall be commenced hereunder by any Claimant:

   (a) Unless Claimant, other than one having a direct contract with the Principal, shall have given written notice to the Principal and the Surety within ninety (90) days (or such lesser or greater time period as otherwise permitted by relevant law) after such Claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in separate envelopes addressed to the Principal and Surety.

   (b) Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the project, or any part thereof, is situated, or in the United States District Court for the district in which the project, or any part thereof, is situated, and not elsewhere.

   (c) After the expiration of one (1) year (or such lesser or greater time period as otherwise permitted by relevant law) from the date on which the Principal ceased work on the Contract. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

SURETY ACKNOWLEDGMENT

STATE OF UTAH }
COUNTY OF SALT LAKE } **SS**

On this 3RD day of SEPTEMBER, 2014, before me personally came TINA DAVIS to me known, who, being by me duly sworn, did depose and say that she is an Attorney-In-Fact of XL SPECIALTY INSURANCE COMPANY the corporation described in and which executed the within instrument; that she knows the corporate seal of said corporation, that the seal affixed to the within instrument is such corporate seal, and that she signed the said instrument and affixed the said seal as Attorney-In-Fact of the Board of Directors of said corporation and by authority of this office under the Standing Resolutions thereof.

Notary Public

LISA HALL
Notary Public, State of Utah
Commission # 605901
My Commission Expires
March 13, 2015

VOID VOID VOID VOID

XL Group Insurance Reinsurance

Power of Attorney
XL Specialty Insurance Company
Greenwich Insurance Company
XL Reinsurance America Inc.

THIS IS NOT A BOND NUMBER
UNLIMITED POWER OF ATTORNEY
XL1511817

KNOW ALL MEN BY THESE PRESENTS: That XL Specialty Insurance Company, Greenwich Insurance Company, Delaware insurance companies with offices located at 505 Eagleview Blvd., Exton, PA 19341, and XL Reinsurance America Inc., a New York insurance company with offices located at 70 Seaview Avenue, Stamford, CT 06902, , do hereby nominate, constitute, and appoint:
Lindsey Plattner, Lisa Hall, Jessica Arnold, Tina Davis

each its true and lawful Attorney(s)-in-fact to make, execute, attest, seal and deliver for and on its behalf, as surety, and as its act and deed, where required, any and all bonds and undertakings in the nature thereof, , for the penal sum of no one of which is in any event to exceed UNLIMITED.

Such bonds and undertakings, when duly executed by the aforesaid Attorney (s) - in - Fact shall be binding upon each said Company as fully and to the same extent as if such bonds and undertakings were signed by the President and Secretary of the Company and sealed with its corporate seal.

The Power of Attorney is granted and is signed by facsimile under and by the authority of the following Resolutions adopted by the Board of Directors of each of the Companies on the 20th day of March 2014.

RESOLVED, that Gary Kaplan, David Hewett, William Mills, Gregory Boal and Kevin Mirsch are hereby appointed by the Board as authorized to make, execute, seal and deliver for and on behalf of the Company, any and all bonds, undertakings, contracts or obligations in surety or co-surety with others and that the Secretary or any Assistant Secretary of the Company be and that each of them hereby is authorized to attest the execution of any such bonds, undertakings, contracts or obligations in surety or co-surety and attach thereto the corporate seal of the Company.

RESOLVED, FURTHER, that Gary Kaplan, David Hewett, William Mills, Gregory Boal and Kevin Mirsch each is hereby authorized to execute powers of attorney qualifying the attorney named in the given power of attorney to execute, on behalf of the Company, bonds and undertakings in surety or co-surety with others, and that the Secretary or any Assistant Secretary of the Company be, and that each of them is hereby authorized to attest the execution of any such power of attorney, and to attach thereto the corporate seal of the Company.

RESOLVED, FURTHER, that the signature of such officers named in the preceding resolutions and the corporate seal of the Company may be affixed to such powers of attorney or to any certificate relating thereto by facsimile, and any such power of attorney or certificate bearing such facsimile signatures or facsimile seal shall be thereafter valid and binding upon the Company with respect to any bond, undertaking, contract or obligation in surety or co-surety with others to which it is attached.

IN WITNESS WHEREOF, the XL SPECIALTY INSURANCE COMPANY and GREENWICH INSURANCE COMPANY has caused its corporate seal to be hereunto affixed, and these presents to be signed by its duly authorized officers this March 20th, 2014.

XL SPECIALTY INSURANCE COMPANY
GREENWICH INSURANCE COMPANY

By: David S. Hewett
SENIOR VICE PRESIDENT

Attest: Teri Ann Perkins
SECRETARY

STATE OF CONNECTICUT
COUNTY OF FAIRFIELD

On this 20th day of March, 2014, before me personally came David S. Hewett to me known, who, being duly sworn, did depose and say: that he is Senior Vice President of XL SPECIALTY INSURANCE COMPANY and GREENWICH INSURANCE COMPANY, described in and which executed the above instrument, that he knows the seals of said Companies; that the seals affixed to the aforesaid instrument is such corporate seals and were affixed thereto by order and authority of the Boards of Directors of said Companies; and that he executed the said instrument by like order.

KIM D. SILVA
NOTARY PUBLIC
My Commission Expires
June 30, 2018
STATE OF CONNECTICUT

Kim D. Silva
NOTARY PUBLIC

STATE OF CONNECTICUT

NOTICE TO POLICYHOLDERS

TEXAS

IMPORTANT NOTICE

To obtain information or make a complaint:

You may contact your agent.

You may call XL Insurance toll-free telephone number for information or to make a complaint at

1-800-622-7311

You may also write to XL Insurance at

Seaview House
70 Seaview Avenue
Stamford, CT 06902-6040

You may contact the Texas Department of Insurance to obtain information on companies, coverages, rights or complaints at

1-800-252-3439

You may write the Texas Department of Insurance

P.O. Box 149104
Austin, TX 78714-9104
FAX: (512) 475-1771
Web: http://www.tdi.state.tx.us
E-mail:
ConsumerProtection@tdi.state.tx.us

PREMIUM OR CLAIM DISPUTES: Should you have a dispute concerning your premium or about a claim, you should contact the agent first. If the dispute is not resolved, you may contact the Texas Department of Insurance.

ATTACH THIS NOTICE TO YOUR POLICY: This notice is for information only and does not become a part or condition of the attached document.

AVISO IMPORTANTE

Para obtener Informacion o para someter una queja:

Puede comunicarse con su agente.

Usted puede llamar al numero de telefono gratis de XL Insurance para informacion o para someter una queja al

1-800-622-7311

Usted tambien puede escribir a XL Insurance

Seaview House
70 Seaview Avenue
Stamford, CT 06902-6040

Puede comunicarse con el Departamento de Seguros de Texas para obtener informacion acerca de companias, coberturas, derechos o quejas al

1-800-252-3439

Puede escribir al Departamento de Seguros de Texas

P.O. Box 149104
Austin, TX 78714-9104
FAX: (512) 475-1771
Web: http://www.tdi.state.tx.us
E-mail:
ConsumerProtection@tdi.state.tx.us

DISPUTAS SOBRE PRIMAS O RECLAMOS: Si tiene una disputa concerniente a su prima o a un reclamo, debe comunicarse con el agente primero. Si no se resuelve la disputa, puede entonces comunicarse con el departamento (TDI).

UNA ESTE AVISO A SU POLIZA: Este aviso es solo para proposito de informacion y no se convierte en parte o condicion del documento adjunto.

© 2011 X.L. America, Inc. All Rights Reserved.
May not be copied without permission.

PAYMENT BOND

PERFORMANCE BOND

Certificate of Insurance

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON YOU THE CERTIFICATE HOLDER. THIS CERTIFICATE IS NOT AN INSURANCE POLICY AND DOES NOT AMEND, EXTEND, OR ALTER THE COVERAGE AFFORDED BY THE POLICIES LISTED BELOW. POLICY LIMITS ARE NO LESS THAN THOSE LISTED, ALTHOUGH POLICIES MAY INCLUDE ADDITIONAL SUBLIMIT/LIMITS NOT LISTED BELOW.

This is to Certify that

APAC Texas, Inc.
Trotti & Thomson
12907 UW Highway 90
Beaumont TX 77713

NAME AND ADDRESS OF INSURED

Liberty Mutual. INSURANCE

is, at the issue date of this certificate, insured by the Company under the policy(ies) listed below. The insurance afforded by the listed policy(ies) is subject to all their terms, exclusions and Conditions and is not altered by any requirement, term or condition of any contract or other document with respect to which this certificate may be issued.

TYPE OF POLICY	EXP DATE ☐ CONTINUOUS ☐ EXTENDED ☑ POLICY TERM	POLICY NUMBER	LIMIT OF LIABILITY	
WORKERS COMPENSATION	9/1/2015	WA7-C8D-004095-024 WC7-C81-004095-014	COVERAGE AFFORDED UNDER WC LAW OF THE FOLLOWING STATES: -024: All States except OH, ND, WA, WY and WI -014: WI	**EMPLOYERS LIABILITY** Bodily Injury by Accident $1,000,000 Each Accident Bodily Injury By Disease $1,000,000 Policy Limit Bodily Injury By Disease $1,000,000 Each Person
COMMERCIAL GENERAL LIABILITY ☑ OCCURRENCE ☐ CLAIMS MADE	9/1/2015 RETRO DATE	TB2-C81-004095-114 -Per Project Aggregate Included.	General Aggregate $2,000,000 Products / Completed Operations Aggregate $2,000,000 Each Occurrence $2,000,000 Personal & Advertising Injury $2,000,000 Per Person / Organization Other Fire Damage-$100,000 Other Medical Exp-$5,000	
AUTOMOBILE LIABILITY ☑ OWNED ☑ NON-OWNED ☑ HIRED	9/1/2015	AS2-C81-004095-124 Comp Ded $10,000 Coll Ded $10,000	Each Accident—Single Limit $2,000,000 B.I. And P.D. Combined Each Person Each Accident or Occurrence Each Accident or Occurrence	
OTHER				

ADDITIONAL COMMENTS

RE: APAC 25-3114/Jeff Co. 14-027/KJS, Jefferson Co. Jack Brooks Regional Airport Runway 16/34 Rehabilitation, Jefferson County, TX. Jefferson County and Garver, LLC, its Officers, Agents, and Employees are listed as additional insured with regards to the general liability policy, where required by written contract. Workers compensation includes a waiver of subrogation in favor of the additional insured, where required by written contract and where applicable by law.

* If the certificate expiration date is continuous or extended term, you will be notified if coverage is terminated or reduced before the certificate expiration date.

NOTICE OF CANCELLATION: (NOT APPLICABLE UNLESS A NUMBER OF DAYS IS ENTERED BELOW.) BEFORE THE STATED EXPIRATION DATE THE COMPANY WILL NOT CANCEL OR REDUCE THE INSURANCE AFFORDED UNDER THE ABOVE POLICIES UNTIL AT LEAST 30 DAYS NOTICE OF SUCH CANCELLATION HAS BEEN MAILED TO:

APAC 25-3114/Jeff Co. 14-027/KJS

Jefferson County, Texas
and Garver USA
1149 Pearl Street, 1st Floor
Beaumont TX 77701

Certificate Holder

Liberty Mutual Insurance Group

Stanley S. Esposito, Jr

Stan Esposito
AUTHORIZED REPRESENTATIVE

Pittsburgh / 0387
12 Federal Street, Ste. 310
Pittsburgh PA 15212-5706 412-231-1331 9/9/2014
OFFICE PHONE DATE ISSUED

This certificate is executed by LIBERTY MUTUAL INSURANCE GROUP as respects such insurance as is afforded by those Companies NM 772 07-10

CERT NO.: 21513634 CLIENT CODE: LM_44 Nicholas Misoni 9/9/2014 5:25:30 PM (EDT) Page 1 of 1

LDI COI 268896 02 11

Liberty Mutual Group

157 Berkeley Street
Boston, MA 02116
Tel: (617) 654-4096
Fax: (857) 224-9010

September 9, 2014

Re: Oldcastle Inc.

APAC Trotti & Thomson
Policy # TB2-C81-004095-114, AS2-C81-004095-124, WA7-C8D-004095-024, WC7-C81-004095-014, EW7-68N-004095-344, EW1-68N-025031-014, EW5-68N-035719-324

To Whom It May Concern:

Please accept this letter as confirmation that this customer has renewed with Liberty Mutual Insurance and coverage continues under the attached expiring endorsements. We will release the renewal endorsements for the current policy period of 9/1/14 – 9/1/15 within 30 days at which time, we will provide you copies of the endorsements for your file.

Endorsements:
WC 00 03 13 - Waiver of Our Right to Recover from Others Endorsement

CG 20 10 04 13 – Additional Insured – Owners, Lessees or Contractors
CG 20 37 04 13 – Additional Insured – Owners, Lessees or Contractors – Completed Operations
CG 24 04 05 09 - Waiver of our Right to Recover From Others Endorsement
LD 24 10 07 13 - Primary and Non Contributory -Scheduled Additional Insured

AC 84 23 08 11 – Designated Insured – Noncontributing
CA 04 44 10 13 – Waiver of Transfer of Rights of Recovery against Other to US (Waiver of Subrogation)
CA 20 48 10 13 – Designated Insured
AC 70 01 03 12 – Endorsement for Motor Carrier Policies of Insurance(MCS90)

I hope this will suffice for verification purposes. If you have any questions, please contact me at 617-654-4096.

Regards,

Natalie O'Brien
Underwriting Technical Specialist

INSERT INSURANCE DOCUMENTS HERE

SECTION I
GENERAL PROVISIONS
(FAA AC 150/5370-10F)

GENERAL PROVISIONS
SECTION 10
DEFINITION OF TERMS

Whenever the following terms are used in these specifications, in the contract, or in any documents or other instruments pertaining to construction where these specifications govern, the intent and meaning shall be interpreted as follows:

10-01 AASHTO. The American Association of State Highway and Transportation Officials, the successor association to AASHO.

10-02 ACCESS ROAD. The right-of-way, the roadway and all improvements constructed thereon connecting the airport to a public highway.

10-03 ADVERTISEMENT. A public announcement, as required by local law, inviting bids for work to be performed and materials to be furnished.

10-04 AIP. The Airport Improvement Program, a grant-in-aid program, administered by the Federal Aviation Administration.

10-05 AIR OPERATIONS AREA. For the purpose of these specifications, the term air operations area shall mean any area of the airport used or intended to be used for the landing, takeoff, or surface maneuvering of aircraft. An air operation area shall include such paved or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiway, or apron.

10-06 AIRPORT. Airport means an area of land or water which is used or intended to be used for the landing and takeoff of aircraft; an appurtenant area used or intended to be used for airport buildings or other airport facilities or rights of way; and airport buildings and facilities located in any of these areas, and includes a heliport.

10-07 ASTM. The American Society for Testing and Materials.

10-08 AWARD. The acceptance, by the Owner, of the successful bidder's proposal.

10-09 BIDDER. Any individual, partnership, firm, or corporation, acting directly or through a duly authorized representative, who submits a proposal for the work contemplated.

10-10 BUILDING AREA. An area on the airport to be used, considered, or intended to be used for airport buildings or other airport facilities or rights-of-way together with all airport buildings and facilities located thereon.

10-11 CALENDAR DAY. Every day shown on the calendar.

10-12 CHANGE ORDER. A written order to the Contractor covering changes in the plans, specifications, or proposal quantities and establishing the basis of payment and contract time adjustment, if any, for the work affected by such changes. The work, covered by a change order, shall be within the scope of the contract.

10-13 CONTRACT. The written agreement covering the work to be performed. The awarded contract shall include, but is not limited to: The Advertisement; The Contract Form; The Proposal; The Performance Bond; The Payment Bond; any required insurance certificates; The Specifications; The Plans, and any addenda issued to bidders.

10-14 CONTRACT ITEM (PAY ITEM). A specific unit of work for which a price is provided in the contract.

10-15 CONTRACT TIME. The number of calendar days or working days, stated in the proposal, allowed for completion of the contract, including authorized time extensions. If a calendar date of completion is stated in the proposal, in lieu of a number of calendar or working days, the contract shall be completed by that date.

10-16 CONTRACTOR. The individual, partnership, firm, or corporation primarily liable for the acceptable performance of the work contracted and for the payment of all legal debts pertaining to the work who acts directly or through lawful agents or employees to complete the contract work.

10-17 DRAINAGE SYSTEM. The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the airport area.

10-18 ENGINEER. The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for engineering inspection of the contract work and acting directly or through an authorized representative.

10-19 EQUIPMENT. All machinery, together with the necessary supplies for upkeep and maintenance, and also all tools and apparatus necessary for the proper construction and acceptable completion of the work.

10-20 EXTRA WORK. An item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, but which is found by the Engineer to be necessary to complete the work within the intended scope of the contract as previously modified.

10-21 FAA. The Federal Aviation Administration of the U.S. Department of Transportation. When used to designate a person, FAA shall mean the Administrator or his/her duly authorized representative.

10-22 FEDERAL SPECIFICATIONS. The Federal Specifications and Standards, Commercial Item Descriptions, and supplements, amendments, and indices thereto are prepared and issued by the General Services Administration of the Federal Government.

10-23 FORCE ACCOUNT. Force account construction work is construction that is accomplished through the use of material, equipment, labor, and supervision provided by the Owner or by another public agency pursuant to an agreement with the Owner.

10-24 INSPECTOR. An authorized representative of the Engineer assigned to make all necessary inspections and/or tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.

10-25 INTENTION OF TERMS. Whenever, in these specifications or on the plans, the words "directed," "required," "permitted," "ordered," "designated," "prescribed," or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Engineer is intended; and similarly, the words "approved," "acceptable," "satisfactory," or words of like import, shall mean approved by, or acceptable to, or satisfactory to the Engineer, subject in each case to the final determination of the Owner.

Any reference to a specific requirement of a numbered paragraph of the contract specifications or a cited standard shall be interpreted to include all general requirements of the entire section, specification item, or cited standard that may be pertinent to such specific reference.

10-26 LABORATORY. The official testing laboratories of the Owner or such other laboratories as may be designated by the Engineer.

10-27 LIGHTING. A system of fixtures providing or controlling the light sources used on or near the airport or within the airport buildings. The field lighting includes all luminous signals, markers, floodlights, and illuminating devices used on or near the airport or to aid in the operation of aircraft landing at, taking off from, or taxiing on the airport surface.

10-28 MAJOR AND MINOR CONTRACT ITEMS. A major contract item shall be any item that is listed in the proposal, the total cost of which is equal to or greater than 20 percent of the total amount of the award contract. All other items shall be considered minor contract items.

10-29 MATERIALS. Any substance specified for use in the construction of the contract work.

10-30 NOTICE TO PROCEED. A written notice to the Contractor to begin the actual contract work on a previously agreed to date. If applicable, the Notice to Proceed shall state the date on which the contract time begins.

10-31 OWNER. The term "Owner" shall mean the party of the first part or the contracting agency signatory to the contract. For AIP contracts, the term "sponsor" shall have the same meaning as the term "Owner." Where the term "Owner" is capitalized in this document, it shall mean airport owner or sponsor only.

10-32 PAVEMENT. The combined surface course, base course, and subbase course, if any, considered as a single unit.

10-33 PAYMENT BOND. The approved form of security furnished by the Contractor and his/her surety as a guaranty that he will pay in full all bills and accounts for materials and labor used in the construction of the work.

10-34 PERFORMANCE BOND. The approved form of security furnished by the Contractor and his/her surety as a guaranty that the Contractor will complete the work in accordance with the terms of the contract.

10-35 PLANS. The official drawings or exact reproductions which show the location, character, dimensions and details of the airport and the work to be done and which are to be considered as a part of the contract, supplementary to the specifications.

10-36 PROJECT. The agreed scope of work for accomplishing specific airport development with respect to a particular airport.

10-37 PROPOSAL. The written offer of the bidder (when submitted on the approved proposal form) to perform the contemplated work and furnish the necessary materials in accordance with the provisions of the plans and specifications.

10-38 PROPOSAL GUARANTY. The security furnished with a proposal to guarantee that the bidder will enter into a contract if his/her proposal is accepted by the Owner.

10-39 RUNWAY. The area on the airport prepared for the landing and takeoff of aircraft.

10-40 SPECIFICATIONS. A part of the contract containing the written directions and requirements for completing the contract work. Standards for specifying materials or testing which are cited in the contract specifications by reference shall have the same force and effect as if included in the contract physically.

10-41 SPONSOR. See definition above of "Owner."

10-42 STRUCTURES. Airport facilities such as bridges; culverts; catch basins, inlets, retaining walls, cribbing; storm and sanitary sewer lines; water lines; underdrains; electrical ducts, manholes, handholes, lighting fixtures and bases; transformers; flexible and rigid pavements; navigational aids; buildings; vaults;

and, other manmade features of the airport that may be encountered in the work and not otherwise classified herein.

10-43 SUBGRADE. The soil that forms the pavement foundation.

10-44 SUPERINTENDENT. The Contractor's executive representative who is present on the work during progress, authorized to receive and fulfill instructions from the Engineer, and who shall supervise and direct the construction.

10-45 SUPPLEMENTAL AGREEMENT. A written agreement between the Contractor and the Owner covering (1) work that would increase or decrease the total amount of the awarded contract, or any major contract item, by more than 25 percent, such increased or decreased work being within the scope of the originally awarded contract; or (2) work that is not within the scope of the originally awarded contract.

10-46 SURETY. The corporation, partnership, or individual, other than the Contractor, executing payment or performance bonds that are furnished to the Owner by the Contractor.

10-47 TAXIWAY. For the purpose of this document, the term taxiway means the portion of the air operations area of an airport that has been designated by competent airport authority for movement of aircraft to and from the airport's runways or aircraft parking areas.

10-48 WORK. The furnishing of all labor, materials, tools, equipment, and incidentals necessary or convenient to the Contractor's performance of all duties and obligations imposed by the contract, plans, and specifications.

10-49 WORKING DAY. A working day shall be any day other than a legal holiday, Saturday, or Sunday on which the normal working forces of the Contractor may proceed with regular work for at least 6 hours toward completion of the contract. When work is suspended for causes beyond the Contractor's control, Saturdays, Sundays and holidays on which the Contractor's forces engage in regular work, requiring the presence of an inspector, will be considered as working days.

END OF SECTION 10

SECTION 20
PROPOSAL REQUIREMENTS AND CONDITIONS

20-01 ADVERTISEMENT (Notice to Bidders). ***Included in Section A of this Project Manual***

20-02 PREQUALIFICATION OF BIDDERS. Each bidder shall furnish the owner satisfactory evidence of his/her competency to perform the proposed work. Such evidence of competency, unless otherwise specified, shall consist of statements covering the bidder's past experience on similar work, a list of equipment that would be available for the work, and a list of key personnel that would be available. In addition, each bidder shall furnish the owner satisfactory evidence of his/her financial responsibility. Such evidence of financial responsibility, unless otherwise specified, shall consist of a confidential statement or report of the bidder's financial resources and liabilities as of the last calendar year or the Contractor's last fiscal year. Such statements or reports shall be certified by a public accountant. At the time of submitting such financial statements or reports, the bidder shall further certify whether his/her financial responsibility is approximately the same as stated or reported by the public accountant. If the bidder's financial responsibility has changed, the bidder shall qualify the public accountant's statement or report to reflect his/her (bidder's) true financial condition at the time such qualified statement or report is submitted to the Owner.

Unless otherwise specified, a bidder may submit evidence that he is prequalified with the State Highway Division and is on the current "bidder's list" of the state in which the proposed work is located. Such evidence of State Highway Division prequalification may be submitted as evidence of financial responsibility in lieu of the certified statements or reports hereinbefore specified.

Each bidder shall submit "evidence of competency" and "evidence of financial responsibility" to the Owner at the time of bid opening.

20-03 CONTENTS OF PROPOSAL FORMS. The Owner shall furnish bidders with proposal forms. All papers bound with or attached to the proposal forms are necessary parts and must not be detached.

The plans specifications, and other documents designated in the proposal form shall be considered a part of the proposal whether attached or not.

20-04 ISSUANCE OF PROPOSAL FORMS. The Owner reserves the right to refuse to issue a proposal form to a prospective bidder should such bidder be in default for any of the following reasons:

a. Failure to comply with any prequalification regulations of the Owner, if such regulations are cited, or otherwise included, in the proposal as a requirement for bidding.

b. Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts in force (with the Owner) at the time the Owner issues the proposal to a prospective bidder.

c. Contractor default under previous contracts with the Owner.

d. Unsatisfactory work on previous contracts with the Owner.

20-05 INTERPRETATION OF ESTIMATED PROPOSAL QUANTITIES. An estimate of quantities of work to be done and materials to be furnished under these specifications is given in the proposal. It is the result of careful calculations and is believed to be correct. It is given only as a basis for comparison of proposals and the award of the contract. The Owner does not expressly or by implication agree that the actual quantities involved will correspond exactly therewith; nor shall the bidder plead misunderstanding or deception because of such estimates of quantities, or of the character, location, or other conditions pertaining to the work. Payment to the Contractor will be made only for the actual quantities of work performed or materials furnished in accordance with the plans and specifications. It is understood that the quantities may be increased or decreased as hereinafter provided in the subsection titled

ALTERATION OF WORK AND QUANTITIES of Section 40 without in any way invalidating the unit bid prices.

20-06 EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE. The bidder is expected to carefully examine the site of the proposed work, the proposal, plans specifications, and contract forms. He shall satisfy himself as to the character, quality, and quantities of work to be performed, materials to be furnished, and as to the requirements of the proposed contract. The submission of a proposal shall be prima facie evidence that the bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirements of the proposed contract, plans, and specifications.

Boring logs and other records of subsurface investigations and tests are available for inspection of bidders. It is understood and agreed that such subsurface information, whether included in the plans, specifications, or otherwise made available to the bidder, was obtained and is intended for the Owner's design and estimating purposes only. Such information has been made available for the convenience of all bidders. It is further understood and agreed that each bidder is solely responsible for all assumptions, deductions, or conclusions which he may make or obtain from his/her examination of the boring logs and other records of subsurface investigations and tests that are furnished by the Owner.

20-07 PREPARATION OF PROPOSAL. The bidder shall submit his/her proposal on the forms furnished by the Owner. All blank spaces in the proposal forms must be correctly filled in where indicated for each and every item for which a quantity is given. ***If so requested,*** the bidder shall state the price (written in ink or typed) both in words and numerals for which he proposes to do each pay item furnished in the proposal. In case of conflict between words and numerals, the words, unless obviously incorrect, shall govern.

The bidder shall sign his/her proposal correctly and in ink. If the proposal is made by an individual, his/her name and post office address must be shown. If made by a partnership, the name and post office address of each member of the partnership must be shown. If made by a corporation, the person signing the proposal shall give the name of the state under the laws of which the corporation was chartered and the name, titles, and business address of the president, secretary, and the treasurer. Anyone signing a proposal as an agent shall file evidence of his/her authority to do so and that the signature is binding upon the firm or corporation.

20-08 IRREGULAR PROPOSALS. Proposals shall be considered irregular for the following reasons:

a. If the proposal is on a form other than that furnished by the Owner, or if the Owner's form is altered, or if any part of the proposal form is detached.

b. If there are unauthorized additions, conditional or alternate pay items, or irregularities of any kind that make the proposal incomplete, indefinite, or otherwise ambiguous.

c. If the proposal does not contain a unit price for each pay item listed in the proposal, except in the case of authorized alternate pay items, for which the bidder is not required to furnish a unit price.

d. If the proposal contains unit prices that are obviously unbalanced.

e. If the proposal is not accompanied by the proposal guaranty specified by the Owner.

The Owner reserves the right to reject any irregular proposal and the right to waive technicalities if such waiver is in the best interest of the Owner and conforms to local laws and ordinances pertaining to the letting of construction contracts.

20-09 BID GUARANTEE. Each separate proposal shall be accompanied by a certified check, or other specified acceptable collateral, in the amount specified in the proposal form. Such check, or collateral, shall be made payable to the Owner.

20-10 DELIVERY OF PROPOSAL. Each proposal submitted shall be placed in a sealed envelope plainly marked with the project number, location of airport, and name and business address of the bidder on the outside. When sent by mail, preferably registered, the sealed proposal, marked as indicated above, should be enclosed in an additional envelope. No proposal will be considered unless received at the place specified in the advertisement before the time specified for opening all bids. Proposals received after the bid opening time shall be returned to the bidder unopened.

20-11 WITHDRAWAL OR REVISION OF PROPOSALS. A bidder may withdraw or revise (by withdrawal of one proposal and submission of another) a proposal provided that the bidder's request for withdrawal is received by the Owner in writing or by telegram before the time specified for opening bids. Revised proposals must be received at the place specified in the advertisement before the time specified for opening all bids.

20-12 PUBLIC OPENING OF PROPOSALS. Proposals shall be opened, and read, publicly at the time and place specified in the advertisement. Bidders, their authorized agents, and other interested persons are invited to attend. Proposals that have been withdrawn (by written or telegraphic request) or received after the time specified for opening bids shall be returned to the bidder unopened.

20-13 DISQUALIFICATION OF BIDDERS. A bidder shall be considered disqualified for any of the following reasons:

a. Submitting more than one proposal from the same partnership, firm, or corporation under the same or different name.

b. Evidence of collusion among bidders. Bidders participating in such collusion shall be disqualified as bidders for any future work of the Owner until any such participating bidder has been reinstated by the Owner as a qualified bidder.

c. If the bidder is considered to be in "default" for any reason specified in the subsection titled ISSUANCE OF PROPOSAL FORMS of this section.

END OF SECTION 20

SECTION 30
AWARD AND EXECUTION OF CONTRACT

30-01 CONSIDERATION OF PROPOSALS. After the proposals are publicly opened and read, they will be compared on the basis of the summation of the products obtained by multiplying the estimated quantities shown in the proposal by the unit bid prices. If a bidder's proposal contains a discrepancy between unit bid prices written in words and unit bid prices written in numbers, the unit price written in words shall govern.

Until the award of a contract is made, the Owner reserves the right to reject a bidder's proposal for any of the following reasons:

a. If the proposal is irregular as specified in the subsection titled IRREGULAR PROPOSALS of Section 20.

b. If the bidder is disqualified for any of the reasons specified in the subsection titled DISQUALIFICATION OF BIDDERS of Section 20.

In addition, until the award of a contract is made, the Owner reserves the right to reject any or all proposals, waive technicalities, if such waiver is in the best interest of the Owner and is in conformance with applicable state and local laws or regulations pertaining to the letting of construction contracts; advertise for new proposals; or proceed with the work otherwise. All such actions shall promote the Owner's best interests.

30-02 AWARD OF CONTRACT. The award of a contract, if it is to be awarded, shall be made within **90 calendar days** of the date specified for publicly opening proposals, unless otherwise specified herein.

Award of the contract shall be made by the Owner to the lowest, qualified bidder whose proposal conforms to the cited requirements of the Owner.

30-03 CANCELLATION OF AWARD. The Owner reserves the right to cancel the award without liability to the bidder, except return of proposal guaranty, at any time before a contract has been fully executed by all parties and is approved by the Owner in accordance with the subsection titled APPROVAL OF CONTRACT of this section.

30-04 RETURN OF PROPOSAL GUARANTY. All proposal guaranties, except those of the two lowest bidders, will be returned immediately after the Owner has made a comparison of bids as hereinbefore specified in the subsection titled CONSIDERATION OF PROPOSALS of this section. Proposal guaranties of the two lowest bidders will be retained by the Owner until such time as an award is made, at which time, the unsuccessful bidder's proposal guaranty will be returned. The successful bidder's proposal guaranty will be returned as soon as the Owner receives the contracts bonds as specified in the subsection titled REQUIREMENTS OF CONTRACT BONDS of this section.

30-05 REQUIREMENTS OF CONTRACT BONDS. At the time of the execution of the contract, the successful bidder shall furnish the Owner a surety bond or bonds that have been fully executed by the bidder and the surety guaranteeing the performance of the work and the payment of all legal debts that may be incurred by reason of the Contractor's performance of the work. The surety and the form of the bond or bonds shall be acceptable to the Owner. Unless otherwise specified in this subsection, the surety bond or bonds shall be in a sum equal to the full amount of the contract.

30-06 EXECUTION OF CONTRACT. The successful bidder shall sign (execute) the necessary agreements for entering into the contract and return such signed contract to the owner, along with the fully executed surety bond or bonds specified in the subsection titled REQUIREMENTS OF CONTRACT BONDS of this section, within ***the time specified in the proposal.*** ~~15 calendar days from the date mailed or otherwise delivered to the successful bidder~~. If the contract is mailed, special handling is recommended.

30-07 APPROVAL OF CONTRACT. Upon receipt of the contract and contract bond or bonds that have been executed by the successful bidder, the Owner shall complete the execution of the contract in accordance with local laws or ordinances, and return the fully executed contract to the Contractor. Delivery of the fully executed contract to the Contractor shall constitute the Owner's approval to be bound by the successful bidder's proposal and the terms of the contract.

30-08 FAILURE TO EXECUTE CONTRACT. Failure of the successful bidder to execute the contract and furnish an acceptable surety bond or bonds within the ***time specified in the proposal*** ~~15 calendar day period specified in the subsection titled REQUIREMENTS OF CONTRACT BONDS of this section~~ shall be just cause for cancellation of the award and forfeiture of the proposal guaranty, not as a penalty, but as liquidation of damages to the Owner.

END OF SECTION 30

SECTION 40
SCOPE OF WORK

40-01 INTENT OF CONTRACT. The intent of the contract is to provide for construction and completion, in every detail, of the work described. It is further intended that the Contractor shall furnish all labor, materials, equipment, tools, transportation, and supplies required to complete the work in accordance with the plans, specifications, and terms of the contract.

40-02 ALTERATION OF WORK AND QUANTITIES. The owner reserves and shall have the right to make such alterations in the work as may be necessary or desirable to complete the work originally intended in an acceptable manner. Unless otherwise specified herein, the Engineer shall be and is hereby authorized to make such alterations in the work as may increase or decrease the originally awarded contract quantities, provided that the aggregate of such alterations does not change the total contract cost or the total cost of any major contract item by more than 25 percent (total cost being based on the unit prices and estimated quantities in the awarded contract). Alterations that do not exceed the 25 percent limitation shall not invalidate the contract nor release the surety, and the Contractor agrees to accept payment for such alterations as if the altered work had been a part of the original contract. These alterations that are for work within the general scope of the contract shall be covered by "Change Orders" issued by the Engineer. Change orders for altered work shall include extensions of contract time where, in the Engineer's opinion, such extensions are commensurate with the amount and difficulty of added work.

Should the aggregate amount of altered work exceed the 25 percent limitation hereinbefore specified, such excess altered work shall be covered by supplemental agreement. If the owner and the Contractor are unable to agree on a unit adjustment for any contract item that requires a supplemental agreement, the owner reserves the right to terminate the contract with respect to the item and make other arrangements for its completion.

40-03 OMITTED ITEMS. The Engineer may, in the Owner's best interest, omit from the work any contract item, except major contract items. Major contract items may be omitted by a supplemental agreement. Such omission of contract items shall not invalidate any other contract provision or requirement.

Should a contract item be omitted or otherwise ordered to be nonperformed, the Contractor shall be paid for all work performed toward completion of such item prior to the date of the order to omit such item. Payment for work performed shall be in accordance with the subsection titled PAYMENT FOR OMITTED ITEMS of Section 90.

40-04 EXTRA WORK. Should acceptable completion of the contract require the Contractor to perform an item of work for which no basis of payment has been provided in the original contract or previously issued change orders or supplemental agreements, the same shall be called "Extra Work." Extra Work that is within the general scope of the contract shall be covered by written change order. Change orders for such Extra Work shall contain agreed unit prices for performing the change order work in accordance with the requirements specified in the order, and shall contain any adjustment to the contract time that, in the Engineer's opinion, is necessary for completion of such Extra Work.

When determined by the Engineer to be in the Owner's best interest, he may order the Contractor to proceed with Extra Work by force account as provided in the subsection titled PAYMENT FOR EXTRA AND FORCE ACCOUNT WORK of Section 90.

Extra Work that is necessary for acceptable completion of the project, but is not within the general scope of the work covered by the original contract shall be covered by a Supplemental Agreement as hereinbefore defined in the subsection titled SUPPLEMENTAL AGREEMENT of Section 10.

Any claim for payment of Extra Work that is not covered by written agreement (change order or supplemental agreement) shall be rejected by the Owner.

40-05 MAINTENANCE OF TRAFFIC. It is the explicit intention of the contract that the safety of aircraft, as well as the Contractor's equipment and personnel, is the most important consideration. It is understood and agreed that the Contractor shall provide for the free and unobstructed movement of aircraft in the air operations areas of the airport with respect to his/her own operations and the operations of all his/her subcontractors as specified in the subsection titled LIMITATION OF OPERATIONS of Section 80. It is further understood and agreed that the Contractor shall provide for the uninterrupted operation of visual and electronic signals (including power supplies thereto) used in the guidance of aircraft while operating to, from, and upon the airport as specified in the subsection titled CONTRACTOR'S RESPONSIBILITY FOR UTILITY SERVICE AND FACILITIES OF OTHERS in Section 70.

With respect to his/her own operations and the operations of all his/her subcontractors, the Contractor shall provide marking, lighting, and other acceptable means of identifying: personnel; equipment; vehicles; storage areas; and any work area or condition that may be hazardous to the operation of aircraft, fire-rescue equipment, or maintenance vehicles at the airport.

When the contract requires the maintenance of vehicular traffic on an existing road, street, or highway during the Contractor's performance of work that is otherwise provided for in the contract, plans, and specifications, the Contractor shall keep such road, street, or highway open to all traffic and shall provide such maintenance as may be required to accommodate traffic. The Contractor shall furnish erect, and maintain barricades, warning signs, flagperson, and other traffic control devices in reasonable conformity with the manual of Uniform Traffic Control Devices for Streets and Highways (published by the United States Government Printing Office), unless otherwise specified herein. The Contractor shall also construct and maintain in a safe condition any temporary connections necessary for ingress to and egress from abutting property or intersecting roads, streets or highways. Unless otherwise specified herein, the Contractor will not be required to furnish snow removal for such existing road, street, or highway.

The Contractor shall make his/her own estimate of all labor, materials, equipment, and incidentals necessary for providing the maintenance of aircraft and vehicular traffic as specified in this subsection.

The cost of maintaining the aircraft and vehicular traffic specified in this subsection shall not be measured or paid for directly, but shall be included in the various contract items.

40-06 REMOVAL OF EXISTING STRUCTURES. All existing structures encountered within the established lines, grades, or grading sections shall be removed by the Contractor, unless such existing structures are otherwise specified to be relocated, adjusted up or down, salvaged, abandoned in place, reused in the work or to remain in place. The cost of removing such existing structures shall not be measured or paid for directly, but shall be included in the various contract items.

Should the Contractor encounter an existing structure (above or below ground) in the work for which the disposition is not indicated on the plans, the Engineer shall be notified prior to disturbing such structure. The disposition of existing structures so encountered shall be immediately determined by the Engineer in accordance with the provisions of the contract.

Except as provided in the subsection titled RIGHTS IN AND USE OF MATERIALS FOUND IN THE WORK of this section, it is intended that all existing materials or structures that may be encountered (within the lines, grades, or grading sections established for completion of the work) shall be utilized in the work as otherwise provided for in the contract and shall remain the property of the Owner when so utilized in the work.

40-07 RIGHTS IN AND USE OF MATERIALS FOUND IN THE WORK. Should the Contractor encounter any material such as (but not restricted to) sand, stone, gravel, slag, or concrete slabs within the established lines, grades, or grading sections, the use of which is intended by the terms of the contract to be either embankment or waste, he may at his/her option either:

a. Use such material in another contract item, providing such use is approved by the Engineer and is in conformance with the contract specifications applicable to such use; or,

b. Remove such material from the site, upon written approval of the Engineer; or

c. Use such material for his/her own temporary construction on site; or,

d. Use such material as intended by the terms of the contract.

Should the Contractor wish to exercise option a., b., or c., he shall request the Engineer's approval in advance of such use.

Should the Engineer approve the Contractor's request to exercise option a., b., or c., the Contractor shall be paid for the excavation or removal of such material at the applicable contract price. The Contractor shall replace, at his/her own expense, such removed or excavated material with an agreed equal volume of material that is acceptable for use in constructing embankment, backfills, or otherwise to the extent that such replacement material is needed to complete the contract work. The Contractor shall not be charged for his/her use of such material so used in the work or removed from the site.

Should the Engineer approve the Contractor's exercise of option a., the Contractor shall be paid, at the applicable contract price, for furnishing and installing such material in accordance with requirements of the contract item in which the material is used.

It is understood and agreed that the Contractor shall make no claim for delays by reason of his/her exercise of option a., b., or c.

The Contractor shall not excavate, remove, or otherwise disturb any material, structure, or part of a structure which is located outside the lines, grades, or grading sections established for the work, except where such excavation or removal is provided for in the contract, plans, or specifications.

40-08 FINAL CLEANING UP. Upon completion of the work and before acceptance and final payment will be made, the Contractor shall remove from the site all machinery, equipment, surplus and discarded materials, rubbish, temporary structures, and stumps or portions of trees. He shall cut all brush and woods within the limits indicated and shall leave the site in a neat and presentable condition. Material cleared from the site and deposited on adjacent property will not be considered as having been disposed of satisfactorily, unless the Contractor has obtained the written permission of such property owner.

END OF SECTION 40

SECTION 50
CONTROL OF WORK

50-01 AUTHORITY OF THE ENGINEER. The Engineer shall decide any and all questions which may arise as to the quality and acceptability of materials furnished, work performed, and as to the manner of performance and rate of progress of the work. The Engineer shall decide all questions that may arise as to the interpretation of the specifications or plans relating to the work. The Engineer shall determine the amount and quality of the several kinds of work performed and materials furnished which are to be paid for the under contract.

The Engineer does not have the authority to accept pavements that do not conform to FAA specification requirements.

50-02 CONFORMITY WITH PLANS AND SPECIFICATIONS. All work and all materials furnished shall be in reasonably close conformity with the lines, grades, grading sections, cross sections, dimensions, material requirements, and testing requirements that are specified (including specified tolerances) in the contract, plans or specifications.

If the Engineer finds the materials furnished, work performed, or the finished product not within reasonably close conformity with the plans and specifications but that the portion of the work affected will, in his/her opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable to the Owner, he will advise the Owner of his/her determination that the affected work be accepted and remain in place. In this event, the Engineer will document his/her determination and recommend to the Owner a basis of acceptance that will provide for an adjustment in the contract price for the affected portion of the work. The Engineer's determination and recommended contract price adjustments will be based on good engineering judgment and such tests or retests of the affected work as are, in his/her opinion, needed. Changes in the contract price shall be covered by contract modifications (change order or supplemental agreement) as applicable.

If the Engineer finds the materials furnished, work performed, or the finished product are not in reasonably close conformity with the plans and specifications and have resulted in an unacceptable finished product, the affected work or materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor in accordance with the Engineer's written orders.

For the purpose of this subsection, the term "reasonably close conformity" shall not be construed as waiving the Contractor's responsibility to complete the work in accordance with the contract, plans, and specifications. The term shall not be construed as waiving the Engineer's responsibility to insist on strict compliance with the requirements of the contract, plans, and specifications during the Contractor's prosecution of the work, when, in the Engineer's opinion, such compliance is essential to provide an acceptable finished portion of the work.

For the purpose of this subsection, the term "reasonably close conformity" is also intended to provide the Engineer with the authority, after consultation with the FAA, to use good engineering judgment in his/her determinations as to acceptance of work that is not in strict conformity but will provide a finished product equal to or better than that intended by the requirements of the contract, plans and specifications.

The Engineer will not be responsible for the Contractor's means, methods, techniques, sequences, or procedures of construction or the safety precautions incident thereto.

50-03 COORDINATION OF CONTRACT, PLANS, AND SPECIFICATIONS. The contract, plans, specifications, and all referenced standards cited are essential parts of the contract requirements. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy, calculated dimensions will govern over scaled dimensions; contract technical specifications shall govern over contract general provisions, plans, cited standards for materials or testing, and cited FAA advisory circulars; contract general provisions shall govern over plans, cited standards for materials or testing, and

cited FAA advisory circulars; plans shall govern over cited standards for materials or testing and cited FAA advisory circulars. If any paragraphs contained in the Special Provisions conflict with General Provisions or Technical Specifications, the Special Provisions shall govern.

From time to time, discrepancies within cited standards for testing occur due to the timing and changing, editing, and replacing of standards. In the event the Contractor discovers any apparent discrepancy within standard test methods, he shall immediately call upon the Engineer for his/her interpretation and decision, and such decision shall be final.

The Contractor shall not take advantage of any apparent error or omission on the plans or specifications. In the event the Contractor discovers any apparent error or discrepancy, he shall immediately call upon the Engineer for his/her interpretation and decision, and such decision shall be final.

50-04 COOPERATION OF CONTRACTOR. The Contractor will be supplied with ***three*** copies each of the plans and specifications. He shall have available on the work at all times one copy each of the plans and specifications. Additional copies of plans and specifications may be obtained by the Contractor for the cost of reproduction.

The Contractor shall give constant attention to the work to facilitate the progress thereof, and he shall cooperate with the Engineer and his/her inspectors and with other contractors in every way possible. The Contractor shall have a competent superintendent on the work at all times who is fully authorized as his/her agent on the work. The superintendent shall be capable of reading and thoroughly understanding the plans and specifications and shall receive and fulfill instructions from the Engineer or his/her authorized representative.

50-05 COOPERATION BETWEEN CONTRACTORS. The Owner reserves the right to contract for and perform other or additional work on or near the work covered by this contract.

When separate contracts are let within the limits of any one project, each Contractor shall conduct his/her work so as not to interfere with or hinder the progress of completion of the work being performed by other Contractors. Contractors working on the same project shall cooperate with each other as directed.

Each Contractor involved shall assume all liability, financial or otherwise, in connection with his/her contract and shall protect and save harmless the Owner from any and all damages or claims that may arise because of inconvenience, delays, or loss experienced by him because of the presence and operations of other Contractors working within the limits of the same project.

The Contractor shall arrange his/her work and shall place and dispose of the materials being used so as not to interfere with the operations of the other Contractors within the limits of the same project. He shall join his/her work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others.

50-06 CONSTRUCTION LAYOUT AND STAKES. The Engineer shall establish horizontal and vertical control only. The Contractor must establish all layout required for the construction of the work. Such stakes and markings as the Engineer may set for either his/her own or the Contractor's guidance shall be preserved by the Contractor. In case of negligence on the part of the Contractor, or his/her employees, resulting in the destruction of such stakes or markings, an amount equal to the cost of replacing the same may be deducted from subsequent estimates due the Contractor at the discretion of the Engineer.

The Contractor will be required to furnish all lines, grades and measurements from the control points necessary for the proper prosecution and control of the work contracted for under these specifications.

The Contractor must give weekly copies of the survey notes to the Engineer so that the Engineer may check them as to accuracy and method of staking. All areas that are staked by the Contractor must be checked by the Engineer prior to beginning any work in the area. The Engineer will make periodic checks

of the grades and alignment set by the Contractor. In case of error on the part of the Contractor, or his/her employees, resulting in establishing grades and/or alignment that are not in accordance with the plans or established by the Engineer, all construction not in accordance with the established grades and/or alignment shall be replaced without additional cost to the Owner.

No direct payment will be made, unless otherwise specified in contract documents, for this labor, materials, or other expenses therewith. The cost thereof shall be included in the price of the bid for the various items of the Contract.

Construction Staking and Layout includes but is not limited to:

Clearing and Grubbing perimeter staking.
Rough Grade slope stakes at 100-foot stations.
Drainage Swales slope stakes and flow line blue tops at 50-foot stations.
Subgrade blue tops at 25 foot stations and 25 foot offset distance (max.) for the following section locations:

a. Runway – minimum 5 per station
b. Taxiways – minimum 3 per station
c. Holding apron areas – minimum 3 per station
d. Roadways – minimum 3 per station

Base Course blue tops at 25 foot stations and 25 foot offset distance (max.) for the following section locations:

a. Runway – minimum 5 per station
b. Taxiways – minimum 3 per station
c. Holding apron areas – minimum 3 per station

Pavement areas:

a. Edge of Pavement hubs and tacks (for stringline by Contractor) at 100 foot stations
b. Between Lifts at 25 foot stations for the following section locations:
   (1). Runways – each paving lane width
   (2). Taxiways – each paving lane width
   (3). Holding areas – each paving lane width
c. After finish paving operations at 50 foot stations
   (1). All paved areas – Edge of each paving lane prior to next paving lot
d. Shoulder and safety area blue tops at 50 foot stations and at all break points with maximum of 50 foot offsets

Fence lines at 100 foot stations
Electrical and Communications System locations, lines and grades including but not limited to duct runs, connections, fixtures, signs, lights, VASI's, PAPI's, REIL's, Wind Cones, Distance Markers (signs), pull boxes and manholes.
Drain lines, cut stakes and alignment on 25-foot stations, inlet and manholes.
Painting and Striping layout (pinned with 1.5 inch PK nails) marked for paint Contractor. (All nails shall be removed after painting)
Laser, or other automatic control devices, shall be checked with temporary control point or grade hub at a minimum of once per 400 feet per pass (i.e. paving lane).

NOTE: Controls and stakes disturbed or suspect of having been disturbed shall be checked and/or reset as directed by the Engineer without additional cost to the Owner.

50-07 AUTOMATICALLY CONTROLLED EQUIPMENT. Whenever batching or mixing plant equipment is required to be operated automatically under the contract and a breakdown or malfunction of the automatic controls occurs, the equipment may be operated manually or by other methods for a period 48 hours following the breakdown or malfunction, provided this method of operations will produce results which conform to all other requirements of the contract.

50-08 AUTHORITY AND DUTIES OF INSPECTORS. Inspectors employed by the Owner shall be authorized to inspect all work done and all material furnished. Such inspection may extend to all or any

part of the work and to the preparation, fabrication, or manufacture of the materials to be used. Inspectors are not authorized to revoke, alter, or waive any provision of the contract. Inspectors are not authorized to issue instructions contrary to the plans and specifications or to act as foreman for the Contractor.

Inspectors employed by the Owner are authorized to notify the Contractor or his/her representatives of any failure of the work or materials to conform to the requirements of the contract, plans, or specifications and to reject such nonconforming materials in question until such issues can be referred to the Engineer for his/her decision.

50-09 INSPECTION OF THE WORK. All materials and each part or detail of the work shall be subject to inspection by the Engineer. The Engineer shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection.

If the Engineer requests it, the Contractor, at any time before acceptance of the work, shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standard required by the specifications. Should the work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as extra work; but should the work so exposed or examined prove unacceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be at the Contractor's expense.

Any work done or materials used without supervision or inspection by an authorized representative of the Owner may be ordered removed and replaced at the Contractor's expense unless the Owner's representative failed to inspect after having been given reasonable notice in writing that the work was to be performed.

Should the contract work include relocation, adjustment, or any other modification to existing facilities, not the property of the (contract) Owner, authorized representatives of the owners of such facilities shall have the right to inspect such work. Such inspection shall in no sense make any facility owner a party to the contract, and shall in no way interfere with the rights of the parties to this contract.

50-10 REMOVAL OF UNACCEPTABLE AND UNAUTHORIZED WORK. All work that does not conform to the requirements of the contract, plans, and specifications will be considered unacceptable, unless otherwise determined acceptable by the Engineer as provided in the subsection titled CONFORMITY WITH PLANS AND SPECIFICATIONS of this section.

Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the final acceptance of the work, shall be removed immediately and replaced in an acceptable manner in accordance with the provisions of the subsection titled CONTRACTOR'S RESPONSIBILITY FOR WORK of Section 70.

No removal work made under provision of this subsection shall be done without lines and grades having been given by the Engineer. Work done contrary to the instructions of the Engineer, work done beyond the lines shown on the plans or as given, except as herein specified, or any extra work done without authority, will be considered as unauthorized and will not be paid for under the provisions of the contract. Work so done may be ordered removed or replaced at the Contractor's expense.

Upon failure on the part of the Contractor to comply forthwith with any order of the Engineer made under the provisions of this subsection, the Engineer will have authority to cause unacceptable work to be remedied or removed and replaced and unauthorized work to be removed and to deduct the costs (incurred by the Owner) from any monies due or to become due the Contractor.

50-11 LOAD RESTRICTIONS. The Contractor shall comply with all legal load restrictions in the hauling of materials on public roads beyond the limits of the work. A special permit will not relieve the Contractor of liability for damage that may result from the moving of material or equipment.

The operation of equipment of such weight or so loaded as to cause damage to structures or to any other type of construction will not be permitted. Hauling of materials over the base course or surface course under construction shall be limited as directed. No loads will be permitted on a concrete pavement, base, or structure before the expiration of the curing period. The Contractor shall be responsible for all damage done by his/her hauling equipment and shall correct such damage at his/her own expense.

50-12 MAINTENANCE DURING CONSTRUCTION. The Contractor shall maintain the work during construction and until the work is accepted. This maintenance shall constitute continuous and effective work prosecuted day by day, with adequate equipment and forces so that the work is maintained in satisfactory condition at all times.

In the case of a contract for the placing of a course upon a course or subgrade previously constructed, the Contractor shall maintain the previous course or subgrade during all construction operations.

All costs of maintenance work during construction and before the project is accepted shall be included in the unit prices bid on the various contract items, and the Contractor will not be paid an additional amount for such work.

50-13 FAILURE TO MAINTAIN THE WORK. Should the Contractor at any time fail to maintain the work as provided in the subsection titled MAINTENANCE DURING CONSTRUCTION of this section, the Engineer shall immediately notify the Contractor of such noncompliance. Such notification shall specify a reasonable time within which the Contractor shall be required to remedy such unsatisfactory maintenance condition. The time specified will give due consideration to the exigency that exists.

Should the Contractor fail to respond to the Engineer's notification, the Owner may suspend any work necessary for the Owner to correct such unsatisfactory maintenance condition, depending on the exigency that exists. Any maintenance cost incurred by the Owner, shall be deducted from monies due or to become due the Contractor.

50-14 PARTIAL ACCEPTANCE. If at any time during the prosecution of the project the Contractor substantially completes a usable unit or portion of the work, the occupancy of which will benefit the Owner, he may request the Engineer to make final inspection of that unit. If the Engineer finds upon inspection that the unit has been satisfactorily completed in compliance with the contract, he may accept it as being completed, and the Contractor may be relieved of further responsibility for that unit. Such partial acceptance and beneficial occupancy by the Owner shall not void or alter any provision of the contract.

50-15 FINAL ACCEPTANCE. Upon due notice from the Contractor of presumptive completion of the entire project, the Engineer and Owner will make an inspection. If all construction provided for and contemplated by the contract is found to be completed in accordance with the contract, plans, and specifications, such inspection shall constitute the final inspection. The Engineer shall notify the Contractor in writing of final acceptance as of the date of the final inspection.

If, however, the inspection discloses any work, in whole or in part, as being unsatisfactory, the Engineer will give the Contractor the necessary instructions for correction of same and the Contractor shall immediately comply with and execute such instructions. Upon correction of the work, another inspection will be made which shall constitute the final inspection, provided the work has been satisfactorily completed. In such event, the Engineer will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of final inspection.

50-16 CLAIMS FOR ADJUSTMENT AND DISPUTES. If for any reason the Contractor deems that additional compensation is due him for work or materials not clearly provided for in the contract, plans, or

specifications or previously authorized as extra work, he shall notify the Engineer in writing of his/her intention to claim such additional compensation before he begins the work on which he bases the claim. If such notification is not given or the Engineer is not afforded proper opportunity by the Contractor for keeping strict account of actual cost as required, then the Contractor hereby agrees to waive any claim for such additional compensation. Such notice by the Contractor and the fact that the Engineer has kept account of the cost of the work shall not in any way be construed as proving or substantiating the validity of the claim. When the work on which the claim for additional compensation is based has been completed, the Contractor shall, within 10 calendar days, submit his/her written claim to the Engineer who will present it to the Owner for consideration in accordance with local laws or ordinances.

Nothing in this subsection shall be construed as a waiver of the Contractor's right to dispute final payment based on differences in measurements or computations.

50-17 COST REDUCTION INCENTIVE. The provisions of this subsection will apply only to contracts awarded to the lowest bidder pursuant to competitive bidding.

On projects with original contract amounts in excess of $100,000, the Contractor may submit to the Engineer, in writing, proposals for modifying the plans, specifications or other requirements of the contract for the sole purpose of reducing the cost of construction. The cost reduction proposal shall not impair, in any manner, the essential functions or characteristics of the project, including but not limited to service life, economy of operation, ease of maintenance, desired appearance, design and safety standards. This provision shall not apply unless the proposal submitted is specifically identified by the Contractor as being presented for consideration as a value engineering proposal.

Not eligible for cost reduction proposals are changes in the basic design of a pavement type, runway and taxiway lighting, visual aids, hydraulic capacity of drainage facilities, or changes in grade or alignment that reduce the geometric standards of the project.

As a minimum, the following information shall be submitted by the Contractor with each proposal:

a. A description of both existing contract requirements for performing the work and the proposed changes, with a discussion of the comparative advantages and disadvantages of each;

b. An itemization of the contract requirements that must be changed if the proposal is adopted;

c. A detailed estimate of the cost of performing the work under the existing contract and under the proposed changes;

d. A statement of the time by which a change order adopting the proposal must be issued;

e. A statement of the effect adoption of the proposal will have on the time for completion of the contract; and

f. The contract items of work affected by the proposed changes, including any quantity variation attributable to them.

The Contractor may withdraw, in whole or in part, any cost reduction proposal not accepted by the Engineer, within the period specified in the proposal. The provisions of this subsection shall not be construed to require the Engineer to consider any cost reduction proposal that may be submitted.

The Contractor shall continue to perform the work in accordance with the requirements of the contract until a change order incorporating the cost reduction proposal has been issued. If a change order has not been issued by the date upon which the Contractor's cost reduction proposal specifies that a decision should be made, or such other date as the Contractor may subsequently have requested in writing, such cost reduction proposal shall be deemed rejected.

The Engineer shall be the sole judge of the acceptability of a cost reduction proposal and of the estimated net savings from the adoption of all or any part of such proposal. In determining the estimated net savings, the Engineer may disregard the contract bid prices if, in the Engineer's judgment such prices do not represent a fair measure of the value of the work to be performed or deleted.

The Owner may require the Contractor to share in the Owner's costs of investigating a cost reduction proposal submitted by the Contractor as a condition of considering such proposal. Where such a condition is imposed, the Contractor shall acknowledge acceptance of it in writing. Such acceptance shall constitute full authority for the Owner to deduct the cost of investigating a cost reduction proposal from amounts payable to the Contractor under the contract.

If the Contractor's cost reduction proposal is accepted in whole or in part, such acceptance will be by a contract change order that shall specifically state that it is executed pursuant to this subsection. Such change order shall incorporate the changes in the plans and specifications which are necessary to permit the cost reduction proposal or such part of it as has been accepted and shall include any conditions upon which the Engineer's approval is based. The change order shall also set forth the estimated net savings attributable to the cost reduction proposal. The net savings shall be determined as the difference in costs between the original contract costs for the involved work items and the costs occurring as a result of the proposed change. The change order shall also establish the net savings agreed upon and shall provide for adjustment in the contract price that will divide the net savings equally between the Contractor and the Owner.

The Contractor's 50 percent share of the net savings shall constitute full compensation to the Contractor for the cost reduction proposal and the performance of the work.

Acceptance of the cost-reduction proposal and performance of the cost-reduction work shall not extend the time of completion of the contract unless specifically provided for in the contract change order.

END OF SECTION 50

SECTION 60
CONTROL OF MATERIALS

60-01 SOURCE OF SUPPLY AND QUALITY REQUIREMENTS. The materials used on the work shall conform to the requirements of the contract, plans, and specifications. Unless otherwise specified, such materials that are manufactured or processed shall be new (as compared to used or reprocessed).

In order to expedite the inspection and testing of materials, the Contractor shall furnish complete statements to the Engineer as to the origin, composition, and manufacture of all materials to be used in the work. Such statements shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials.

At the Engineer's option, materials may be approved at the source of supply before delivery is stated. If it is found after trial that sources of supply for previously approved materials do not produce specified products, the Contractor shall furnish materials from other sources.

The Contractor shall furnish airport lighting equipment that conforms to the requirements of cited materials specifications. In addition, where an FAA specification for airport lighting equipment is cited in the plans or specifications, the Contractor shall furnish such equipment that is:

a. Listed in FAA Advisory Circular (AC) 150/5345-53, Airport Lighting Equipment Certification Program, and Addendum that is in effect on the date of advertisement; and,

b. Produced by the manufacturer as listed in the Addendum cited above for the certified equipment part number.

60-02 SAMPLES, TESTS, AND CITED SPECIFICATIONS. Unless otherwise designated, all materials used in the work shall be inspected, tested, and approved by the Engineer before incorporation in the work. Any work in which untested materials are used without approval or written permission of the Engineer shall be performed at the Contractor's risk. Materials found to be unacceptable and unauthorized will not be paid for and, if directed by the Engineer, shall be removed at the Contractor's expense. Unless otherwise designated, tests in accordance with the cited standard methods of ASTM, AASHTO, Federal Specifications, Commercial Item Descriptions, and all other cited methods, which are current on the date of advertisement for bids, will be made by and at the expense of the Engineer. The testing organizations performing on site field tests shall have copies of all referenced standards on the construction site for use by all technicians and other personnel, including the Contractor's representative at his/her request. Unless otherwise designated, samples will be taken by a qualified representative of the Engineer. All materials being used are subject to inspection, test, or rejection at any time prior to or during incorporation into the work. Copies of all tests will be furnished to the Contractor's representative at his/her request.

The Contractor shall employ a testing organization to perform all Contractor required tests. The Contractor shall submit to the Engineer resumes on all testing organizations and individual persons who will be performing the tests. The Engineer will determine if such persons are qualified. All the test data shall be reported to the Engineer after the results are known. A legible, handwritten copy of all test data shall be given to the Engineer daily, along with printed reports, in an approved format, on a weekly basis. After completion of the project, and prior to final payment, the Contractor shall submit a final report to the Engineer showing all test data reports, plus an analysis of all results showing ranges, averages, and corrective action taken on all failing tests.

60-03 CERTIFICATION OF COMPLIANCE. The Engineer may permit the use, prior to sampling and testing, of certain materials or assemblies when accompanied by manufacturer's certificates of compliance stating that such materials or assemblies fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer. Each lot of such materials or assemblies delivered to the work must be accompanied by a certificate of compliance in which the lot is clearly identified.

Materials or assemblies used on the basis of certificates of compliance may be sampled and tested at any time and if found not to be in conformity with contract requirements will be subject to rejection whether in place or not.

The form and distribution of certificates of compliance shall be as approved by the Engineer.

When a material or assembly is specified by "brand name or equal" and the Contractor elects to furnish the specified "brand name," the Contractor shall be required to furnish the manufacturer's certificate of compliance for each lot of such material or assembly delivered to the work. Such certificate of compliance shall clearly identify each lot delivered and shall certify as to:

a. Conformance to the specified performance, testing, quality or dimensional requirements; and,

b. Suitability of the material or assembly for the use intended in the contract work.

Should the Contractor propose to furnish an "or equal" material or assembly, he shall furnish the manufacturer's certificates of compliance as hereinbefore described for the specified brand name material or assembly. However, the Engineer shall be the sole judge as to whether the proposed "or equal" is suitable for use in the work.

The Engineer reserves the right to refuse permission for use of materials or assemblies on the basis of certificates of compliance.

60-04 PLANT INSPECTION. The Engineer or his/her authorized representative may inspect, at its source, any specified material or assembly to be used in the work. Manufacturing plants may be inspected from time to time for the purpose of determining compliance with specified manufacturing methods or materials to be used in the work and to obtain samples required for his/her acceptance of the material or assembly.

Should the Engineer conduct plant inspections, the following conditions shall exist:

a. The Engineer shall have the cooperation and assistance of the Contractor and the producer with whom he has contracted for materials.

b. The Engineer shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of the materials being furnished.

c. If required by the Engineer, the Contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Office or working space should be conveniently located with respect to the plant.

It is understood and agreed that the Owner shall have the right to retest any material that has been tested and approved at the source of supply after it has been delivered to the site. The Engineer shall have the right to reject only material which, when retested, does not meet the requirements of the contract, plans, or specifications.

60-05 ENGINEER'S FIELD OFFICE. The Contractor shall furnish for the duration of the project one building for the use of the field engineers and inspectors, as a field office *as **required within these specifications.*** This facility shall be an approved weatherproof building meeting the current State Highway Specifications (for example, Class I Field Office or Type C Structure). This building shall be located conveniently near to the construction and shall be separate from any building used by the Contractor. A land line telephone and answering machine shall be provided. The Contractor shall be responsible for payment of the basic monthly charge and local calls only. Any Long Distance Tolls shall be the responsibility of the caller. The Contractor shall furnish ~~[FAX machine,~~ photocopy machine, water, sanitary facilities, heat, air conditioning, and electricity]. No direct payment will be made for this building or labor, materials, ground rental, or other expense in connection therewith. The cost hereof shall be

included in the price bid for the various items of the contract. The Contractor and his/her superintendent shall provide all reasonable facilities to enable to the Engineer to inspect the workmanship and materials entering into the work.

60-06 STORAGE OF MATERIALS. Materials shall be so stored as to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may again be inspected prior to their use in the work. Stored materials shall be located so as to facilitate their prompt inspection. The Contractor shall coordinate the storage of all materials with the Engineer. Materials to be stored on airport property shall not create an obstruction to air navigation nor shall they interfere with the free and unobstructed movement of aircraft. Unless otherwise shown on the plans, the storage of materials and the location of the Contractor's plant and parked equipment or vehicles shall be as directed by the Engineer. Private property shall not be used for storage purposes without written permission of the owner or lessee of such property. The Contractor shall make all arrangements and bear all expenses for the storage of materials on private property. Upon request, the Contractor shall furnish the Engineer a copy of the property owner's permission.

All storage sites on private or airport property shall be restored to their original condition by the Contractor at his/her entire expense, except as otherwise agreed to (in writing) by the owner or lessee of the property.

60-07 UNACCEPTABLE MATERIALS. Any material or assembly that does not conform to the requirements of the contract, plans, or specifications shall be considered unacceptable and shall be rejected. The Contractor shall remove any rejected material or assembly from the site of the work, unless otherwise instructed by the Engineer.

Rejected material or assembly, the defects of which have been corrected by the Contractor, shall not be returned to the site of the work until such time as the Engineer has approved its used in the work.

60-08 OWNER FURNISHED MATERIALS. The Contractor shall furnish all materials required to complete the work, except those specified herein (if any) to be furnished by the Owner. Owner-furnished materials shall be made available to the Contractor at the location specified herein.

All costs of handling, transportation from the specified location to the site of work, storage, and installing Owner-furnished materials shall be included in the unit price bid for the contract item in which such Owner-furnished material is used.

After any Owner-furnished material has been delivered to the location specified, the Contractor shall be responsible for any demurrage, damage, loss, or other deficiencies that may occur during the Contractor's handling, storage, or use of such Owner-furnished material. The Owner will deduct from any monies due or to become due the Contractor any cost incurred by the Owner in making good such loss due to the Contractor's handling, storage, or use of Owner-furnished materials.

END OF SECTION 60

SECTION 70
LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC

70-01 LAWS TO BE OBSERVED. The Contractor shall keep fully informed of all Federal and state laws, all local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of the work. He shall at all times observe and comply with all such laws, ordinances, regulations, orders, and decrees; and shall protect and indemnify the Owner and all his/her officers, agents, or servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by himself or his/her employees.

70-02 PERMITS, LICENSES, AND TAXES. The Contractor shall procure all permits and licenses, pay all charges, fees, and taxes, and give all notices necessary and incidental to the due and lawful prosecution of the work.

70-03 PATENTED DEVICES, MATERIALS, AND PROCESSES. If the Contractor is required or desires to use any design, device, material, or process covered by letters of patent or copyright, he shall provide for such use by suitable legal agreement with the patentee or owner. The Contractor and the surety shall indemnify and save harmless the Owner, any third party, or political subdivision from any and all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright, and shall indemnify the Owner for any costs, expenses, and damages which it may be obliged to pay by reason of an infringement, at any time during the prosecution or after the completion of the work.

70-04 RESTORATION OF SURFACES DISTURBED BY OTHERS. The Owner reserves the right to authorize the construction, reconstruction, or maintenance of any public or private utility service, FAA or National Oceanic and Atmospheric Administration (NOAA) facility, or a utility service of another government agency at any time during the progress of the work. To the extent that such construction, reconstruction, or maintenance has been coordinated with the Owner, such authorized work (by others) is indicated as follows:

Owner	*Person to Contact (Phone Number)*
Jefferson County (Jack Brooks Regional Airport	*Duke Youmans (409) 719-4900*
Federal Aviation Administration	*James Terrel*

Except as listed above, the Contractor shall not permit any individual, firm, or corporation to excavate or otherwise disturb such utility services or facilities located within the limits of the work without the written permission of the Engineer.

Should the owner of public or private utility service, FAA, or NOAA facility, or a utility service of another government agency be authorized to construct, reconstruct, or maintain such utility service or facility during the progress of the work, the Contractor shall cooperate with such owners by arranging and performing the work in this contract so as to facilitate such construction, reconstruction or maintenance by others whether or not such work by others is listed above. When ordered as extra work by the Engineer, the Contractor shall make all necessary repairs to the work which are due to such authorized work by others, unless otherwise provided for in the contract, plans, or specifications. It is understood and agreed that the Contractor shall not be entitled to make any claim for damages due to such authorized work by others or for any delay to the work resulting from such authorized work.

70-05 FEDERAL AID PARTICIPATION. For AIP contracts, the United States Government has agreed to reimburse the Owner for some portion of the contract costs. Such reimbursement is made from time to time upon the Owner's request to the FAA. In consideration of the United States Government's (FAA's) agreement with the Owner, the Owner has included provisions in this contract pursuant to the requirements of Title 49 of the United States Code (USC) and the Rules and Regulations of the FAA that pertain to the work.

As required by the USC, the contract work is subject to the inspection and approval of duly authorized representatives of the Administrator, FAA, and is further subject to those provisions of the rules and regulations that are cited in the contract, plans, or specifications.

No requirement of the USC, the rules and regulations implementing the USC, or this contract shall be construed as making the Federal Government a party to the contract nor will any such requirement interfere, in any way, with the rights of either party to the contract.

70-06 SANITARY, HEALTH, AND SAFETY PROVISIONS. The Contractor shall provide and maintain in a neat, sanitary condition such accommodations for the use of his/her employees as may be necessary to comply with the requirements of the state and local Board of Health, or of other bodies or tribunals having jurisdiction.

Attention is directed to Federal, state, and local laws, rules and regulations concerning construction safety and health standards. The Contractor shall not require any worker to work in surroundings or under conditions that are unsanitary, hazardous, or dangerous to his/her health or safety.

70-07 PUBLIC CONVENIENCE AND SAFETY. The Contractor shall control his/her operations and those of his/her subcontractors and all suppliers, to assure the least inconvenience to the traveling public. Under all circumstances, safety shall be the most important consideration.

The Contractor shall maintain the free and unobstructed movement of aircraft and vehicular traffic with respect to his/her own operations and those of his/her subcontractors and all suppliers in accordance with the subsection titled MAINTENANCE OF TRAFFIC of Section 40 hereinbefore specified and shall limit such operations for the convenience and safety of the traveling public as specified in the subsection titled LIMITATION OF OPERATIONS of Section 80 hereinafter.

70-08 BARRICADES, WARNING SIGNS, AND HAZARD MARKINGS. The Contractor shall furnish, erect, and maintain all barricades, warning signs, and markings for hazards necessary to protect the public and the work. When used during periods of darkness, such barricades, warning signs, and hazard markings shall be suitably illuminated. Unless otherwise specified, barricades, warning signs, and markings for hazards that are in the air operations area shall be a maximum of 18 inches high. Unless otherwise specified, barricades shall be spaced not more than ***that specified in the Construction Safety and Phasing Plan*** ~~25 feet apart~~. Barricades, warning signs, and markings shall be paid for under Section 40-05.

For vehicular and pedestrian traffic, the Contractor shall furnish, erect, and maintain barricades, warning signs, lights and other traffic control devices in reasonable conformity with the Manual of Uniform Traffic Control Devices for Streets and Highways (published by the United States Government Printing Office).

When the work requires closing an air operations area of the airport or portion of such area, the Contractor shall furnish, erect, and maintain temporary markings and associated lighting conforming to the requirements of AC 150/5340-1, Standards for Airport Markings.

The Contractor shall furnish, erect, and maintain markings and associated lighting of open trenches, excavations, temporary stock piles, and his/her parked construction equipment that may be hazardous to the operation of emergency fire-rescue or maintenance vehicles on the airport in reasonable conformance to AC 150/5370-2, Operational Safety on Airports During Construction.

The Contractor shall identify each motorized vehicle or piece of construction equipment in reasonable conformance to AC 150/5370-2.

The Contractor shall furnish and erect all barricades, warning signs, and markings for hazards prior to commencing work that requires such erection and shall maintain the barricades, warning signs, and markings for hazards until their dismantling is directed by the Engineer.

Open-flame type lights shall not be permitted within the air operations areas of the airport.

70-09 USE OF EXPLOSIVES. When the use of explosives is necessary for the prosecution of the work, the Contractor shall exercise the utmost care not to endanger life or property, including new work. The Contractor shall be responsible for all damage resulting from the use of explosives.

All explosives shall be stored in a secure manner in compliance with all laws and ordinances, and all such storage places shall be clearly marked. Where no local laws or ordinances apply, storage shall be provided satisfactory to the Engineer and, in general, not closer than 1,000 feet (300 m) from the work or from any building, road, or other place of human occupancy.

The Contractor shall notify each property owner and public utility company having structures or facilities in proximity to the site of the work of his/her intention to use explosives. Such notice shall be given sufficiently in advance to enable them to take such steps as they may deem necessary to protect their property from injury.

The use of electrical blasting caps shall not be permitted on or within 1,000 feet (300 m) of the airport property.

70-10 PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE. The Contractor shall be responsible for the preservation of all public and private property, and shall protect carefully from disturbance or damage all land monuments and property markers until the Engineer has witnessed or otherwise referenced their location and shall not move them until directed.

The Contractor shall be responsible for all damage or injury to property of any character, during the prosecution of the work, resulting from any act, omission, neglect, or misconduct in his/her manner or method of executing the work, or at any time due to defective work or materials, and said responsibility will not be released until the project shall have been completed and accepted.

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or in consequence of the nonexecution thereof by the Contractor, he shall restore, at his/her own expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, or otherwise restoring as may be directed, or he shall make good such damage or injury in an acceptable manner.

70-11 RESPONSIBILITY FOR DAMAGE CLAIMS. The Contractor shall indemnify and save harmless the Engineer and the Owner and their officers, and employees from all suits actions, or claims of any character brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of the Contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act or omission, neglect, or misconduct of said Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the "Workmen's Compensation Act," or any other law, ordinance, order, or decree. Money due the Contractor under and by virtue of his/her contract as may be considered necessary by the Owner for such purpose may be retained for the use of the Owner or, in case no money is due, his/her surety may be held until such suit(s), action(s), or claim(s) for injuries or damages as aforesaid shall have been settled and suitable evidence to that effect furnished to the Owner, except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he is adequately protected by public liability and property damage insurance.

70-12 THIRD PARTY BENEFICIARY CLAUSE. It is specifically agreed between the parties executing the contract that it is not intended by any of the provisions of any part of the contract to create the public or any member thereof a third party beneficiary or to authorize anyone not a party to the contract to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of the contract.

70-13 OPENING SECTIONS OF THE WORK TO TRAFFIC. Should it be necessary for the Contractor to complete portions of the contract work for the beneficial occupancy of the Owner prior to completion of the entire contract, such "phasing" of the work shall be specified herein and indicated on the plans. When so specified, the Contractor shall complete such portions of the work on or before the date specified or as otherwise specified. The Contractor shall make his/her own estimate of the difficulties involved in arranging his/her work to permit such beneficial occupancy by the Owner. ~~as described below:~~

~~Phase or Description~~
~~Required Date or Sequence of Owner's Beneficial Occupancy~~
~~Work Shown on Plan Sheet~~

Upon completion of any portion of the work listed above, such portion shall be accepted by the Owner in accordance with the subsection titled PARTIAL ACCEPTANCE of Section 50.

No portion of the work may be opened by the Contractor for public use until ordered by the Engineer in writing. Should it become necessary to open a portion of the work to public traffic on a temporary or intermittent basis, such openings shall be made when, in the opinion of the Engineer, such portion of the work is in an acceptable condition to support the intended traffic. Temporary or intermittent openings are considered to be inherent in the work and shall not constitute either acceptance of the portion of the work so opened or a waiver of any provision of the contract. Any damage to the portion of the work so opened that is not attributable to traffic which is permitted by the Owner shall be repaired by the Contractor at his/her expense.

The Contractor shall make his/her own estimate of the inherent difficulties involved in completing the work under the conditions herein described and shall not claim any added compensation by reason of delay or increased cost due to opening a portion of the contract work.

Contractor shall be required to conform to safety standards contained AC 150/5370-2, Operational Safety on Airports During Construction (See Special Provisions.)

Contractor shall refer to the approved safety plan to identify barricade requirements and other safety requirements prior to opening up sections of work to traffic.

70-14 CONTRACTOR'S RESPONSIBILITY FOR WORK. Until the Engineer's final written acceptance of the entire completed work, excepting only those portions of the work accepted in accordance with the subsection titled PARTIAL ACCEPTANCE of Section 50, the Contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part due to the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except damage to the work due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God such as earthquake, tidal wave, tornado, hurricane or other cataclysmic phenomenon of nature, or acts of the public enemy or of government authorities.

If the work is suspended for any cause whatever, the Contractor shall be responsible for the work and shall take such precautions necessary to prevent damage to the work. The Contractor shall provide for normal drainage and shall erect necessary temporary structures, signs, or other facilities at his/her expense. During such period of suspension of work, the Contractor shall properly and continuously maintain in an acceptable growing condition all living material in newly established planting, seedings, and soddings furnished under his/her contract, and shall take adequate precautions to protect new tree growth and other important vegetative growth against injury.

70-15 CONTRACTOR'S RESPONSIBILITY FOR UTILITY SERVICE AND FACILITIES OF OTHERS. As provided in the subsection titled RESTORATION OF SURFACES DISTURBED BY OTHERS of this

section, the Contractor shall cooperate with the owner of any public or private utility service, FAA or NOAA, or a utility service of another government agency that may be authorized by the owner to construct, reconstruct or maintain such utility services or facilities during the progress of the work. In addition, the Contractor shall control his/her operations to prevent the unscheduled interruption of such utility services and facilities.

To the extent that such public or private utility services, FAA, or NOAA facilities, or utility services of another governmental agency are known to exist within the limits of the contract work, the approximate locations have been indicated on the plans and the owners are indicated as ~~follows:~~ ***as shown in Section 70-04.***

It is understood and agreed that the Owner does not guarantee the accuracy or the completeness of the location information relating to existing utility services, facilities, or structures that may be shown on the plans or encountered in the work. Any inaccuracy or omission in such information shall not relieve the Contractor of his/her responsibility to protect such existing features from damage or unscheduled interruption of service.

It is further understood and agreed that the Contractor shall, upon execution of the contract, notify the owners of all utility services or other facilities of his/her plan of operations. Such notification shall be in writing addressed to THE PERSON TO CONTACT as provided hereinbefore in this subsection and the subsection titled RESTORATION OF SURFACES DISTURBED BY OTHERS of this section. A copy of each notification shall be given to the Engineer.

In addition to the general written notification hereinbefore provided, it shall be the responsibility of the Contractor to keep such individual owners advised of changes in his/her plan of operations that would affect such owners.

Prior to commencing the work in the general vicinity of an existing utility service or facility, the Contractor shall again notify each such owner of his/her plan of operation. If, in the Contractor's opinion, the owner's assistance is needed to locate the utility service or facility or the presence of a representative of the owner is desirable to observe the work, such advice should be included in the notification. Such notification shall be given by the most expeditious means to reach the utility owner's PERSON TO CONTACT no later than two normal business days prior to the Contractor's commencement of operations in such general vicinity. The Contractor shall furnish a written summary of the notification to the Engineer.

The Contractor's failure to give the two day's notice hereinabove provided shall be cause for the Owner to suspend the Contractor's operations in the general vicinity of a utility service or facility.

Where the outside limits of an underground utility service have been located and staked on the ground, the Contractor shall be required to use excavation methods acceptable to the Engineer within 3 feet (90 cm) of such outside limits at such points as may be required to ensure protection from damage due to the Contractor's operations.

Should the Contractor damage or interrupt the operation of a utility service or facility by accident or otherwise, he shall immediately notify the proper authority and the Engineer and shall take all reasonable measures to prevent further damage or interruption of service. The Contractor, in such events, shall cooperate with the utility service or facility owner and the Engineer continuously until such damage has been repaired and service restored to the satisfaction of the utility or facility owner.

The Contractor shall bear all costs of damage and restoration of service to any utility service or facility due to his/her operations whether or not due to negligence or accident. The Owner reserves the right to deduct such costs from any monies due or which may become due the Contractor, or his/her surety.

70-15.1 FAA FACILITIES AND CABLE RUNS. The Contractor is hereby advised that the construction limits of the project include existing facilities and buried cable runs that are owned, operated and

maintained by the FAA. The Contractor, during the prosecution of the project work, shall comply with the following:

a. The Contractor shall permit FAA maintenance personnel the right of access to the project work site for purposes of inspecting and maintaining all existing FAA owned facilities.

b. The Contractor shall notify the above named FAA Airway Facilities Point-of-Contact seven (7) calendar days prior to commencement of construction activities in order to permit sufficient time to locate and mark existing buried cables and to schedule any required facility outages.

c. If prosecution of the project work requires a facility outage, the Contractor shall contact the above named FAA Point-of-Contact a minimum of 48 hours prior to the time of the required outage.

d. If prosecution of the project work results in damages to existing FAA equipment or cables, the Contractor shall repair the damaged item in conformance with FAA Airway Facilities' standards to the satisfaction of the above named FAA Point-of-Contact.

e. If the project work requires the cutting or splicing of FAA owned cables, the above named FAA Point-of-Contact shall be contacted a minimum of 48 hours prior to the time the cable work commences. The FAA reserves the right to have a FAA Airway Facilities representative on site to observe the splicing of the cables as a condition of acceptance. All cable splices are to be accomplished in accordance with FAA Airway Facilities' specifications and require approval by the above named FAA Point-of-Contact as a condition of acceptance by the Owner. The Contractor is hereby advised that FAA Airway Facilities restricts the location of where splices may be installed. If a cable splice is required in a location that is not permitted by FAA Airway Facilities, the Contractor shall furnish and install a sufficient length of new cable that eliminates the need for any splice.

70-16 FURNISHING RIGHTS-OF-WAY. The Owner will be responsible for furnishing all rights-of-way upon which the work is to be constructed in advance of the Contractor's operations.

70-17 PERSONAL LIABILITY OF PUBLIC OFFICIALS. In carrying out any of the contract provisions or in exercising any power or authority granted to him by this contract, there shall be no liability upon the Engineer, his/her authorized representatives, or any officials of the Owner either personally or as an official of the Owner. It is understood that in such matters they act solely as agents and representatives of the Owner.

70-18 NO WAIVER OF LEGAL RIGHTS. Upon completion of the work, the Owner will expeditiously make final inspection and notify the Contractor of final acceptance. Such final acceptance, however, shall not preclude or stop the Owner from correcting any measurement, estimate, or certificate made before or after completion of the work, nor shall the Owner be precluded or stopped from recovering from the Contractor or his/her surety, or both, such overpayment as may be sustained, or by failure on the part of the Contractor to fulfill his/her obligations under the contract. A waiver on the part of the Owner of any breach of any part of the contract shall not be held to be a waiver of any other or subsequent breach.

The Contractor, without prejudice to the terms of the contract, shall be liable to the Owner for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the owner's rights under any warranty or guaranty.

70-19 ENVIRONMENTAL PROTECTION. The Contractor shall comply with all Federal, state, and local laws and regulations controlling pollution of the environment. He shall take necessary precautions to prevent pollution of streams, lakes, ponds, and reservoirs with fuels, oils, bitumens, chemicals, or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter.

70-20 ARCHAEOLOGICAL AND HISTORICAL FINDINGS. Unless otherwise specified in this subsection, the Contractor is advised that the site of the work is not within any property, district, or site,

and does not contain any building, structure, or object listed in the current National Register of Historic Places published by the United States Department of Interior.

Should the Contractor encounter, during his/her operations, any building, part of a building, structure, or object that is incongruous with its surroundings, he shall immediately cease operations in that location and notify the Engineer. The Engineer will immediately investigate the Contractor's finding and the Owner will direct the Contractor to either resume his/her operations or to suspend operations as directed.

Should the Owner order suspension of the Contractor's operations in order to protect an archaeological or historical finding, or order the Contractor to perform extra work, such shall be covered by an appropriate contract modification (change order or supplemental agreement) as provided in the subsection titled EXTRA WORK of Section 40 and the subsection titled PAYMENT FOR EXTRA WORK AND FORCE ACCOUNT WORK of Section 90. If appropriate, the contract modification shall include an extension of contract time in accordance with the subsection titled DETERMINATION AND EXTENSION OF CONTRACT TIME of Section 80.

END OF SECTION 70

SECTION 80
PROSECUTION AND PROGRESS

80-01 SUBLETTING OF CONTRACT. The Owner will not recognize any subcontractor on the work. The Contractor shall at all times when work is in progress be represented either in person, by a qualified superintendent, or by other designated, qualified representative who is duly authorized to receive and execute orders of the Engineer.

Should the Contractor elect to assign his/her contract, said assignment shall be concurred in by the surety, shall be presented for the consideration and approval of the Owner, and shall be consummated only on the written approval of the Owner. In case of approval, the Contractor shall file copies of all subcontracts with the Engineer.

The Contractor shall perform, with his organization, an amount of work equal to at least **25** percent of the total contract cost.

80-02 NOTICE TO PROCEED. The notice to proceed shall state the date on which it is expected the Contractor will begin the construction and from which date contract time will be charged. The Contractor shall begin the work to be performed under the contract ***within the timeframe set forth in the proposal,*** ~~10 days of the date set by the Engineer in the written notice to proceed~~, but in any event, the Contractor shall notify the Engineer at least 24 hours in advance of the time actual construction operations will begin.

80-03 PROSECUTION AND PROGRESS. Unless otherwise specified, the Contractor shall submit his/her progress schedule for the Engineer's approval ***at the preconstruction meeting*** ~~within 10 days after the effective date of the notice to proceed~~. The Contractor's progress schedule, when approved by the Engineer, may be used to establish major construction operations and to check on the progress of the work. The Contractor shall provide sufficient materials, equipment, and labor to guarantee the completion of the project in accordance with the plans and specifications within the time set forth in the proposal.

If the Contractor falls significantly behind the submitted schedule, the Contractor shall, upon the Engineer's request, submit a revised schedule for completion of the work within the contract time and modify his/her operations to provide such additional materials, equipment, and labor necessary to meet the revised schedule. Should the prosecution of the work be discontinued for any reason, the Contractor shall notify the Engineer at least 24 hours in advance of resuming operations.

For AIP contracts, the Contractor shall not commence any actual construction prior to the date on which the notice to proceed is issued by the Owner.

80-04 LIMITATION OF OPERATIONS. The Contractor shall control his/her operations and the operations of his/her subcontractors and all suppliers so as to provide for the free and unobstructed movement of aircraft in the AIR OPERATIONS AREAS of the airport.

When the work requires the Contractor to conduct his/her operations within an AIR OPERATIONS AREA of the airport, the work shall be coordinated with airport operations (through the Engineer) at least 48 hours prior to commencement of such work. The Contractor shall not close an AIR OPERATIONS AREA until so authorized by the Engineer and until the necessary temporary marking and associated lighting is in place as provided in the subsection titled BARRICADES, WARNING SIGNS, AND HAZARD MARKINGS of Section 70.

When the contract work requires the Contractor to work within an AIR OPERATIONS AREA (AOA) of the airport on an intermittent basis (intermittent opening and closing of the AIR OPERATIONS AREA), the Contractor shall maintain constant communications as hereinafter specified; immediately obey all instructions to vacate the AIR OPERATIONS AREA; immediately obey all instructions to resume work in such AIR OPERATIONS AREA. Failure to maintain the specified communications or to obey instructions shall be cause for suspension of the Contractor's operations in the AIR OPERATIONS AREA until the satisfactory conditions are provided. ~~The following AIR OPERATIONS AREA cannot be closed to~~

~~operating aircraft to permit the Contractor's operations on a continuous basis and will therefore be closed to aircraft operations intermittently as follows:~~

~~AOA~~
~~TIME PERIODS AOA CAN BE CLOSED~~
~~TYPE OF COMMUNICATIONS REQUIRED WHEN WORKING IN AN AOA~~
~~CONTROL AUTHORITY~~

Contractor shall be required to conform to safety standards contained in AC 150/5370-2, Operational Safety on Airports During Construction (See Special Provisions).

80-04.1 OPERATIONAL SAFETY ON AIRPORT DURING CONSTRUCTION. All Contractors' operations shall be conducted in accordance with the project safety plan and the provisions set forth within the current version of Advisory Circular 150/5370-2. The safety plan included within the contract documents conveys minimum requirements for operational safety on the airport during construction activities. The Contractor shall prepare and submit a plan that details how it proposes to comply with the requirements presented within the safety plan.

The Contractor shall implement all necessary safety plan measures prior to commencement of any work activity. The Contractor shall conduct routine checks of the safety plan measures to assure compliance with the safety plan measures.

The Contractor is responsible to the Owner for the conduct of all subcontractors it employs on the project. The Contractor shall assure that all subcontractors are made aware of the requirements of the safety plan and that they implement and maintain all necessary measures.

No deviation or modifications may be made to the approved safety plan unless approved in writing by the Owner or Engineer.

80-05 CHARACTER OF WORKERS, METHODS, AND EQUIPMENT. The Contractor shall, at all times, employ sufficient labor and equipment for prosecuting the work to full completion in the manner and time required by the contract, plans, and specifications.

All workers shall have sufficient skill and experience to perform properly the work assigned to them. Workers engaged in special work or skilled work shall have sufficient experience in such work and in the operation of the equipment required to perform the work satisfactorily.

Any person employed by the Contractor or by any subcontractor who violates any operational regulations and, in the opinion of the Engineer, does not perform his work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the Engineer, be removed forthwith by the Contractor or subcontractor employing such person, and shall not be employed again in any portion of the work without approval of the Engineer.

Should the Contractor fail to remove such persons or person, or fail to furnish suitable and sufficient personnel for the proper prosecution of the work, the Engineer may suspend the work by written notice until compliance with such orders.

All equipment that is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to met requirements of the work and to produce a satisfactory quality of work. Equipment used on any portion of the work shall be such that no injury to previously completed work, adjacent property, or existing airport facilities will result from its use.

When the methods and equipment to be used by the Contractor in accomplishing the work are not prescribed in the contract, the Contractor is free to use any methods or equipment that will accomplish the work in conformity with the requirements of the contract, plans, and specifications.

When the contract specifies the use of certain methods and equipment, such methods and equipment shall be used unless others are authorized by the Engineer. If the Contractor desires to use a method or type of equipment other than specified in the contract, he may request authority from the Engineer to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed and of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing work in conformity with contract requirements. If, after trial use of the substituted methods or equipment, the Engineer determines that the work produced does not meet contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining work with the specified methods and equipment. The Contractor shall remove any deficient work and replace it with work of specified quality, or take such other corrective action as the Engineer may direct. No change will be made in basis of payment for the contract items involved nor in contract time as a result of authorizing a change in methods or equipment under this subsection.

80-06 TEMPORARY SUSPENSION OF THE WORK. The Owner shall have the authority to suspend the work wholly, or in part, for such period or periods as he may deem necessary, due to unsuitable weather, or such other conditions as are considered unfavorable for the prosecution of the work, or for such time as is necessary due to the failure on the part of the Contractor to carry out orders given or perform any or all provisions of the contract.

In the event that the Contractor is ordered by the Owner, in writing, to suspend work for some unforeseen cause not otherwise provided for in the contract and over which the Contractor has no control, the Contractor may be reimbursed for actual money expended on the work during the period of shutdown. No allowance will be made for anticipated profits. The period of shutdown shall be computed from the effective date of the Engineer's order to suspend work to the effective date of the Engineer's order to resume the work. Claims for such compensation shall be filed with the Engineer within the time period stated in the Engineer's order to resume work. The Contractor shall submit with his/her claim information substantiating the amount shown on the claim. The Engineer will forward the Contractor's claim to the Owner for consideration in accordance with local laws or ordinances. No provision of this article shall be construed as entitling the Contractor to compensation for delays due to inclement weather, for suspensions made at the request of the Owner, or for any other delay provided for in the contract, plans, or specifications.

If it should become necessary to suspend work for an indefinite period, the Contractor shall store all materials in such manner that they will not become an obstruction nor become damaged in any way. He shall take every precaution to prevent damage or deterioration of the work performed and provide for normal drainage of the work. The Contractor shall erect temporary structures where necessary to provide for traffic on, to, or from the airport.

80-07 DETERMINATION AND EXTENSION OF CONTRACT TIME. The number of calendar or working days allowed for completion of the work shall be stated in the proposal and contract and shall be known as the CONTRACT TIME.

Should the contract time require extension for reasons beyond the Contractor's control, it shall be adjusted as follows:

a. CONTRACT TIME based on WORKING DAYS shall be calculated weekly by the Engineer. The Engineer will furnish the Contractor a copy of his/her weekly statement of the number of working days charged against the contract time during the week and the number of working days currently specified for completion of the contract (the original contract time plus the number of working days, if any, that have been included in approved CHANGE ORDERS or SUPPLEMENTAL AGREEMENTS covering EXTRA WORK).

The Engineer shall base his/her weekly statement of contract time charged on the following considerations:

(1) No time shall be charged for days on which the Contractor is unable to proceed with the principal item of work under construction at the time for at least 6 hours with the normal work force employed on such principal item. Should the normal work force be on a double-shift, 12 hours shall be used. Should the normal work force be on a triple-shift, 18 hours shall apply. Conditions beyond the Contractor's control such as strikes, lockouts, unusual delays in transportation, temporary suspension of the principal item of work under construction or temporary suspension of the entire work which have been ordered by the Owner for reasons not the fault of the Contractor, shall not be charged against the contract time.

(2) The Engineer will not make charges against the contract time prior to the effective date of the notice to proceed.

(3) The Engineer will begin charges against the contract time on the first working day after the effective date of the notice to proceed.

(4) The Engineer will not make charges against the contract time after the date of final acceptance as defined in the subsection titled FINAL ACCEPTANCE of Section 50.

(5) The Contractor will be allowed 1 week in which to file a written protest setting forth his/her objections to the Engineer's weekly statement. If no objection is filed within such specified time, the weekly statement shall be considered as acceptable to the Contractor.

The contract time (stated in the proposal) is based on the originally estimated quantities as described in the subsection titled INTERPRETATION OF ESTIMATED PROPOSAL QUANTITIES of Section 20. Should the satisfactory completion of the contract require performance of work in greater quantities than those estimated in the proposal, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in contract time shall not consider either the cost of work or the extension of contract time that has been covered by change order or supplemental agreement and shall be made at the time of final payment.

b. CONTRACT TIME based on CALENDAR DAYS shall consist of the number of calendar days stated in the contract counting from the effective date of the notice to proceed and including all Saturdays, Sundays, holidays, and nonwork days. All calendar days elapsing between the effective dates of the Owner's orders to suspend and resume all work, due to causes not the fault of the Contractor, shall be excluded.

At the time of final payment, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in the contract time shall not consider either cost of work or the extension of contract time that has been covered by a change order or supplemental agreement. Charges against the contract time will cease as of the date of final acceptance.

c. When the contract time is a specified completion date, it shall be the date on which all contract work shall be substantially completed.

If the Contractor finds it impossible for reasons beyond his/her control to complete the work within the contract time as specified, or as extended in accordance with the provisions of this subsection, he may, at any time prior to the expiration of the contract time as extended, make a written request to the Engineer for an extension of time setting forth the reasons which he believes will justify the granting of his/her request. Requests for extension of time on calendar day projects, caused by inclement weather, shall be supported with National Weather Bureau data showing the actual amount of inclement weather exceeded which could normally be expected during the contract period, ***as detailed in the Special Provisions.*** The Contractor's plea that insufficient time was specified is not a valid reason for extension of time. If the Engineer finds that the work was delayed because of conditions beyond the control and without the fault of the Contractor, he may extend the time for completion in such amount as the conditions justify. The

extended time for completion shall then be in full force and effect, the same as though it were the original time for completion.

80-08 FAILURE TO COMPLETE ON TIME. For each calendar day or working day, as specified in the contract, that any work remains uncompleted after the contract time (including all extensions and adjustments as provided in the subsection titled DETERMINATION AND EXTENSION OF CONTRACT TIME of this Section) the sum specified in the contract and proposal as liquidated damages will be deducted from any money due or to become due the Contractor or his/her surety. Such deducted sums shall not be deducted as a penalty but shall be considered as liquidation of a reasonable portion of damages including but not limited to additional engineering services that will be incurred by the Owner should the Contractor fail to complete the work in the time provided in his/her contract.

~~The maximum construction time allowed for Schedules [ ] will be the sum of the time allowed for individual schedules but not more than [ ] days. (Note: this paragraph will be modified for each project.)~~ ***Construction time shall be as included in the Proposal and Contract.***

Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a wavier on the part of the Owner of any of its rights under the contract.

80-09 DEFAULT AND TERMINATION OF CONTRACT. The Contractor shall be considered in default of his/her contract and such default will be considered as cause for the Owner to terminate the contract for any of the following reasons if the Contractor:

a. Fails to begin the work under the contract within the time specified in the "Notice to Proceed," or

b. Fails to perform the work or fails to provide sufficient workers, equipment or materials to assure completion of work in accordance with the terms of the contract, or

c. Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, or

d. Discontinues the prosecution of the work, or

e. Fails to resume work which has been discontinued within a reasonable time after notice to do so, or

f. Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or

g. Allows any final judgment to stand against him unsatisfied for a period of 10 days, or

h. Makes an assignment for the benefit of creditors, or

i. For any other cause whatsoever, fails to carry on the work in an acceptable manner.

Should the Engineer consider the Contractor in default of the contract for any reason hereinbefore, he shall immediately give written notice to the Contractor and the Contractor's surety as to the reasons for considering the Contractor in default and the Owner's intentions to terminate the contract.

If the Contractor or surety, within a period of 10 days after such notice, does not proceed in accordance therewith, then the Owner will, upon written notification from the Engineer of the facts of such delay, neglect, or default and the Contractor's failure to comply with such notice, have full power and authority without violating the contract, to take the prosecution of the work out of the hands of the Contractor. The Owner may appropriate or use any or all materials and equipment that have been mobilized for use in the work and are acceptable and may enter into an agreement for the completion of said contract according

to the terms and provisions thereof, or use such other methods as in the opinion of the Engineer will be required for the completion of said contract in an acceptable manner.

All costs and charges incurred by the Owner, together with the cost of completing the work under contract, will be deducted from any monies due or which may become due the Contractor. If such expense exceeds the sum which would have been payable under the contract, then the Contractor and the surety shall be liable and shall pay to the Owner the amount of such excess.

80-10 TERMINATION FOR NATIONAL EMERGENCIES. The Owner shall terminate the contract or portion thereof by written notice when the Contractor is prevented from proceeding with the construction contract as a direct result of an Executive Order of the President with respect to the prosecution of war or in the interest of national defense.

When the contract, or any portion thereof, is terminated before completion of all items of work in the contract, payment will be made for the actual number of units or items of work completed at the contract price or as mutually agreed for items of work partially completed or not started. No claims or loss of anticipated profits shall be considered.

Reimbursement for organization of the work, and other overhead expenses, (when not otherwise included in the contract) and moving equipment and materials to and from the job will be considered, the intent being that an equitable settlement will be made with the Contractor.

Acceptable materials, obtained or ordered by the Contractor for the work and that are not incorporated in the work shall, at the option of the Contractor, be purchased from the Contractor at actual cost as shown by receipted bills and actual cost records at such points of delivery as may be designated by the Engineer.

Termination of the contract or a portion thereof shall neither relieve the Contractor of his/her responsibilities for the completed work nor shall it relieve his/her surety of its obligation for and concerning any just claim arising out of the work performed.

80-11 WORK AREA, STORAGE AREA AND SEQUENCE OF OPERATIONS. The Contractor shall obtain approval from the Engineer prior to beginning any work in all areas of the airport. No operating runway, taxiway, or Air Operations Area (AOA) shall be crossed, entered, or obstructed while it is operational. The Contractor shall plan and coordinate his/her work in such a manner as to insure safety and a minimum of hindrance to flight operations. ~~All Contractor equipment and material stockpiles shall be stored a minimum of [ ] feet from the centerline of an active runway.~~ No equipment will be allowed to park within the approach area of an active runway at any time. ~~No equipment shall be within [ ] feet of an active runway at any time.~~

END OF SECTION 80

SECTION 90
MEASUREMENT AND PAYMENT

90-01 MEASUREMENT OF QUANTITIES. All work completed under the contract will be measured by the Engineer, or his/her authorized representatives, using United States Customary Units of Measurement or the International System of Units.

The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the contract will be those methods generally recognized as conforming to good engineering practice.

Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures (or leave-outs) having an area of 9 square feet (0.8 square meter) or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the plans or ordered in writing by the Engineer.

Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.

Unless otherwise specified, all contract items which are measured by the linear foot such as electrical ducts, conduits, pipe culverts, underdrains, and similar items shall be measured parallel to the base or foundation upon which such items are placed.

In computing volumes of excavation the average end area method or other acceptable methods will be used.

The thickness of plates and galvanized sheet used in the manufacture of corrugated metal pipe, metal plate pipe culverts and arches, and metal cribbing will be specified and measured in decimal fraction of inches.

The term "ton" will mean the short ton consisting of 2,000 pounds (907 kilograms) avoirdupois. All materials that are measured or proportioned by weights shall be weighed on accurate, approved scales by competent, qualified personnel at locations designed by the Engineer. If material is shipped by rail, the car weight may be accepted provided that only the actual weight of material is paid for. However, car weights will not be acceptable for material to be passed through mixing plants. Trucks used to haul material being paid for by weight shall be weighed empty daily at such times as the Engineer directs, and each truck shall bear a plainly legible identification mark.

Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this purpose may be of any size or type acceptable to the Engineer, provided that the body is of such shape that the actual contents may be readily and accurately determined. All vehicles shall be loaded to at least their water level capacity, and all loads shall be leveled when the vehicles arrive at the point of delivery.

When requested by the Contractor and approved by the Engineer in writing, material specified to be measured by the cubic yard (cubic meter) may be weighed, and such weights will be converted to cubic yards (cubic meters) for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the Engineer and shall be agreed to by the Contractor before such method of measurement of pay quantities is used.

Bituminous materials will be measured by the gallon (liter) or ton (kilogram). When measured by volume, such volumes will be measured at 60 F (15 C) or will be corrected to the volume at 60 F (15 C) using ASTM D 1250 for asphalts or ASTM D 633 for tars.

Net certified scale weights or weights based on certified volumes in the case of rail shipments will be used as a basis of measurement, subject to correction when bituminous material has been lost from the car or the distributor, wasted, or otherwise not incorporated in the work.

When bituminous materials are shipped by truck or transport, net certified weights by volume, subject to correction for loss or foaming, may be used for computing quantities.

Cement will be measured by the ton (kilogram) or hundredweight (kilogram).

Timber will be measured by the thousand feet board measure (M.F.B.M.) actually incorporated in the structure. Measurement will be based on nominal widths and thicknesses and the extreme length of each piece.

The term "lump sum" when used as an item of payment will mean complete payment for the work described in the contract.

When a complete structure or structural unit (in effect, "lump sum" work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories.

Rental of equipment will be measured by time in hours of actual working time and necessary traveling time of the equipment within the limits of the work. Special equipment ordered by the Engineer in connection with force account work will be measured as agreed in the change order or supplemental agreement authorizing such force account work as provided in the subsection titled PAYMENT FOR EXTRA AND FORCE ACCOUNT WORK of this section.

When standard manufactured items are specified such as fence, wire, plates, rolled shapes, pipe conduit, etc., and these items are identified by gage, unit weight, section dimensions, etc., such identification will be considered to be nominal weights or dimensions. Unless more stringently controlled by tolerances in cited specifications, manufacturing tolerances established by the industries involved will be accepted.

Scales for weighing materials which are required to be proportioned or measured and paid for by weight shall be furnished, erected, and maintained by the Contractor, or be certified permanently installed commercial scales.

Scales shall be accurate within one-half percent of the correct weight throughout the range of use. The Contractor shall have the scales checked under the observation of the inspector before beginning work and at such other times as requested. The intervals shall be uniform in spacing throughout the graduated or marked length of the beam or dial and shall not exceed one-tenth of 1 percent of the nominal rated capacity of the scale, but not less than 1 pound (454 grams). The use of spring balances will not be permitted.

Beams, dials, platforms, and other scale equipment shall be so arranged that the operator and the inspector can safely and conveniently view them.

Scale installations shall have available ten standard 50-pound (2.3 kilogram) weights for testing the weighing equipment or suitable weights and devices for other approved equipment.

Scales must be tested for accuracy and serviced before use at a new site. Platform scales shall be installed and maintained with the platform level and rigid bulkheads at each end.

Scales "overweighing" (indicating more than correct weight) will not be permitted to operate, and all materials received subsequent to the last previous correct weighting-accuracy test will be reduced by the percentage of error in excess of one-half of 1 percent.

In the event inspection reveals the scales have been "underweighing" (indicating less than correct weight), they shall be adjusted, and no additional payment to the Contractor will be allowed for materials previously weighed and recorded.

All costs in connection with furnishing, installing, certifying, testing, and maintaining scales; for furnishing check weights and scale house; and for all other items specified in this subsection, for the weighing of materials for proportioning or payment, shall be included in the unit contract prices for the various items of the project.

When the estimated quantities for a specific portion of the work are designated as the pay quantities in the contract, they shall be the final quantities for which payment for such specific portion of the work will be made, unless the dimensions of said portions of the work shown on the plans are revised by the Engineer. If revised dimensions result in an increase or decrease in the quantities of such work, the final quantities for payment will be revised in the amount represented by the authorized changes in the dimensions.

90-02 SCOPE OF PAYMENT. The Contractor shall receive and accept compensation provided for in the contract as full payment for furnishing all materials, for performing all work under the contract in a complete and acceptable manner, and for all risk, loss, damage, or expense of whatever character arising out of the nature of the work or the prosecution thereof, subject to the provisions of the subsection titled NO WAIVER OF LEGAL RIGHTS of Section 70.

When the "basis of payment" subsection of a technical specification requires that the contract price (price bid) include compensation for certain work or material essential to the item, this same work or material will not also be measured for payment under any other contract item which may appear elsewhere in the contract, plans, or specifications.

90-03 COMPENSATION FOR ALTERED QUANTITIES. When the accepted quantities of work vary from the quantities in the proposal, the Contractor shall accept as payment in full, so far as contract items are concerned, payment at the original contract price for the accepted quantities of work actually completed and accepted. No allowance, except as provided for in the subsection titled ALTERATION OF WORK AND QUANTITIES of Section 40 will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor which results directly from such alterations or indirectly from his/her unbalanced allocation of overhead and profit among the contract items, or from any other cause.

90-04 PAYMENT FOR OMITTED ITEMS. As specified in the subsection titled OMITTED ITEMS of Section 40, the Engineer shall have the right to omit from the work (order nonperformance) any contract item, except major contract items, in the best interest of the Owner.

Should the Engineer omit or order nonperformance of a contract item or portion of such item from the work, the Contractor shall accept payment in full at the contract prices for any work actually completed and acceptable prior to the Engineer's order to omit or nonperform such contract item.

Acceptable materials ordered by the Contractor or delivered on the work prior to the date of the Engineer's order will be paid for at the actual cost to the Contractor and shall thereupon become the property of the Owner.

In addition to the reimbursement hereinbefore provided, the Contractor shall be reimbursed for all actual costs incurred for the purpose of performing the omitted contract item prior to the date of the Engineer's order. Such additional costs incurred by the Contractor must be directly related to the deleted contract item and shall be supported by certified statements by the Contractor as to the nature the amount of such costs.

90-05 PAYMENT FOR EXTRA AND FORCE ACCOUNT WORK. Extra work, performed in accordance with the subsection titled EXTRA WORK of Section 40, will be paid for at the contract prices or agreed prices specified in the change order or supplemental agreement authorizing the extra work. When the change order or supplemental agreement authorizing the extra work requires that it be done by force account, such force account shall be measured and paid for based on expended labor, equipment, and materials plus a negotiated and agreed upon allowance for overhead and profit.

a. Miscellaneous. No additional allowance will be made for general superintendence, the use of small tools, or other costs for which no specific allowance is herein provided.

b. Comparison of Record. The Contractor and the Engineer shall compare records of the cost of force account work at the end of each day. Agreement shall be indicated by signature of the Contractor and the Engineer or their duly authorized representatives.

c. Statement. No payment will be made for work performed on a force account basis until the Contractor has furnished the Engineer with duplicate itemized statements of the cost of such force account work detailed as follows:

(1) Name, classification, date, daily hours, total hours, rate and extension for each laborer and foreman.

(2) Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment.

(3) Quantities of materials, prices, and extensions.

(4) Transportation of materials.

(5) Cost of property damage, liability and workman's compensation insurance premiums, unemployment insurance contributions, and social security tax.

Statements shall be accompanied and supported by a receipted invoice for all materials used and transportation charges. However, if materials used on the force account work are not specifically purchased for such work but are taken from the Contractor's stock, then in lieu of the invoices the Contractor shall furnish an affidavit certifying that such materials were taken from his/her stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the actual cost to the Contractor.

90-06 PARTIAL PAYMENTS. Partial payments will be made to the Contractor at least once each month as the work progresses. Said payments will be based upon estimates, prepared by the Engineer, of the value of the work performed and materials complete and in place in accordance with the contract, plans, and specifications. Such partial payments may also include the delivered actual cost of those materials stockpiled and stored in accordance with the subsection titled PAYMENT FOR MATERIALS ON HAND of this section. No partial payment will be made when the amount due to the Contractor since the last estimate amounts to less than five hundred dollars.
The Contractor is required to pay all subcontractors for satisfactory performance of their contracts no later than 30 days after the Contractor has received a partial payment. The Owner must ensure prompt and full payment of retainage from the prime contractor to the subcontractor within 30 days after the subcontractor's work is satisfactorily completed. A subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished and documented as required by the Owner. When the Owner has made an incremental acceptance of a portion of a prime contract, the work of a subcontractor covered by that acceptance is deemed to be satisfactorily completed.

From the total of the amount determined to be payable on a partial payment, **5 percent** of such total amount will be deducted and retained by the Owner until the final payment is made, except as may be provided (at the Contractor's option) in the subsection titled PAYMENT OF WITHHELD FUNDS of this section. The balance (**95 percent**) of the amount payable, less all previous payments, shall be certified for payment. Should the Contractor exercise his/her option, as provided in the subsection titled PAYMENT OF WITHHELD FUNDS of this section, no such percent retainage shall be deducted.

When at least 95 percent of the work has been completed, the Engineer shall, at the Owner's discretion and with the consent of the surety, prepare estimates of both the contract value and the cost of the remaining work to be done.

The Owner may retain an amount not less than twice the contract value or estimated cost, whichever is greater, of the work remaining to be done. The remainder, less all previous payments and deductions, will then be certified for payment to the Contractor.

It is understood and agreed that the Contractor shall not be entitled to demand or receive partial payment based on quantities of work in excess of those provided in the proposal or covered by approved change orders or supplemental agreements, except when such excess quantities have been determined by the Engineer to be a part of the final quantity for the item of work in question.

No partial payment shall bind the Owner to the acceptance of any materials or work in place as to quality or quantity. All partial payments are subject to correction at the time of final payment as provided in the subsection titled ACCEPTANCE AND FINAL PAYMENT of this section.

The Contractor shall deliver to the Owner a complete release of all claims for labor and material arising out of this contract before the final payment is made. If any subcontractor or supplier fails to furnish such a release in full, the Contractor may furnish a bond or other collateral satisfactory to the Owner to indemnify the Owner against any potential lien or other such claim. The bond or collateral shall include all costs, expenses, and attorney fees the Owner may be compelled to pay in discharging any such lien or claim.

90-07 PAYMENT FOR MATERIALS ON HAND. Partial payments may be made to the extent of the delivered cost of materials to be incorporated in the work, provided that such materials meet the requirements of the contract, plans, and specifications and are delivered to acceptable sites on the airport property or at other sites in the vicinity that are acceptable to the Owner. Such delivered costs of stored or stockpiled materials may be included in the next partial payment after the following conditions are met:

a. The material has been stored or stockpiled in a manner acceptable to the Engineer at or on an approved site.

b. The Contractor has furnished the Engineer with acceptable evidence of the quantity and quality of such stored or stockpiled materials.

c. The Contractor has furnished the Engineer with satisfactory evidence that the material and transportation costs have been paid.

d. The Contractor has furnished the Owner legal title (free of liens or encumbrances of any kind) to the material so stored or stockpiled.

e. The Contractor has furnished the Owner evidence that the material so stored or stockpiled is insured against loss by damage to or disappearance of such materials at anytime prior to use in the work.

It is understood and agreed that the transfer of title and the Owner's payment for such stored or stockpiled materials shall in no way relieve the Contractor of his/her responsibility for furnishing and placing such materials in accordance with the requirements of the contract, plans, and specifications.

In no case will the amount of partial payments for materials on hand exceed the contract price for such materials or the contract price for the contract item in which the material is intended to be used.

No partial payment will be made for stored or stockpiled living or perishable plant materials.

The Contractor shall bear all costs associated with the partial payment of stored or stockpiled materials in accordance with the provisions of this subsection.

90-08 PAYMENT OF WITHHELD FUNDS. At the Contractor's option, if an Owner withholds retainage in accordance with the methods described in subsection 90-06 PARTIAL PAYMENTS, the Contractor may request that the Owner deposit the retainage into an escrow account. The Owner's deposit of retainage into an escrow account is subject to the following conditions:

a. The Contractor shall bear all expenses of establishing and maintaining an escrow account and escrow agreement acceptable to the Owner.

b. The Contractor shall deposit to and maintain in such escrow only those securities or bank certificates of deposit as are acceptable to the Owner and having a value not less than the retainage that would otherwise be withheld from partial payment.

c. The Contractor shall enter into an escrow agreement satisfactory to the Owner.

d. The Contractor shall obtain the written consent of the surety to such agreement.

90-09 ACCEPTANCE AND FINAL PAYMENT. When the contract work has been accepted in accordance with the requirements of the subsection titled FINAL ACCEPTANCE of Section 50, the Engineer will prepare the final estimate of the items of work actually performed. The Contractor shall approve the Engineer's final estimate or advise the Engineer of his/her objections to the final estimate which are based on disputes in measurements or computations of the final quantities to be paid under the contract as amended by change order or supplemental agreement. The Contractor and the Engineer shall resolve all disputes (if any) in the measurement and computation of final quantities to be paid within 30 calendar days of the Contractor's receipt of the Engineer's final estimate. If, after such 30-day period, a dispute still exists, the Contractor may approve the Engineer's estimate under protest of the quantities in dispute, and such disputed quantities shall be considered by the Owner as a claim in accordance with the subsection titled CLAIMS FOR ADJUSTMENT AND DISPUTES of Section 50.

After the Contractor has approved, or approved under protest, the Engineer's final estimate, final payment will be processed based on the entire sum, or the undisputed sum in case of approval under protest, determined to be due the Contractor less all previous payments and all amounts to be deducted under the provisions of the contract. All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

If the Contractor has filed a claim for additional compensation under the provisions of the subsection titled CLAIMS FOR ADJUSTMENTS AND DISPUTES of Section 50 or under the provisions of this subsection, such claims will be considered by the Owner in accordance with local laws or ordinances. Upon final adjudication of such claims, any additional payment determined to be due the Contractor will be paid pursuant to a supplemental final estimate.

END OF SECTION 90

SECTION 100
CONTRACTOR QUALITY CONTROL PROGRAM

100-01 GENERAL. When the specification requires a Contractor Quality Control Program, the Contractor shall establish, provide, and maintain an effective Quality Control Program that details the methods and procedures that will be taken to assure that all materials and completed construction required by this contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors. Although guidelines are established and certain minimum requirements are specified herein and elsewhere in the contract technical specifications, the Contractor shall assume full responsibility for accomplishing the stated purpose.

The intent of this section is to enable the Contractor to establish a necessary level of control that will:

a. Adequately provide for the production of acceptable quality materials.

b. Provide sufficient information to assure both the Contractor and the Engineer that the specification requirements can be met.

c. Allow the Contractor as much latitude as possible to develop his or her own standard of control.

The Contractor shall be prepared to discuss and present, at the preconstruction conference, his/her understanding of the quality control requirements. The Contractor shall not begin any construction or production of materials to be incorporated into the completed work until the Quality Control Program has been reviewed by the Engineer. No partial payment will be made for materials subject to specific quality control requirements until the Quality Control Program has been reviewed.

The quality control requirements contained in this section and elsewhere in the contract technical specifications are in addition to and separate from the acceptance testing requirements. Acceptance testing requirements are the responsibility of the Engineer.

100-02 DESCRIPTION OF PROGRAM.

a. General Description. The Contractor shall establish a Quality Control Program to perform inspection and testing of all items of work required by the technical specifications, including those performed by subcontractors. This Quality Control Program shall ensure conformance to applicable specifications and plans with respect to materials, workmanship, construction, finish, and functional performance. The Quality Control Program shall be effective for control of all construction work performed under this Contract and shall specifically include surveillance and tests required by the technical specifications, in addition to other requirements of this section and any other activities deemed necessary by the Contractor to establish an effective level of quality control.

b. Quality Control Program. The Contractor shall describe the Quality Control Program in a written document that shall be reviewed by the Engineer prior to the start of any production, construction, or off-site fabrication. The written Quality Control Program shall be submitted to the Engineer for review at least **10** calendar days before the ***associated work begins***.

The Quality Control Program shall be organized to address, as a minimum, the following items:

a. Quality control organization;

b. Project progress schedule;

c. Submittals schedule;

d. Inspection requirements;

e. Quality control testing plan;

f. Documentation of quality control activities; and

g. Requirements for corrective action when quality control and/or acceptance criteria are not met.

The Contractor is encouraged to add any additional elements to the Quality Control Program that he/she deems necessary to adequately control all production and/or construction processes required by this contract.

100-03 QUALITY CONTROL ORGANIZATION. The Contractor Quality Control Program shall be implemented by the establishment of a separate quality control organization. An organizational chart shall be developed to show all quality control personnel and how these personnel integrate with other management/production and construction functions and personnel.

The organizational chart shall identify all quality control staff by name and function, and shall indicate the total staff required to implement all elements of the Quality Control Program, including inspection and testing for each item of work. If necessary, different technicians can be utilized for specific inspection and testing functions for different items of work. If an outside organization or independent testing laboratory is used for implementation of all or part of the Quality Control Program, the personnel assigned shall be subject to the qualification requirements of paragraph 100-03a and 100-03b. The organizational chart shall indicate which personnel are Contractor employees and which are provided by an outside organization.

The quality control organization shall consist of the following minimum personnel:

a. Program Administrator. The Program Administrator shall be a full-time employee of the Contractor, or a consultant engaged by the Contractor. The Program Administrator shall have a minimum of 5 years of experience in airport and/or highway construction and shall have had prior quality control experience on a project of comparable size and scope as the contract.

Additional qualifications for the Program Administrator shall include at least 1 of the following requirements:

(1) Professional engineer with 1 year of airport paving experience acceptable to the Engineer.

(2) Engineer-in-training with 2 years of airport paving experience acceptable to the Engineer.

(3) An individual with 3 years of highway and/or airport paving experience acceptable to the Engineer, with a Bachelor of Science Degree in Civil Engineering, Civil Engineering Technology or Construction.

(4) Construction materials technician certified at Level III by the National Institute for Certification in Engineering Technologies (NICET).

(5) Highway materials technician certified at Level III by NICET.

(6) Highway construction technician certified at Level III by NICET.

(7) A NICET certified engineering technician in Civil Engineering Technology with 5 years of highway and/or airport paving experience acceptable to the Engineer.

The Program Administrator shall have full authority to institute any and all actions necessary for the successful implementation of the Quality Control Program to ensure compliance with the contract plans and technical specifications. The Program Administrator shall report directly to a responsible officer of the construction firm. The Program Administrator may supervise the Quality Control Program on more than one project provided that person can be at the job site within 2 hours after being notified of a problem.

b. Quality Control Technicians. A sufficient number of quality control technicians necessary to adequately implement the Quality Control Program shall be provided. These personnel shall be either engineers, engineering technicians, or experienced craftsman with qualifications in the appropriate field equivalent to NICET Level II or higher construction materials technician or highway construction technician and shall have a minimum of 2 years of experience in their area of expertise.

The quality control technicians shall report directly to the Program Administrator and shall perform the following functions:

(1) Inspection of all materials, construction, plant, and equipment for conformance to the technical specifications, and as required by Section 100-06.

(2) Performance of all quality control tests as required by the technical specifications and Section 100-07.

Certification at an equivalent level, by a state or nationally recognized organization will be acceptable in lieu of NICET certification.

c. Staffing Levels. The Contractor shall provide sufficient qualified quality control personnel to monitor each work activity at all times. Where material is being produced in a plant for incorporation into the work, separate plant and field technicians shall be provided at each plant and field placement location. The scheduling and coordinating of all inspection and testing must match the type and pace of work activity. The Quality Control Program shall state where different technicians will be required for different work elements.

100-04 PROJECT PROGRESS SCHEDULE. The Contractor shall submit a coordinated construction schedule for all work activities. The schedule shall be prepared as a network diagram in Critical Path Method (CPM), PERT, or other format, or as otherwise specified in the contract. As a minimum, it shall provide information on the sequence of work activities, milestone dates, and activity duration.

The Contractor shall maintain the work schedule and provide an update and analysis of the progress schedule on a twice monthly basis, or as otherwise specified in the contract. Submission of the work schedule shall not relieve the Contractor of overall responsibility for scheduling, sequencing, and coordinating all work to comply with the requirements of the contract.

100-05 SUBMITTALS SCHEDULE. The Contractor shall submit a detailed listing of all submittals (e.g., mix designs, material certifications) and shop drawings required by the technical specifications. The listing can be developed in a spreadsheet format and shall include:

a. Specification item number;
b. Item description;
c. Description of submittal;
d. Specification paragraph requiring submittal; and
e. Scheduled date of submittal.

100-06 INSPECTION REQUIREMENTS. Quality control inspection functions shall be organized to provide inspections for all definable features of work, as detailed below. All inspections shall be documented by the Contractor as specified by Section 100-07.

Inspections shall be performed daily to ensure continuing compliance with contract requirements until completion of the particular feature of work. These shall include the following minimum requirements:

a. During plant operation for material production, quality control test results and periodic inspections shall be utilized to ensure the quality of aggregates and other mix components, and to adjust and control mix proportioning to meet the approved mix design and other requirements of the technical specifications. All equipment utilized in proportioning and mixing shall be inspected to ensure its proper operating condition. The Quality Control Program shall detail how these and other quality control functions will be accomplished and utilized.

b. During field operations, quality control test results and periodic inspections shall be utilized to ensure the quality of all materials and workmanship. All equipment utilized in placing, finishing, and compacting shall be inspected to ensure its proper operating condition and to ensure that all such operations are in conformance to the technical specifications and are within the plan dimensions, lines, grades, and tolerances specified. The Program shall document how these and other quality control functions will be accomplished and utilized.

100-07 QUALITY CONTROL TESTING PLAN. As a part of the overall Quality Control Program, the Contractor shall implement a quality control testing plan, as required by the technical specifications. The testing plan shall include the minimum tests and test frequencies required by each technical specification item, as well as any additional quality control tests that the Contractor deems necessary to adequately control production and/or construction processes.

The testing plan can be developed in a spreadsheet fashion and shall, as a minimum, include the following:

a. Specification item number (e.g., P-401);
b. Item description (e.g., Plant Mix Bituminous Pavements);
c. Test type (e.g., gradation, grade, asphalt content);
d. Test standard (e.g., ASTM or AASHTO test number, as applicable);
e. Test frequency (e.g., as required by technical specifications or minimum frequency when requirements are not stated);
f. Responsibility (e.g., plant technician); and
g. Control requirements (e.g., target, permissible deviations).

The testing plan shall contain a statistically-based procedure of random sampling for acquiring test samples in accordance with ASTM D 3665. The Engineer shall be provided the opportunity to witness quality control sampling and testing.

All quality control test results shall be documented by the Contractor as required by Section 100-08.

100-08 DOCUMENTATION. The Contractor shall maintain current quality control records of all inspections and tests performed. These records shall include factual evidence that the required inspections or tests have been performed, including type and number of inspections or tests involved; results of inspections or tests; nature of defects, deviations, causes for rejection, etc.; proposed remedial action; and corrective actions taken.

These records must cover both conforming and defective or deficient features, and must include a statement that all supplies and materials incorporated in the work are in full compliance with the terms of the contract. Legible copies of these records shall be furnished to the Engineer daily. The records shall cover all work placed subsequent to the previously furnished records and shall be verified and signed by the Contractor's Program Administrator.

Specific Contractor quality control records required for the contract shall include, but are not necessarily limited to, the following records:

a. Daily Inspection Reports. Each Contractor quality control technician shall maintain a daily log of all inspections performed for both Contractor and subcontractor operations on a form acceptable to the Engineer. These technician's daily reports shall provide factual evidence that continuous quality control inspections have been performed and shall, as a minimum, include the following:

(1) Technical specification item number and description;
(2) Compliance with approved submittals;
(3) Proper storage of materials and equipment;
(4) Proper operation of all equipment;
(5) Adherence to plans and technical specifications;
(6) Review of quality control tests; and
(7) Safety inspection.

The daily inspection reports shall identify inspections conducted, results of inspections, location and nature of defects found, causes for rejection, and remedial or corrective actions taken or proposed.

The daily inspection reports shall be signed by the responsible quality control technician and the Program Administrator. The Engineer shall be provided at least one copy of each daily inspection report on the work day following the day of record.

b. Daily Test Reports. The Contractor shall be responsible for establishing a system that will record all quality control test results. Daily test reports shall document the following information:

(1) Technical specification item number and description;
(2) Test designation;
(3) Location;
(4) Date of test;
(5) Control requirements;
(6) Test results;
(7) Causes for rejection;
(8) Recommended remedial actions; and
(9) Retests.

Test results from each day's work period shall be submitted to the Engineer prior to the start of the next day's work period. When required by the technical specifications, the Contractor shall maintain statistical quality control charts. The daily test reports shall be signed by the responsible quality control technician and the Program Administrator.

100-09 CORRECTIVE ACTION REQUIREMENTS. The Quality Control Program shall indicate the appropriate action to be taken when a process is deemed, or believed, to be out of control (out of tolerance) and detail what action will be taken to bring the process into control. The requirements for corrective action shall include both general requirements for operation of the Quality Control Program as a whole, and for individual items of work contained in the technical specifications.

The Quality Control Program shall detail how the results of quality control inspections and tests will be used for determining the need for corrective action and shall contain clear sets of rules to gauge when a process is out of control and the type of correction to be taken to regain process control.

When applicable or required by the technical specifications, the Contractor shall establish and utilize statistical quality control charts for individual quality control tests. The requirements for corrective action shall be linked to the control charts.

100-10 SURVEILLANCE BY THE ENGINEER. All items of material and equipment shall be subject to surveillance by the Engineer at the point of production, manufacture or shipment to determine if the Contractor, producer, manufacturer or shipper maintains an adequate quality control system in conformance with the requirements detailed herein and the applicable technical specifications and plans.

In addition, all items of materials, equipment and work in place shall be subject to surveillance by the Engineer at the site for the same purpose.

Surveillance by the Engineer does not relieve the Contractor of performing quality control inspections of either on-site or off-site Contractor's or subcontractor's work.

100-11 NONCOMPLIANCE.

a. The Engineer will notify the Contractor of any noncompliance with any of the foregoing requirements. The Contractor shall, after receipt of such notice, immediately take corrective action. Any notice, when delivered by the Engineer or his/her authorized representative to the Contractor or his/her authorized representative at the site of the work, shall be considered sufficient notice.

b. In cases where quality control activities do not comply with either the Contractor Quality Control Program or the contract provisions, or where the Contractor fails to properly operate and maintain an effective Quality Control Program, as determined by the Engineer, the Engineer may:

(1) Order the Contractor to replace ineffective or unqualified quality control personnel or subcontractors.

(2) Order the Contractor to stop operations until appropriate corrective actions are taken.

END OF SECTION 100

SECTION 110
METHOD OF ESTIMATING PERCENTAGE OF MATERIAL WITHIN SPECIFICATION LIMITS (PWL)

110-01 GENERAL. When the specifications provide for acceptance of material based on the method of estimating percentage of material within specification limits (PWL), the PWL will be determined in accordance with this section. All test results for a lot will be analyzed statistically to determine the total estimated percent of the lot that is within specification limits. The PWL is computed using the sample average (X) and sample standard deviation (S_n) of the specified number (n) of sublots for the lot and the specification tolerance limits, L for lower and U for upper, for the particular acceptance parameter. From these values, the respective Quality Index(s), Q_L for Lower Quality Index and/or Q_U for Upper Quality Index, is computed and the PWL for the lot for the specified n is determined from Table 1. All specification limits specified in the technical sections shall be absolute values. Test results used in the calculations shall be to the significant figure given in the test procedure.

There is some degree of uncertainty (risk) in the measurement for acceptance because only a small fraction of production material (the population) is sampled and tested. This uncertainty exists because all portions of the production material have the same probability to be randomly sampled. The Contractor's risk is the probability that material produced at the acceptable quality level is rejected or subjected to a pay adjustment. The Owner's risk is the probability that material produced at the rejectable quality level is accepted.

IT IS THE INTENT OF THIS SECTION TO INFORM THE CONTRACTOR THAT, IN ORDER TO CONSISTENTLY OFFSET THE CONTRACTOR'S RISK FOR MATERIAL EVALUATED, PRODUCTION QUALITY (USING POPULATION AVERAGE AND POPULATION STANDARD DEVIATION) MUST BE MAINTAINED AT THE ACCEPTABLE QUALITY SPECIFIED OR HIGHER. IN ALL CASES, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PRODUCE AT QUALITY LEVELS THAT WILL MEET THE SPECIFIED ACCEPTANCE CRITERIA WHEN SAMPLED AND TESTED AT THE FREQUENCIES SPECIFIED.

110-02 METHOD FOR COMPUTING PWL. The computational sequence for computing PWL is as follows:

a. Divide the lot into n sublots in accordance with the acceptance requirements of the specification.

b. Locate the random sampling position within the sublot in accordance with the requirements of the specification.

c. Make a measurement at each location, or take a test portion and make the measurement on the test portion in accordance with the testing requirements of the specification.

d. Find the sample average (X) for all sublot values within the lot by using the following formula:

$$X = (x_1 + x_2 + x_3 + \ldots x_n) / n$$

Where: X = Sample average of all sublot values within a lot
x_1, x_2 = Individual sublot values
n = Number of sublots

e. Find the sample standard deviation (S_n) by use of the following formula:

$$S_n = [(d_1^2 + d_2^2 + d_3^2 + \ldots d_n^2)/(n-1)]^{1/2}$$

Where: S_n = Sample standard deviation of the number of sublot values in the set
$d_1, d_2,$ = Deviations of the individual sublot values $x_1, x_2, \ldots$ from the average value X

that is: $d_1 = (x_1 - X)$, $d_2 = (x_2 - X)$ ... $d_n = (x_n - X)$

n = Number of sublots

f. For single sided specification limits (i.e., L only), compute the Lower Quality Index Q_L by use of the following formula:

$$Q_L = (X - L) / S_n$$

Where: L = specification lower tolerance limit

Estimate the percentage of material within limits (PWL) by entering Table 1 with Q_L, using the column appropriate to the total number (n) of measurements. If the value of Q_L falls between values shown on the table, use the next higher value of PWL.

g. For double-sided specification limits (i.e. L and U), compute the Quality Indexes Q_L and Q_U by use of the following formulas:

$$Q_L = (X - L) / Sn \text{ and } \quad Q_U = (U - X) / Sn$$

Where: L and U = specification lower and upper tolerance limits

Estimate the percentage of material between the lower (L) and upper (U) tolerance limits (PWL) by entering Table 1 separately with Q_L and Q_U, using the column appropriate to the total number (n) of measurements, and determining the percent of material above P_L and percent of material below P_U for each tolerance limit. If the values of Q_L fall between values shown on the table, use the next higher value of P_L or P_U. Determine the PWL by use of the following formula:

$$PWL = (P_U + P_L) - 100$$

Where: P_L = percent within lower specification limit
P_U = percent within upper specification limit

EXAMPLE OF PWL CALCULATION

Project: Example Project
Test Item: Item P-401, Lot A.

A. PWL Determination for Mat Density.

1. Density of four random cores taken from Lot A.

A-1 96.60
A-2 97.55
A-3 99.30
A-4 98.35
n = 4

2. Calculate average density for the lot.

$X = (x1 + x2 + x3 + . . .xn) / n$
$X = (96.60 + 97.55 + 99.30 + 98.35) / 4$
$X = 97.95$ percent density

3. Calculate the standard deviation for the lot.

$$Sn = [((96.60 - 97.95)^2 + (97.55 - 97.95)^2 + (99.30 - 97.95)^2 + (98.35 - 97.95)^2)) / (4 - 1)]^{1/2}$$

$Sn = [(1.82 + 0.16 + 1.82 + 0.16) / 3]^{1/2}$
$Sn = 1.15$

4. Calculate the Lower Quality Index Q_L for the lot. (L=96.3)

$Q_L = (X - L) / Sn$
$Q_L = (97.95 - 96.30) / 1.15$
$Q_L = 1.4348$

5. Determine PWL by entering Table 1 with Q_L= 1.44 and n= 4.

PWL = 98

B. PWL Determination for Air Voids.

1. Air Voids of four random samples taken from Lot A.

A-1 5.00
A-2 3.74
A-3 2.30
A-4 3.25

2. Calculate the average air voids for the lot.

$X = (x1 + x + x3 \ldots n) / n$

$X = (5.00 + 3.74 + 2.30 + 3.25) / 4$

X = 3.57 percent

3. Calculate the standard deviation Sn for the lot.

$Sn = [((3.57 - 5.00)^2 + (3.57 - 3.74)^2 + (3.57 - 2.30)^2 + (3.57 - 3.25)^2) / (4 - 1)]^{1/2}$

$Sn = [(2.04 + 0.03 + 1.62 + 0.10) / 3]^{1/2}$

Sn = 1.12

4. Calculate the Lower Quality Index Q_L for the lot. (L= 2.0)

$Q_L = (X - L) / Sn$

$Q_L = (3.57 - 2.00) / 1.12$

$Q_L = 1.3992$

5. Determine P_L by entering Table 1 with Q_L = 1.41 and n = 4.

PL = 97

6. Calculate the Upper Quality Index Q_U for the lot. (U= 5.0)

$Q_U = (U - X) / Sn$

$Q_U = (5.00 - 3.57) / 1.12$

$Q_U = 1.2702$

7. Determine P_U by entering Table 1 with $Q_U = 1.29$ and n = 4.

$P_U = 93$

8. Calculate Air Voids PWL

$PWL = (P_L + P_U) - 100$

$PWL = (97 + 93) - 100 = 90$

EXAMPLE OF OUTLIER CALCULATION (Reference ASTM E 178)

Project: Example Project
Test Item: Item P-401, Lot A.

A. Outlier Determination for Mat Density.

1. Density of four random cores taken from Lot A. arranged in descending order.

A-3 99.30
A-4 98.35
A-2 97.55
A-1 96.60

2. Use n=4 and upper 5 percent significance level of to find the critical value for test criterion = 1.463.

3. Use average density, standard deviation, and test criterion value to evaluate density measurements.

a. For measurements greater than the average:
If: (measurement - average)/(standard deviation) is less than test criterion,
Then: the measurement is not considered an outlier

for A-3 Check if (99.30 - 97.95) / 1.15 greater than 1.463
1.174 is less than 1.463, the value is not an outlier

b. For measurements less than the average:
If (average - measurement)/(standard deviation) is less than test criterion,
the measurement is not considered an outlier

for A-1 Check if (97.95 - 96.60) / 1.15 greater than 1.463
1.0 is less than 1.463, the value is not an outlier

NOTE: In this example, a measurement would be considered an outlier if the density was:
greater than (97.95+1.463x1.15) = 99.63 percent or,
less than (97.95-1.463x1.15) = 96.27 percent

TABLE 1. TABLE FOR ESTIMATING PERCENT OF LOT WITHIN LIMITS (PWL)

Percent Within Limits (P_L and P_U)	Positive Values of Q (Q_L and Q_U)							
	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
99	1.1541	1.4700	1.6714	1.8008	1.8888	1.9520	1.9994	2.0362
98	1.1524	1.4400	1.6016	1.6982	1.7612	1.8053	1.8379	1.8630
97	1.1496	1.4100	1.5427	1.6181	1.6661	1.6993	1.7235	1.7420
96	1.1456	1.3800	1.4897	1.5497	1.5871	1.6127	1.6313	1.6454
95	1.1405	1.3500	1.4407	1.4887	1.5181	1.5381	1.5525	1.5635
94	1.1342	1.3200	1.3946	1.4329	1.4561	1.4717	1.4829	1.4914
93	1.1269	1.2900	1.3508	1.3810	1.3991	1.4112	1.4199	1.4265
92	1.1184	1.2600	1.3088	1.3323	1.3461	1.3554	1.3620	1.3670
91	1.1089	1.2300	1.2683	1.2860	1.2964	1.3032	1.3081	1.3118
90	1.0982	1.2000	1.2290	1.2419	1.2492	1.2541	1.2576	1.2602
89	1.0864	1.1700	1.1909	1.1995	1.2043	1.2075	1.2098	1.2115
88	1.0736	1.1400	1.1537	1.1587	1.1613	1.1630	1.1643	1.1653
87	1.0597	1.1100	1.1173	1.1192	1.1199	1.1204	1.1208	1.1212
86	1.0448	1.0800	1.0817	1.0808	1.0800	1.0794	1.0791	1.0789
85	1.0288	1.0500	1.0467	1.0435	1.0413	1.0399	1.0389	1.0382
84	1.0119	1.0200	1.0124	1.0071	1.0037	1.0015	1.0000	0.9990
83	0.9939	0.9900	0.9785	0.9715	0.9671	0.9643	0.9624	0.9610
82	0.9749	0.9600	0.9452	0.9367	0.9315	0.9281	0.9258	0.9241
81	0.9550	0.9300	0.9123	0.9025	0.8966	0.8928	0.8901	0.8882
80	0.9342	0.9000	0.8799	0.8690	0.8625	0.8583	0.8554	0.8533
79	0.9124	0.8700	0.8478	0.8360	0.8291	0.8245	0.8214	0.8192
78	0.8897	0.8400	0.8160	0.8036	0.7962	0.7915	0.7882	0.7858
77	0.8662	0.8100	0.7846	0.7716	0.7640	0.7590	0.7556	0.7531
76	0.8417	0.7800	0.7535	0.7401	0.7322	0.7271	0.7236	0.7211
75	0.8165	0.7500	0.7226	0.7089	0.7009	0.6958	0.6922	0.6896
74	0.7904	0.7200	0.6921	0.6781	0.6701	0.6649	0.6613	0.6587
73	0.7636	0.6900	0.6617	0.6477	0.6396	0.6344	0.6308	0.6282
72	0.7360	0.6600	0.6316	0.6176	0.6095	0.6044	0.6008	0.5982
71	0.7077	0.6300	0.6016	0.5878	0.5798	0.5747	0.5712	0.5686
70	0.6787	0.6000	0.5719	0.5582	0.5504	0.5454	0.5419	0.5394
69	0.6490	0.5700	0.5423	0.5290	0.5213	0.5164	0.5130	0.5105
68	0.6187	0.5400	0.5129	0.4999	0.4924	0.4877	0.4844	0.4820
67	0.5878	0.5100	0.4836	0.4710	0.4638	0.4592	0.4560	0.4537
66	0.5563	0.4800	0.4545	0.4424	0.4355	0.4310	0.4280	0.4257
65	0.5242	0.4500	0.4255	0.4139	0.4073	0.4030	0.4001	0.3980
64	0.4916	0.4200	0.3967	0.3856	0.3793	0.3753	0.3725	0.3705
63	0.4586	0.3900	0.3679	0.3575	0.3515	0.3477	0.3451	0.3432
62	0.4251	0.3600	0.3392	0.3295	0.3239	0.3203	0.3179	0.3161
61	0.3911	0.3300	0.3107	0.3016	0.2964	0.2931	0.2908	0.2892
60	0.3568	0.3000	0.2822	0.2738	0.2691	0.2660	0.2639	0.2624
59	0.3222	0.2700	0.2537	0.2461	0.2418	0.2391	0.2372	0.2358
58	0.2872	0.2400	0.2254	0.2186	0.2147	0.2122	0.2105	0.2093
57	0.2519	0.2100	0.1971	0.1911	0.1877	0.1855	0.1840	0.1829
56	0.2164	0.1800	0.1688	0.1636	0.1607	0.1588	0.1575	0.1566
55	0.1806	0.1500	0.1406	0.1363	0.1338	0.1322	0.1312	0.1304
54	0.1447	0.1200	0.1125	0.1090	0.1070	0.1057	0.1049	0.1042
53	0.1087	0.0900	0.0843	0.0817	0.0802	0.0793	0.0786	0.0781
52	0.0725	0.0600	0.0562	0.0544	0.0534	0.0528	0.0524	0.0521
51	0.0363	0.0300	0.0281	0.0272	0.0267	0.0264	0.0262	0.0260
50	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

TABLE 1. TABLE FOR ESTIMATING PERCENT OF LOT WITHIN LIMITS (PWL)

Percent Within Limits (P_L and P_U)	Negative Values of Q (Q_L and Q_U)							
	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
49	-0.0363	-0.0300	-0.0281	-0.0272	-0.0267	-0.0264	-0.0262	-0.0260
48	-0.0725	-0.0600	-0.0562	-0.0544	-0.0534	-0.0528	-0.0524	-0.0521
47	-0.1087	-0.0900	-0.0843	-0.0817	-0.0802	-0.0793	-0.0786	-0.0781
46	-0.1447	-0.1200	-0.1125	-0.1090	-0.1070	-0.1057	-0.1049	-0.1042
45	-0.1806	-0.1500	-0.1406	-0.1363	-0.1338	-0.1322	-0.1312	-0.1304
44	-0.2164	-0.1800	-0.1688	-0.1636	-0.1607	-0.1588	-0.1575	-0.1566
43	-0.2519	-0.2100	-0.1971	-0.1911	-0.1877	-0.1855	-0.1840	-0.1829
42	-0.2872	-0.2400	-0.2254	-0.2186	-0.2147	-0.2122	-0.2105	-0.2093
41	-0.3222	-0.2700	-0.2537	-0.2461	-0.2418	-0.2391	-0.2372	-0.2358
40	-0.3568	-0.3000	-0.2822	-0.2738	-0.2691	-0.2660	-0.2639	-0.2624
39	-0.3911	-0.3300	-0.3107	-0.3016	-0.2964	-0.2931	-0.2908	-0.2892
38	-0.4251	-0.3600	-0.3392	-0.3295	-0.3239	-0.3203	-0.3179	-0.3161
37	-0.4586	-0.3900	-0.3679	-0.3575	-0.3515	-0.3477	-0.3451	-0.3432
36	-0.4916	-0.4200	-0.3967	-0.3856	-0.3793	-0.3753	-0.3725	-0.3705
35	-0.5242	-0.4500	-0.4255	-0.4139	-0.4073	-0.4030	-0.4001	-0.3980
34	-0.5563	-0.4800	-0.4545	-0.4424	-0.4355	-0.4310	-0.4280	-0.4257
33	-0.5878	-0.5100	-0.4836	-0.4710	-0.4638	-0.4592	-0.4560	-0.4537
32	-0.6187	-0.5400	-0.5129	-0.4999	-0.4924	-0.4877	-0.4844	-0.4820
31	-0.6490	-0.5700	-0.5423	-0.5290	-0.5213	-0.5164	-0.5130	-0.5105
30	-0.6787	-0.6000	-0.5719	-0.5582	-0.5504	-0.5454	-0.5419	-0.5394
29	-0.7077	-0.6300	-0.6016	-0.5878	-0.5798	-0.5747	-0.5712	-0.5686
28	-0.7360	-0.6600	-0.6316	-0.6176	-0.6095	-0.6044	-0.6008	-0.5982
27	-0.7636	-0.6900	-0.6617	-0.6477	-0.6396	-0.6344	-0.6308	-0.6282
26	-0.7904	-0.7200	-0.6921	-0.6781	-0.6701	-0.6649	-0.6613	-0.6587
25	-0.8165	-0.7500	-0.7226	-0.7089	-0.7009	-0.6958	-0.6922	-0.6896
24	-0.8417	-0.7800	-0.7535	-0.7401	-0.7322	-0.7271	-0.7236	-0.7211
23	-0.8662	-0.8100	-0.7846	-0.7716	-0.7640	-0.7590	-0.7556	-0.7531
22	-0.8897	-0.8400	-0.8160	-0.8036	-0.7962	-0.7915	-0.7882	-0.7858
21	-0.9124	-0.8700	-0.8478	-0.8360	-0.8291	-0.8245	-0.8214	-0.8192
20	-0.9342	-0.9000	-0.8799	-0.8690	-0.8625	-0.8583	-0.8554	-0.8533
19	-0.9550	-0.9300	-0.9123	-0.9025	-0.8966	-0.8928	-0.8901	-0.8882
18	-0.9749	-0.9600	-0.9452	-0.9367	-0.9315	-0.9281	-0.9258	-0.9241
17	-0.9939	-0.9900	-0.9785	-0.9715	-0.9671	-0.9643	-0.9624	-0.9610
16	-1.0119	-1.0200	-1.0124	-1.0071	-1.0037	-1.0015	-1.0000	-0.9990
15	-1.0288	-1.0500	-1.0467	-1.0435	-1.0413	-1.0399	-1.0389	-1.0382
14	-1.0448	-1.0800	-1.0817	-1.0808	-1.0800	-1.0794	-1.0791	-1.0789
13	-1.0597	-1.1100	-1.1173	-1.1192	-1.1199	-1.1204	-1.1208	-1.1212
12	-1.0736	-1.1400	-1.1537	-1.1587	-1.1613	-1.1630	-1.1643	-1.1653
11	-1.0864	-1.1700	-1.1909	-1.1995	-1.2043	-1.2075	-1.2098	-1.2115
10	-1.0982	-1.2000	-1.2290	-1.2419	-1.2492	-1.2541	-1.2576	-1.2602
9	-1.1089	-1.2300	-1.2683	-1.2860	-1.2964	-1.3032	-1.3081	-1.3118
8	-1.1184	-1.2600	-1.3088	-1.3323	-1.3461	-1.3554	-1.3620	-1.3670
7	-1.1269	-1.2900	-1.3508	-1.3810	-1.3991	-1.4112	-1.4199	-1.4265
6	-1.1342	-1.3200	-1.3946	-1.4329	-1.4561	-1.4717	-1.4829	-1.4914
5	-1.1405	-1.3500	-1.4407	-1.4887	-1.5181	-1.5381	-1.5525	-1.5635
4	-1.1456	-1.3800	-1.4897	-1.5497	-1.5871	-1.6127	-1.6313	-1.6454
3	-1.1496	-1.4100	-1.5427	-1.6181	-1.6661	-1.6993	-1.7235	-1.7420
2	-1.1524	-1.4400	-1.6016	-1.6982	-1.7612	-1.8053	-1.8379	-1.8630
1	-1.1541	-1.4700	-1.6714	-1.8008	-1.8888	-1.9520	-1.9994	-2.0362

END OF SECTION 110

SECTION 120
NUCLEAR GAGES

120-01 TESTING. When the specifications provide for nuclear gauge acceptance testing of material for Items P-152, P-154, P-208, and P-209, the testing shall be performed in accordance with this section. At each sampling location, the field density shall be determined in accordance with ASTM D 6938 using the Direct Transmission Method. The nuclear gauge shall be calibrated in accordance with ASTM D 6938. Calibration and operation of the gauge shall be in accordance with the requirements of the manufacturer. The operator of the nuclear gauge must show evidence of training and experience in the use of the instrument. The gauge shall be standardized daily in accordance with ASTM standards.

When using the nuclear method, ASTM D 6938 shall be used to determine the moisture content of the material. The calibration curve furnished with the nuclear gauges shall be checked in accordance with ASTM standards. The calibration checks shall be made at the beginning of a job and at regular daily intervals.

The material shall be accepted on a lot basis. Each Lot shall be divided into eight (8) sublots when ASTM D 6938 is used.

120-02. When PWL concepts are incorporated, compaction shall continue until a PWL of 90 percent or more is achieved using the lower specification tolerance limits (L) below.

The percentage of material within specification limits (PWL) shall be determined in accordance with the procedures specified in Section 110 of the General Provisions.

The lower specification tolerance limit (L) for density shall be:

Specification Item Number	Specification Tolerance (L) for Density (percent of laboratory maximum)
Item P-152	90.5 for cohesive material; 95.5 for non-cohesive material
Item P-154	95.5
Item P-208	97.0
Item P-209	97.0

If the PWL is less than 90 percent, the lot shall be reworked and recompacted by the Contractor at the Contractor's expense. After reworking and recompaction, the lot shall be resampled and retested. Retest results for the lot shall be reevaluated for acceptance. This procedure shall continue until the PWL is 90 percent or greater.

120-03 VERIFICATION TESTING. (For Items P-152 and P-154 only.) The Engineer will verify the maximum laboratory density of material placed in the field for each lot. A minimum of one test will be made for each lot of material at the site. The verification process will consist of; (1) compacting the material and determining the dry density and moisture-density in accordance with **ASTM D 1557 for aircraft gross weights 60,000 pounds or more**, and (2) comparing the result with the laboratory moisture-density curves for the material being placed. This verification process is commonly referred to as a "one-point Proctor".

If the material does not conform to the existing moisture-density curves, the Engineer will establish the laboratory maximum density and optimum moisture content for the material in accordance with **ASTM D 1557 for aircraft gross weights 60,000 pounds or more.**

Additional verification tests will be made, if necessary, to properly classify all materials placed in the lot.

The percent compaction of each sampling location will be determined by dividing the field density of each sublot by the laboratory maximum density for the lot.

END OF SECTION 120

SECTION J
SPECIAL PROVISIONS

SPECIAL PROVISIONS

TABLE OF CONTENTS

A. FEDERAL AVIATION ADMINISTRATION REQUIREMENTS

A-01 Civil Rights - General
A-02 Civil Rights Act of 1964, Title VI
A-03 Notice of Requirement for Affirmative Action
A-04 Access to Records and Reports
A-05 Buy American Certification
A-06 Disadvantage Business Enterprises
A-07 Energy Conservation Requirements
A-08 Federal Fair Labor Standards Act (Federal Minimum Wage)
A-09 Lobbying and Influencing Federal Employees
A-10 Occupational Safety and Health Act of 1970
A-11 Rights to Inventions
A-12 Trade Restriction Clause
A-13 Veteran's Preference
A-14 Copeland Anti-Kickback Act
A-15 Davis Bacon Labor Provisions
A-16 Equal Opportunity Clause
A-17 Notice of Non-Segregated Facilities Requirement
A-18 Termination of Contract
A-19 Certificate Regarding Debarment and Suspension
A-20 Breach of Contract
A-21 Clean Air and Water Pollution Control
A-22 Contract Workhours and Safety Standards Act Requirements

B. STATE TERMS AND CONDITIONS

NOT USED

C. LOCAL TERMS AND CONDITIONS

C-01 Insurance
C-02 Utilities
C-03 Legal Holidays
C-04 Clean Up
C-05 Project Meetings and Coordination
C-06 Liquidated Damages for Delay
C-07 Quality Assurance/Materials Testing
C-08 Record Documents
C-09 Contractor/Subcontractor/Supplier Legal Disputes
C-10 General Guaranty
C-11 Contractor's Release and Affidavit
C-12 Submittals
C-13 Stormwater Pollution Prevention Plan
C-14 Test Borings/Subsurface Information
C-15 Wage Rates

SECTION A – FEDERAL AVIATION ADMINISTRATION REQUIREMENTS

A-01 GENERAL CIVIL RIGHTS PROVISIONS

The contractor agrees that it will comply with pertinent statutes, Executive Orders and such rules as are promulgated to ensure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or handicap be excluded from participating in any activity conducted with or benefiting from Federal assistance.

This provision binds the contractors from the bid solicitation period through the completion of the contract. This provision is in addition to that required of Title VI of the Civil Rights Act of 1964.

This provision also obligates the tenant/concessionaire/lessee or its transferee for the period during which Federal assistance is extended to the airport through the Airport Improvement Program, except where Federal assistance is to provide, or is in the form of personal property; real property or interest therein; structures or improvements thereon.

In these cases the provision obligates the party or any transferee for the longer of the following periods:

(a) the period during which the property is used by the airport sponsor or any transferee for a purpose for which Federal assistance is extended, or for another purpose involving the provision of similar services or benefits; or
(b) the period during which the airport sponsor or any transferee retains ownership or possession of the property.

A-02 CIVIL RIGHTS – TITLE VI ASSURANCES

Title VI Solicitation Notice:
The Owner, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the **Title VI List of Pertinent Nondiscrimination Statutes and Authorities**, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

2. **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.

3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.

4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the sponsor or the Federal Aviation Administration to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the sponsor or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

5. **Sanctions for Noncompliance:** In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the sponsor will impose such contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:

   a. Withholding payments to the contractor under the contract until the contractor complies; and/or

   b. Cancelling, terminating, or suspending a contract, in whole or in part.

6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the sponsor or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the sponsor to enter into any litigation to protect the interests of the sponsor. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

A-03 NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein
.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

   A. Timetables
   B. Goals for minority participation for each trade (Vol. 45 Federal Register pg. 65984 10/3/80)
   C. Goals for female participation in each trade (6.9%)

   These goals are applicable to all of the contractor's construction work (whether or not it is Federal or federally-assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor is also subject to the goals for both federally funded and non-federally funded construction regardless of the percentage of federal participation in funding.

   The contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training shall be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from contractor to contractor or from project to project, for the sole

purpose of meeting the contractor's goals, shall be a violation of the contract, the Executive Order, and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The contractor shall provide written notification to the Director, Office of Federal Contract Compliance Programs (OFCCP), within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of subcontract; and the geographical area in which the subcontract is to be performed.

4. As used in this notice and in the contract resulting from this solicitation, the "covered area" is **Jefferson County, Texas**.

A-04 ACCESS TO RECORDS AND REPORTS

The Contractor must maintain an acceptable cost accounting system. The Contractor agrees to provide the Sponsor, the Federal Aviation Administration, and the Comptroller General of the United States or any of their duly authorized representatives access to any books, documents, papers, and records of the contractor which are directly pertinent to the specific contract for the purpose of making audit, examination, excerpts and transcriptions. The Contractor agrees to maintain all books, records and reports required under this contract for a period of not less than three years after final payment is made and all pending matters are closed.

A-05 BUY AMERICAN CERTIFICATION

See Section 010470 "Bidder Certifications" for Contractor Buy American Certification.

A-06 DISADVANTAGED BUSINESS ENTERPRISES

Contract Assurance (§ 26.13) - The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy, as the recipient deems appropriate.

Prompt Payment (§26.29))- The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than 30 days from the receipt of each payment the prime contractor receives from Owner. The prime contractor agrees further to return retainage payments to each subcontractor within {specify the same number as above} days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the Owner. This clause applies to both DBE and non-DBE subcontractors.

A-07 ENERGY CONSERVATION REQUIREMENTS

The contractor agrees to comply with mandatory standards and policies relating to energy efficiency that are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Public Law 94-163).

A-08 FEDERAL FAIR LABOR STANDARDS ACT (FEDERAL MINIMUM WAGE)

All contracts and subcontracts that result from this solicitation incorporate the following provisions by reference, with the same force and effect as if given in full text. The contractor has full responsibility to monitor compliance to the referenced statute or regulation. The contractor must address any claims or

disputes that pertain to a referenced requirement directly with the Federal Agency with enforcement responsibilities.

Requirement	Federal Agency with Enforcement Responsibilities
Federal Fair Labor Standards Act (29 USC 201)	U.S. Department of Labor – Wage and Hour Division

A-09 LOBBYING AND INFLUENCING FEDERAL EMPLOYEES

The bidder or offeror certifies by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the bidder or offeror, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

A-10 OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970

All contracts and subcontracts that result from this solicitation incorporate the following provisions by reference, with the same force and effect as if given in full text. The contractor has full responsibility to monitor compliance to the referenced statute or regulation. The contractor must address any claims or disputes that pertain to a referenced requirement directly with the Federal Agency with enforcement responsibilities.

Requirement	Federal Agency with Enforcement Responsibilities
Occupational Safety and Health Act of 1970 (20 CFR Part 1910)	U.S. Department of Labor – Occupational Safety and Health Administration

A-11 RIGHTS TO INVENSIONS

All rights to inventions and materials generated under this contract are subject to requirements and regulations issued by the FAA and the Sponsor of the Federal grant under which this contract is executed.

A-12 TRADE RESTRICTION CLAUSE

The contractor or subcontractor, by submission of an offer and/or execution of a contract, certifies that it:

a. is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms published by the Office of the United States Trade Representative (USTR);

b. has not knowingly entered into any contract or subcontract for this project with a person that is a citizen or national of a foreign country on said list, or is owned or controlled directly or indirectly by one or more citizens or nationals of a foreign country on said list;

c. has not procured any product nor subcontracted for the supply of any product for use on the project that is produced in a foreign country on said list.

Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR 30.17, no contract shall be awarded to a contractor or subcontractor who is unable to certify to the above. If the contractor knowingly procures or subcontracts for the supply of any product or service of a foreign country on said list for use on the project, the Federal Aviation Administration may direct through the Sponsor cancellation of the contract at no cost to the Government.

Further, the contractor agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in each contract and in all lower tier subcontracts. The contractor may rely on the certification of a prospective subcontractor unless it has knowledge that the certification is erroneous.

The contractor shall provide immediate written notice to the sponsor if the contractor learns that its certification or that of a subcontractor was erroneous when submitted or has become erroneous by reason of changed circumstances. The subcontractor agrees to provide written notice to the contractor if at any time it learns that its certification was erroneous by reason of changed circumstances.

This certification is a material representation of fact upon which reliance was placed when making the award. If it is later determined that the contractor or subcontractor knowingly rendered an erroneous certification, the Federal Aviation Administration may direct through the Sponsor cancellation of the contract or subcontract for default at no cost to the Government.

Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by this provision. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

This certification concerns a matter within the jurisdiction of an agency of the United States of America and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code, Section 1001

A-13 VETERAN'S PREFERENCE

In the employment of labor (except in executive, administrative, and supervisory positions), preference must be given to Vietnam era veterans, Persian Gulf veterans, Afghanistan-Iraq war veterans, disabled veterans, and small business concerns owned and controlled by disabled veterans as defined in Title 49 United States

Code, Section 47112. However, this preference shall apply only where the individuals are available and qualified to perform the work to which the employment relates.

A-14 COPELAND "ANTI-KICKBACK" ACT

The United States Department of Labor Wage and Hours Division oversees the Copeland "Anti-Kickback" Act requirements. All contracts and subcontracts must meet comply with the Occupational Safety and Health Act of 1970.

United States Department of Labor Wage and Hours Division can provide information regarding any specific clauses or assurances pertaining to the Copeland "Anti-Kickback" Act requirements required to be inserted in solicitations, contracts or subcontracts.

A-15 DAVIS-BACON LABOR PROVISIONS

1. Minimum Wages

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalent thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under (1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can easily be seen by the workers.

(ii) (A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
(2) The classification is utilized in the area by the construction industry; and
(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate

(including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii) (B) or (C) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2 Withholding.

The Federal Aviation Administration or the Sponsor shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of work, all or part of the wages required by the contract, the Federal Aviation Administration may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-

Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual costs incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii) (A) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant, sponsor, or owner, as the case may be, for transmission to the Federal Aviation Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/esa/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit them to the applicant, sponsor, or owner, as the case may be, for transmission to the Federal Aviation Administration, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, sponsor, or owner).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under 29 CFR § 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR § 5.5 (a)(3)(i) and that such information is correct and complete;
(2) That each laborer and mechanic (including each helper, apprentice and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations 29 CFR Part 3;
(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (3)(i) of this section available for inspection, copying or transcription by authorized representatives of the Sponsor, the

Federal Aviation Administration or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the contractor, sponsor, applicant or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and Trainees.

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate that is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee

performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal Employment Opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance With Copeland Act Requirements.

The contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this contract.

6. Subcontracts.

The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR Part 5.5(a)(1) through (10) and such other clauses as the Federal Aviation Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR Part 5.5.

7. Contract Termination: Debarment.

A breach of the contract clauses in paragraph 1 through 10 of this section may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance With Davis-Bacon and Related Act Requirements.

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes Concerning Labor Standards.

Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6 and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of Eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

A-16 EQUAL OPPORTUNITY CLAUSE

During the performance of this contract, the contractor agrees as follows:

(1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, or national origin.

(3) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(5) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(6) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(7) The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, That in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the contractor may request the United States to enter into such litigation to protect the interests of the United States.

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS

1. As used in these specifications:

a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;

b. "Director" means Director, Office of Federal Contract Compliance Programs (OFCCP), U.S. Department of Labor, or any person to whom the Director delegates authority;

c. "Employer identification number" means the Federal social security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941;

d. "Minority" includes:

(1) Black (all) persons having origins in any of the Black African racial groups not of Hispanic origin);
(2) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin regardless of race);
(3) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
(4) American Indian or Alaskan native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. Whenever the contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors shall be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each contractor or subcontractor participating in an approved plan is individually required to comply with its obligations under the EEO clause and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other contractors or subcontractors toward a goal in an approved Plan does not excuse any covered contractor's or subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4. The contractor shall implement the specific affirmative action standards provided in paragraphs 18.7a through 18.7p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in a geographical area where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement nor the failure by a union with whom the contractor has a collective bargaining agreement to refer either minorities or women shall excuse the contractor's obligations under these specifications, Executive Order 11246 or the regulations promulgated pursuant thereto.

6. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees shall be employed by the contractor during the training period and the contractor shall have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees shall be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The contractor shall document these efforts fully and shall implement affirmative action steps at least as extensive as the following:

a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the contractor's employees are assigned to work. The contractor, where possible, will assign two or more women to each construction project. The contractor shall specifically ensure that all foremen, superintendents, and other onsite supervisory personnel are aware of and carry out the contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

c. Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source, or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the contractor by the union or, if referred, not employed by the contractor, this shall be documented in the file with the reason therefore along with whatever additional actions the contractor may have taken.

d. Provide immediate written notification to the Director when the union or unions with which the contractor has a collective bargaining agreement has not referred to the contractor a minority person or female sent by the contractor, or when the contractor has other information that the union referral process has impeded the contractor's efforts to meet its obligations.

e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the contractor's employment needs, especially those programs funded or approved by the Department of Labor. The contractor shall provide notice of these programs to the sources compiled under 7b above.

f. Disseminate the contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with onsite supervisory personnel such a superintendents, general foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the contractor's EEO policy with other contractors and subcontractors with whom the contractor does or anticipates doing business.

i. Direct its recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students; and to minority and female recruitment and training organizations serving the contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the contractor shall send written notification to organizations, such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable provide after school, summer, and vacation employment to minority and female youth both on the site and in other areas of a contractor's workforce.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel, for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are non-segregated except that separate or single user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations, which assist in fulfilling one or more of their affirmative action obligations (18.7a through 18.7p). The efforts of a contractor association, joint contractor union, contractor community, or other similar groups of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 18.7a through 18.7p of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the contractor. The obligation to comply, however, is the contractor's and failure of such a group to fulfill an obligation shall not be a defense for the contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, if the particular group is employed in a substantially disparate manner (for example, even though the contractor has achieved its goals for women generally,) the contractor may be in violation of the Executive Order if a specific minority group of women is underutilized.

10. The contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

11. The contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination, and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 18.7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep records. Records shall at least include for each employee, the name, address, telephone number, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

A-17 NOTICE OF NONSEGREGATED FACILITIES REQUIREMENT

Notice to Prospective Federally Assisted Construction Contractors:

1. A Certification of Non-segregated Facilities shall be submitted prior to the award of a federally-assisted construction contract exceeding $10,000 which is not exempt from the provisions of the Equal Opportunity Clause.

2. Contractors receiving federally-assisted construction contract awards exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity Clause will be required to provide for the forwarding of the following notice to prospective subcontractors for supplies and construction contracts where the subcontracts exceed $10,000 and are not exempt from the provisions of the Equal Opportunity Clause.

3. The penalty for making false statements in offers is prescribed in 18 U.S.C. § 1001.

Notice to Prospective Subcontractors of Requirements for Certification of Non-Segregated Facilities:

1. A Certification of Non-segregated Facilities shall be submitted prior to the award of a subcontract exceeding $10,000, which is not exempt from the provisions of the Equal Opportunity Clause.

2. Contractors receiving subcontract awards exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity Clause will be required to provide for the forwarding of this notice to prospective subcontractors for supplies and construction contracts where the subcontracts exceed $10,000 and are not exempt from the provisions of the Equal Opportunity Clause.

3. The penalty for making false statements in offers is prescribed in 18 U.S.C. § 1001.

CERTIFICATION OF NONSEGREGATED FACILITIES

The federally-assisted construction contractor certifies that she or he does not maintain or provide, for his employees, any segregated facilities at any of his establishments and that she or he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally-assisted construction contractor certifies that she or he will not maintain or provide, for his employees, segregated facilities at any of his establishments and that she or he will not permit his employees to perform their services at any location under his control where segregated facilities are maintained. The federally-assisted construction contractor agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this contract.

As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms, and washrooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directives or are, in fact, segregated on the basis of race, color, religion, or national origin because of habit, local custom, or any other reason. The federally-assisted construction contractor agrees that (except where she or he has obtained identical certifications from proposed subcontractors for specific time periods) she or he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity Clause and that she or he will retain such certifications in his files.

A-18 TERMINATION OF CONTRACT

a. The Sponsor may, by written notice, terminate this contract in whole or in part at any time, either for the Sponsor's convenience or because of failure to fulfill the contract obligations. Upon receipt of such notice services must be immediately discontinued (unless the notice directs otherwise) and all materials as may have been accumulated in performing this contract, whether completed or in progress, delivered to the Sponsor.

b. If the termination is for the convenience of the Sponsor, an equitable adjustment in the contract price will be made, but no amount will be allowed for anticipated profit on unperformed services.

c. If the termination is due to failure to fulfill the contractor's obligations, the Sponsor may take over the work and prosecute the same to completion by contract or otherwise. In such case, the contractor is liable to the Sponsor for any additional cost occasioned to the Sponsor thereby.

d. If, after notice of termination for failure to fulfill contract obligations, it is determined that the contractor had not so failed, the termination will be deemed to have been effected for the convenience of the Sponsor. In such event, adjustment in the contract price will be made as provided in paragraph 2 of this clause.

e. The rights and remedies of the sponsor provided in this clause are in addition to any other rights and remedies provided by law or under this contract.

A-19 CERTIFICATE REGARDING DEBARMENT AND SUSPENSION

By submitting a bid/proposal under this solicitation, the bidder or offeror certifies that at the time the bidder or offeror submits its proposal that neither it nor its principals are presently debarred or suspended by any Federal department or agency from participation in this transaction.

CERTIFICATION REGARDING DEBARMENT AND SUSPENSION (SUCCESSFUL BIDDER REGARDING LOWER TIER PARTICIPANTS)

The successful bidder, by administering each lower tier subcontract that exceeds $25,000 as a "covered transaction", must verify each lower tier participant of a "covered transaction" under the project is not presently debarred or otherwise disqualified from participation in this federally assisted project. The successful bidder will accomplish this by:

1. Checking the System for Award Management at website: http://www.sam.gov

2. Collecting a certification statement similar to the Certificate Regarding Debarment and Suspension (Bidder or Offeror), above.

3. Inserting a clause or condition in the covered transaction with the lower tier contract

If the FAA later determines that a lower tier participant failed to tell a higher tier that it was excluded or disqualified at the time it entered the covered transaction, the FAA may pursue any available remedy, including suspension and debarment.

A-20 BREACH OF CONTRACT

Any violation or breach of terms of this contract on the part of the contractor or its subcontractors may result in the suspension or termination of this contract or such other action that may be necessary to enforce the rights of the parties of this agreement. The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder are in addition to, and not a limitation of, any duties, obligations, rights and remedies otherwise imposed or available by law.

A-21 CLEAN AIR AND WATER POLLUTION CONTROL

Contractors and subcontractors agree:

1. That any facility to be used in the performance of the contract or subcontract or to benefit from the contract is not listed on the Environmental Protection Agency (EPA) List of Violating Facilities;

2. To comply with all the requirements of Section 114 of the Clean Air Act, as amended, 42 U.S.C. 1857 et seq. and Section 308 of the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq. relating to inspection, monitoring, entry, reports, and information, as well as all other requirements specified in Section 114 and Section 308 of the Acts, respectively, and all other regulations and guidelines issued thereunder;

3. That, as a condition for the award of this contract, the contractor or subcontractor will notify the awarding official of the receipt of any communication from the EPA indicating that a facility to be used for the performance of or benefit from the contract is under consideration to be listed on the EPA List of Violating Facilities;

4. To include or cause to be included in any construction contract or subcontract which exceeds $100,000 the aforementioned criteria and requirements.

A-22 CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS

1. Overtime Requirements.

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic, including watchmen and guards, in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2 .Violation; Liability for Unpaid Wages; Liquidated Damages.

In the event of any violation of the clause set forth in paragraph (1) above, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph 1 above, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1 above.

3. Withholding for Unpaid Wages and Liquidated Damages.

The Federal Aviation Administration or the Sponsor shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any monies payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 2 above.

4. Subcontractors.

The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs 1 through 4 and also a clause requiring the subcontractor to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1 through 4 of this section.

SECTION B – STATE TERMS AND CONDITIONS

B-01 NOT USED

SECTION C – LOCAL TERMS AND CONDITIONS

C-01 CONTRACTOR'S INSURANCE

All insurance must be written by an Insurer licensed to conduct business in the State of Texas, unless otherwise permitted by OWNER. The CONTRACTOR shall, at his own expense, purchase, maintain and keep in force insurance that will protect against injury and/or damages which may arise out of or result from operations under this Contract, whether the operations be himself or by any Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable of the following types and limits (No insurance policy or Certificate of Insurance required below shall contain any aggregate policy year limit unless a specific dollar amount aggregate policy year limit is expressly provided in the specification below which covers the particular insurance policy or Certificate of Insurance).

Owner:
Mr. Alex Rupp - 4875 Parker Drive, Beaumont, TX 77705. email: Arupp@co.Jefferson.tx.us

Garver:
Mr Thomas Dodson 11111 Katy Freeway, Suite 910, Houston, TX 77079. email: tddodson@garverusa.com

C-01.1 Limits

1. *Standard Worker's Compensation Insurance* (with waiver of subrogation in favor of the Jefferson County, its Officers, Agents & Employees). (Jefferson County and Contractor and all persons providing services shall comply with the workers compensation insurance requirements of Section 406.096 of the Texas Labor Code and 28 TAC Section 110.110, a copy of which is attached hereto and is hereby incorporated by reference.)

2. *Commercial General Liability* occurrence type insurance. No. "XCU" RESTRICTIONS SHALL BE APPLICABLE. Products/completed operations coverage must be included, and JEFFERSON COUNTY, its Officers, Agents, and Employees must be named as an additional Insured.
   - o Bodily Injury $500,000 single limit per occurrence, or $500,000 each person/ $500,000 per occurrence for contracts of $100,000 or less; or,
   - o Bodily Injury $1,000,000 single limit per occurrence or $1,000,000 each person/$1,000,000 per occurrence for contracts in excess of $100,000; and,
   - o Property Damage $100,000 per occurrence regardless of Contract amount; and,
   - o Minimum aggregate policy year limit of $1,000,000 for contracts of $100,000 or less; or,
   - o Minimum aggregate policy year limit of $2,000,000 for contracts in excess of $100,000.

3. Comprehensive Automobile Liability (including owned, non-owned and hired vehicles coverage).
   - o Minimum combined single limit of $500,000 per occurrence for bodily injury and property damage.
   - o If individual limits are provided, minimum limits are $300,000 per person, $500,000 per occurrence for bodily injury, and $100,000 per occurrence for property damage.

4. Contractual Liability Insurance covering the indemnity provision of this Contract in the same amount and coverage as provided for Commercial General Liability Policy, specifically referring to this Contract by date, job number and location;

5. All-Risk Builder's Risk of the non-reporting type (**NOT REQUIRED** for grading, paving projects, water and sewer line projects or projects involving lump sum payments).

CONTRACTOR shall cause CONTRACTOR'S insurance company or insurance agent to fill in all information required (including names of insurance agency, CONTRACTOR and insurance companies, and policy numbers, effective dates and expiration dates) and to date and sign and do all other things

necessary to complete and make into a valid Certificate of Insurance the CERTIFICATE OF INSURANCE form attached to and made a part of the Information To Bidders, and pertaining to the above listed Items 1, 2, 3 and 4; and before commencing any of the work and within the time otherwise specified. CONTRACTOR shall file said completed form with the OWNER.
None of the provisions in said Form shall be altered or modified in any respect except as herein expressly authorized. Said CERTIFICATE OF INSURANCE Form contains a provision that coverage's afforded under the policies will not be altered, modified or cancelled unless at least fifteen (15) days prior written notice has been given to the OWNER. CONTRACTOR shall also file with the OWNER valid CERTIFICATE(s) OF INSURANCE on like form from or for all Subcontractors and showing the Subcontractor(s) as the Insured. Said completed CERTIFICATE OF INSURANCE Form(s) shall in any event be filed with OWNER not more than ten (10) days after execution of this Contract.

The original Builder's Risk policy (if required) shall provide for fifteen (15) days written notice of alteration, modification or cancellation and shall be furnished to OWNER. Provided, however, until the Original Policy is issued and furnished to the OWNER a Certified Insurance Binder with the identical notice will be acceptable in place of the original policy, which original policy must be received by the OWNER not later than thirty (30) days after issuance of the Notice to Proceed for the project. Notwithstanding any other provision in the Contract Documents, it is further mutually understood and agreed that no payment will be due and owing or made to the CONTRACTOR for any work performed under the Contract until all of the required insurance documentation, including the original policy specified above, are received by the OWNER.

The CONTRACTOR shall not commence work under this Contract until he has obtained all the insurance required herein and such insurance has been approved by the OWNER, nor shall the CONTRACTOR allow any Subcontractor to commence work on this Subcontract until the insurance required of the Subcontractor has been so obtained and approved.

Cancellation, Non-Renewal, and/or Impairment Notification. Contractor agrees to provide written notification to Owner and Engineer of the cancellation, non-renewal and/or impairment of such insurance coverage, for any reason whatsoever within 2 days of receiving such notice.
Notice shall be sent via email and regular mail to the following persons and addresses:

Owner:
Mr. Alex Rupp - 4875 Parker Drive, Beaumont, TX 77705. email: Arupp@co.Jefferson.tx.us

Engineer:
Mr. Thomas Dodson 11111 Katy Freeway, Suite 910, Houston, TX 77079. email: tddodson@garverusa.com

C-02 UTILITIES

All work in this contract shall be in accordance with the **16 TAC Chapter 18**. The Contractor shall abide by the most current edition of this Act.

Underground utilities exist within and adjacent to the limits of construction. An attempt has been made to locate these utilities on the plans. However, all existing utilities may not be shown and the actual locations of the utilities may vary from the locations shown.

The Contractor shall be responsible for the protection of all existing utilities or improvements crossed by or adjacent to his construction operations. Where existing utilities or service lines are cut, broken, or damaged, the Contractor shall replace or repair immediately the utilities or service lines with the same type of original material and construction or better, at his own expense.

C-03 LEGAL HOLIDAYS

Holidays that shall be observed are the following: New Year's Day (January 1); Memorial Day (last Monday in May); Independence Day (July 4); Labor Day (1st Monday in September); Thanksgiving Day (4th Thursday in November); and Christmas Day (December 25); no other days will be so considered. If a holiday falls on a Saturday or Sunday, the observed day shall be the Friday preceding the Saturday or the Monday following the Sunday. No construction observation will be furnished on legal holidays or Sundays, except in an emergency. The Contractor shall observe these legal holidays and all Sundays, and no work shall be performed on these days except in an emergency. Calendar day contract time includes delays for all holidays. Refer to Section C-06 for more information.

C-04 CLEAN UP

From time to time, the Contractor shall clean up the site, including any work areas at the airport, in order that the site presents a neat appearance and the progress of the work not be impeded. One such period of clean up shall immediately precede final inspection.

Immediately following acceptance of the work by the Owner, the Contractor shall remove all temporary plant, equipment, surplus materials, and debris resulting from his operations, and leave the site in a condition fully acceptable to the Owner.

C-05 PROJECT MEETINGS AND COORDINATION

A preconstruction conference will be called by the Engineer at a time convenient to the Owner and before the issuance of the "Notice to Proceed". The Engineer and the Contractor and such subcontractors as the Contractor may desire shall attend this meeting with the Owner.

The Owner and/or Engineer will call such coordination conferences as may seem expedient to him for the purpose of assuring coordination of the work covered by this Contract. The Contractor shall attend all such conferences. This in no way relieves the Contractor of his responsibility to fully coordinate his work under this Contract.

C-06 LIQUIDATED DAMAGES FOR DELAY

The number of calendar days allowed for completion of the project is stipulated in the Proposal and in the Contract and shall be known as the Contract Time. The Contractor agrees that time is a critical element for this Contract. Loss will accrue to the Owner due to delayed completion of the work; and the cost to the Owner of the administration of the Contract, including engineering, inspection, and supervision, will be increased as the time occupied in the work is lengthened. The Contractor agrees that for each day of delay beyond the number of calendar days herein agreed upon for the completion of the work herein specified and contracted for, the Owner may withhold, permanently, from the Contractor's total compensation, the sum of **One Thousand** Dollars (**$1,000.00**) as stipulated damages for each day of such delay. Should the amount otherwise due the Contractor be less than the amount of such ascertained and liquidated damages, the Contractor and his Surety shall be liable to the Owner for such deficiency.

It is understood and agreed by and between the Owner and the Contractor that the time of completion herein set out is a reasonable time. The Contractor shall perform fully, entirely, and in an acceptable manner, the work contracted for within the contract time stated in the Contract. The contract time shall be counted from ten days after the effective date of the "Notice to Proceed", or the date work commences, whichever occurs first; and shall include all Sundays, holidays, and non-work days. All calendar days elapsing between the effective dates of any orders of the Engineer for suspension of the prosecution of the work, due to the fault of the Contractor, shall be counted as elapsed contract time, and shall not be considered for an extension of time.

Extensions of time for completion, under the condition of 3(a) next below, will be granted; extensions may be granted under other stated conditions:

1. If the satisfactory execution and completion of the Contract shall require work or material in greater amounts or quantities than those set forth in the Contract, then the Contract time shall be increased in the same proportion as the additional work bears to the original work contracted for.

2. An average or usual number of inclement weather days, when work cannot proceed, is to be anticipated during the construction period and is not to be considered as warranting extension of time. The days included in the contract time for Normal Weather-Related Events are as follows:

(On A Monthly Basis)

Month	Normal Weather-Related Events
January	5
February	7
March	4
April	4
May	3
June	4
July	8
August	4
September	6
October	5
November	2
December	5

If, however, it appears that the Contractor is delayed by conditions of weather, outside of normal weather-related events detailed in the proceeding table, extensions of time may be granted.

3. Should the work under the Contract be delayed by other causes which could not have been prevented or contemplated by the Contractor, and which are beyond the Contractor's power to prevent or remedy, an extension of time may be granted. Such causes of delay shall include but not necessarily be limited to the following:

   a. Acts of God, acts of the public enemy, acts of the Owner except as provided in these Specifications, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather.

   b. Any delays of Subcontractors or suppliers occasioned by any of the causes specified above.

The Engineer or other authorized representative of the Owner shall keep a written record sufficient for determination as to the inclusion of that day in the computation of Contract time. This record shall be available for examination by the Contractor during normal hours of work as soon as feasible after the first of each construction month. In case of disagreement between the representative of the Owner and the Contractor, as to the classification of any day, the matter shall be referred to the Owner whose decision shall be final.

If the Contractor finds it impossible for reasons beyond his control to complete the work within the Contract time as specified, or as extended in accordance with the provisions of this subsection, he may, at any time prior to the expiration of the Contract time as extended, make a written request to the Engineer for an extension of time setting forth the reasons which he believes will justify the granting of his request. The

Contractor's plea that insufficient time was specified is not a valid reason for extension of time. If the Engineer finds that the work was delayed because of conditions beyond the control and without the fault of the Contractor, he may recommend to the Owner that the contract time be extended as conditions justify. If the Owner extends the contract, the extended time for completion shall then be in full force and effect, the same as though it were the original time for completion.

The amount of all extensions of time for whatever reason granted shall be determined by the Owner. In general, only actual and not hypothetical days of delay will be considered. The Owner shall have authority to grant additional extensions of time as the Owner may deem justifiable.

C-07 QUALITY ASSURANCE/MATERIALS TESTING

The Owner shall be responsible for quality assurance testing as stated in theses specifications; however, the Contractor shall be responsible for payment of any subsequent tests made necessary by previous unsatisfactory tests. In this event, the Owner's quality assurance representative shall conduct the additional testing and payment for such tests shall be directly deducted from the Contractor's payment. The Contractor shall pay for additional testing at the Owner's contract rate.

C-08 RECORD DOCUMENTS

The Contractor shall keep one record copy of all Specifications, Drawings, Addenda, Modifications, Shop Drawings and samples at the site, in good order, and annotated to show all changes made during the construction process. In addition, the Contractor shall note any differences between locations of underground existing facilities shown in the plans and the actual location located during construction. These record documents shall be available to the Engineer for examination and shall be delivered to the Engineer upon completion of the work.

C-09 CONTRACTOR/SUBCONTRACTOR/SUPPLIER LEGAL DISPUTES

Any fees, expenses, charges, fines or other costs borne by the Owner as a result of legal disputes or lawsuits between the contractor and his subcontractors, or between the contractor and his suppliers, shall be deducted from monies due or which may thereafter become due the contractor.

C-10 GENERAL GUARANTY

Neither the final certificate of payment nor any provision in the Contract nor partial or entire use of the improvements embraced in this contract by the Owner or the public shall constitute an acceptance of work not done in accordance with the Contract or relieve the Contractor of liability in respect to any express warranties or responsibility for faulty materials or workmanship. The Contractor shall promptly remedy any defects in the work and pay for any damage to other work resulting there, which shall appear within a period of 12 months from the date of final acceptance of the work. The Owner will give notice of defective materials and work with reasonable promptness. In the event repair work is required, the Contractor shall remedy any defects and pay for any damage to other work resulting there, which shall appear within a period of 12 months from the date of the acceptance of the repair work.

C-11 CONTRACTOR'S RELEASE AND AFFIDAVIT

At the project's completion, the Contractor shall execute the attached Release and Lien Waiver to release all claims against the Owner arising under and by virtue of his Contract. The date of the Release shall be that agreed to for the final acceptance of the project with the Owner.

C-12 SUBMITTALS

The Contractor shall prepare and submit information required by the individual Specification sections sufficiently in advance of the related work to allow an appropriate review time by the Engineer. The types of submittals are indicated in the individual Specification sections.

During the preconstruction conference, the Contractor shall review his submittal schedule and procedures, including notifying the Engineer whether electronic submittals or paper submittals will be provided for all submittal packages in the project. Mixing of package types will not be allowed. The Contractor shall provide one of the following submittal package types:

1. Submit electronic submittals via email as PDF electronic files directly to the Engineer's designated representative, or post these PDF electronic files directly to the Engineer's FTP site specifically established for this project. Electronic submittals shall be in Adobe Acrobat (*.PDF) format and shall be legible when printed.

2. Submit six (6) paper submittal copies via mail or other courier service to the Engineer's designated representative.

Submittals shall be neat, organized, and easy to interpret. Assemble complete submittal package into a single indexed electronic file or hard cover bound book, incorporating submittal requirements of an individual Specification section, the transmittal form with unique submittal numbering system, and electronic links or tabs enabling navigation to each item. Unless approved otherwise by the Engineer, all submittals for the individual Specification section shall be submitted at one time.

Submittals must come directly from the Prime Contractor; submittals from subcontractors or suppliers will not be reviewed.

Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review. Faxed submittals or submittals with extremely small or otherwise unreadable print will not be accepted. Submittals not required by the Contract Documents will be returned by the Engineer without action.

The Contractor shall retain complete copies of submittals on project site. Use only final submittals that are marked with approval notation from Engineer's submittal review stamp with comments form.

Resubmittals shall continue the unique, sequential, submittal numbering system. Resubmittals without unique numbering, example resubmittals transmitted as 005A or 005REV, are unacceptable and will be returned un-reviewed.

C-13 STORMWATER POLLUTION PREVENTION PLAN

The Contractor shall note that storm water and precipitation runoff from construction activities is regulated by the Texas Commission on Environmental Quality (TCEQ) and that construction sites where soils are disturbed are required to be permitted in accordance with **TXR150000**. This regulation is mandated by Title 40 *Code of Federal Regulations* (CFR) 122.26. The contractor shall be responsible for the preparation (permit to be obtained in the Owner's name), fees, implementation, records, and all other requirements of the Stormwater Pollution Prevention Plan (SWPPP). The contractor shall be responsible to the Owner for the payment of any fines that may be imposed upon the Owner for failure to follow stormwater regulations and/or the SWPPP. The SWPPP shall be submitted to the Owner for review and signature prior to construction and/or prior to submission of the document to TCEQ (if required). The regulation may allow an exemption for some construction sites under a certain size. However, the exemption is not automatic and does not relieve the contractor from contacting TCEQ and making his own arrangements for such an exemption. The contractor shall have a valid permit in place or shall provide evidence of an exemption to the Owner before any construction begins. There will be no

separate measurement or payment for any facilities, materials, or equipment needed by the contractor to comply with the permit.

C-14 TEST BORINGS/SUBSURFACE INFORMATION (NOT USED)

C-15 WAGE RATES

The Davis Bacon minimum wage rates for this project are applicable and included in Section L of this contract.

END OF SPECIAL PROVISIONS

RELEASE OF LIEN

FROM: Contractor's Name _____

Address _____

TO: Owner's Name _____

Address _____

DATE OF CONTRACT: _____

Upon receipt of the final payment and in consideration of that amount, the undersigned does hereby release the Owner and its agents from any and all claims arising under or by virtue of this Contract or modification thereof occurring from the undersigned's performance in connection with the

_____

_____

project.

_____
Contractor's Signature

_____
Title

Subscribed and sworn to before me this _____ day of _____, 20____.

_____
Notary Public

My Commission Expires:

_____

CONTRACTOR'S AFFIDAVIT

FROM: Contractor's Name _____

Address _____

TO: Owner's Name _____

Address _____

_____

DATE OF CONTRACT: _____

I hereby certify that all claims for material, labor, and supplies entered into contingent and incident to the construction or used in the course of the performance of the work on _____

_____

have been fully satisfied.

_____
Contractor's Signature

_____
Title

Subscribed and sworn to before me this _____ day of _____, 20____.

_____
Notary Public

My Commission Expires:

_____

The Surety Company consents to the release of the retained percentage on this project with the understanding that should any unforeseen contingencies arise having a right of action on the bond that the Surety Company will not waive liability through the consent to the release of the retained percentage.

Dated _____
Surety Company

By _____
Resident Agent, State of Texas

SECTION K
ADDENDA

JEFFERSON COUNTY, TEXAS
PURCHASING DEPARTMENT
1149 Pearl Street – First Floor
Beaumont, Texas 77701
409-835-8593

ADDENDUM TO IFB

IFB Number: IFB 14-027/KJS

IFB Title: Runway 16/34 Rehabilitation at Jack Brooks Regional Airport

IFB Due: **11:00 am CST, Tuesday, July 22, 2014**

Addendum No.: 1

Issued (Date): June 23, 2014

TO BIDDER: This Addendum is an integral part of the IFB package under consideration by you as a Bidder in connection with the subject matter herein identified. Jefferson County deems all sealed proposals to have been proffered in recognition and consideration of the entire IFB package – **including all addenda.** For purposes of clarification, **receipt of this present Addendum by a Bidder should be evidenced by returning it (signed) as part of the Bidder's sealed proposal.** If the Proposal has already been received by the Jefferson County Purchasing Department, Bidder should return this addendum in a separate sealed envelope, clearly marked with the IFB Title, IFB Number, and Opening Date and Time, as stated above.

Reason for Issuance of this addendum: Revision of Website Address where Specifications and Plans may be obtained.

Specifications and Plans may be obtained at: http://ftp.garverusa.com

Username: BPT_RW1634
Password: BPT2BIDDER

The information included herein is hereby incorporated into the documents of this present Bid matter and supersedes any conflicting documents or portion thereof previously issued.

Receipt of this Addendum is hereby acknowledged by the undersigned Bidder:

ATTEST:

_____
Witness

_____
Witness

Approved by ____ Date: _____

_____
Authorized Signature (Bidder)

_____
Title of Person Signing Above

_____
Typed Name of Business or Individual

_____
Address

11111 Katy Freeway
Suite 910
Houston, TX 77079

TEL 713.491.8333
FAX 713.973.5777

www.GarverUSA.com

July 10, 2014

Addendum No.2
To Plans, Contract Documents and Specifications
IFB 14-027/KJS, Runway 16/34 Rehabilitation

This addendum shall be a part of the Plans, Contract Documents and Specifications to the same extent as though it were originally included therein, and it shall supersede anything contained in the Plans, Contract Documents and Specifications with which it might conflict. All bidders shall acknowledge receipt of this Addendum on page C-5 of the sealed bid proposal.

Modifications to the Bidding Requirements:

1. ***The bid opening time has changed*** to ***11:00 am*** on Tuesday, July 22, 2014. The location where bids are due has NOT changed.
2. A site visit for interested parties has been arranged. This is not a mandatory site visit, but will be the only opportunity to view the secured area of the project. The date and time of the visit are July 14, 2014 at 10:00 a.m. The location is the lobby of the Jerry Ware Terminal Building at 5000 Jerry Ware Drive, Beaumont, TX 77705.

Modifications to the Standard Form of Agreement:

1. **Replace Proposal with the attached Proposal.**

Modification to Specification Item P-620:

1. **Replace the original modification with the attached revised modification (2 pages).**

Questions were received by Garver by email and at the pre-bid meeting. Responses to these questions are attached to this addendum. Questions are paraphrased and are as understood by Garver.

STATE OF TEXAS
THOMAS D. DODSON
83909
LICENSED PROFESSIONAL ENGINEER

digitally signed on 07/10/2014

By: Thomas D Dodson, PE.

Attachments: Proposal: 7 pages
Specifications: 2 pages
Agenda and Sign-in Sheet from July 8, 2014 Pre-Bid Meeting: 3 pages
Response to Bidders Questions: 1 page

N:\2013\13121730 - BPT Taxiway D\Correspondence\Bidding\Bids 2014\RW 16-34 Rehabilitation\Addendum2.2014-07-10.docx

11111 Katy Freeway
Suite 910
Houston, TX 77079
TEL 713.491.8333
FAX 713.973.5777
www.GarverUSA.com

Jack Brooks Regional Airport – Runway 16/34 Rehabilitation
Pre-Bid Meeting

2:30 p.m. July 8, 2014

1) **Introductions & Roles:**
   a) Alex Rupp, Airport Manager, Jack Brooks Regional Airport
   b) Duke Youmans, Operations Manager, Jack Brooks Regional Airport
   c) Deborah Syphrett-Clark, Purchasing Agent, Jefferson County
   d) Tom Dodson, Senior Project Manager, Garver

2) **Bidding Procedures**
   a) Bids proposals ***are due at 11:00 am*** CDT on July 22, 2014. Bids are to be turned in to the Jefferson County Purchasing Division. DO NOT DELIVER BID PACKAGES TO THE AIRPORT – THEY WILL BE CONSIDERED NON-RESPONSIVE.
   b) Instructions to Bidders. Requirements are detailed in this section.
   c) Bids may be held up to 90 days for FAA funding schedule.
   d) Bid Proposal. Contract Time:
      i) 30 Calendar Days.
      ii) $1,000 Liquidated Damages
   e) Contract Award

Base Bid – Runway 16/34 Rehabilitation

3) **Federal Provisions**
   a) The DBE goal is 15.88%.
      i) Questions regarding goals and Good Faith Efforts should be directed to Sarah Conner at FAA.

4) **FAA General Provisions**
   a) Provisions are included in the project manual portion of the bid documents.
   b) Section 120 covers the use of nuclear density gauges.

5) **Technical Specifications**
   a) Safety Plan Compliance Document – this is a documentation requirement for working on the airfield.

6) **Construction Plans**
   a) Security background checks and driver training. These are to be provided by the Contractor at his own expense for employees that will be driving on the airfield.

Runway 16/34 Rehabilitation
Jack Brooks Regional Airport
Pre-Bid Meeting
2:30 P.M., Tuesday, 07/08/14

SIGN-IN SHEET

Name	Representing	Phone #	Email
Tom Dodson	Garver	713-491-8333	tddodson@garverusa.com
DUKE YOUMANS	AIRPORT	409-719-4961	
GARRETT THOMAS	APAC-TEXAS, INC.	409-866-1444	garrett.thomas@[redacted]apac.com
DONNIE DECKARD	SIMCO ENT.	409-962-8593	DONNIE@SIMCOENT.COM
Jeremy Hemmings	LD Construction	409-718-8082	Jhemm6@gmail.com
McCLAIN McDONALD	LiL GENERAL CONTRACTORS	409-796-1344	LANDLINE [redacted]@att.net

Runway 16/34 Rehabilitation
Jack Brooks Regional Airport

Pre-Bid Meeting
2:30 P.M., Tuesday, 07/08/14

SIGN-IN SHEET

Name	Representing	Phone #	Email
Jeremy			
Lynda Reaud	Bruces General Construction Inc	4098606245	ryan@brucesgeneralconstruction.com
Ray Hoover	Stripes & Stops	281821 3307	RHoover@stripesandstops.com
John Daigle	allco	409-860-4459	bharrison@allco.com

11111 Katy Freeway
Suite 910
Houston, TX 77079

TEL 713.491.8333
FAX 713.973.5777

www.GarverUSA.com

MEMORANDUM

To: Potential Bidders **Date:** July 10, 2014

From: Thomas D Dodson, PE

RE: Jack Brooks Regional Airport – Runway 16/34 Rehabilitation Project
Bidder Questions

See below for responses to Bidder questions regarding the Runway 16/34 Rehabilitation project at Jack Brooks Regional Airport.

Question 1: The ftp site is not automatically loading. How do you get access to the files?
Answer 1: There is a secure ftp application that your computer must have to access the ftp site. This application is free on our website at http://www.garverusa.com/ftp/. Follow the on-screen instructions and once the program is loaded, access to the files can be made. The username is: **BPT_RW1634** and the password is: **BPT2BIDDER**. Please note that both the username and password are case-sensitive.

Question 2: The specs require 28 days between seal coat and paint. Will that apply to this 30 day contract?
Answer 2: Not necessarily. Please reference Modification to Specification Item P-620.

Question 3: Is water from the paint removal o.k. to dispose of in the in-field?
Answer 3: If the water does not contain any hazardous constituents it may be disposed of in the in-field.

N:\2013\13121730 - BPT Taxiway D\Correspondence\Bidding\Bids 2014\RW 16-34 Rehabilitation\Q and A.2014-07-10.docx

SECTION L
WAGE RATES

Article 5159a of the Revised Civil Statutes of Texas, passed by the 43rd Legislature Acts of 1933, Page 91, Chapter 45, provides that any government subdivision shall ascertain the general prevailing rate of per diem wages in the locality in which the work is to be performed for each craft or type of workman or mechanic and shall specify in the call for bids and in the Contract the prevailing rate of per diem wages which shall be paid for each craft type of workman. This Article further provides that the CONTRACTOR shall forfeit, as a penalty, to the City, County, or State, or other political subdivision, Ten Dollars ($10.00) per day for each laborer, or workman, or mechanic who is not paid the stipulated wage for the type of work performed by him as set up on the wage scale. The OWNER is authorized to withhold from the CONTRACTOR, after full investigation by the awarding body, the amount of this penalty in any payment that might be claimed by the CONTRACTOR or Subcontractor. The Act makes the CONTRACTOR responsible for the acts of the Subcontractor in this respect.

The Article likewise requires that the CONTRACTOR and Subcontractor keep an accurate record of the names and occupations of all persons employed by him and show the actual per diem wages paid to each worker, and these records are open to the inspection of the OWNER.

The Davis Bacon minimum wage rates for this project are as follows:

LABOR CLASSIFICATION AND MINIMUM WAGE SCALE
General Decision Number: TX140056 01/03/2014 TX56
Superseded General Decision Number: TX20130056
State: Texas

Construction Type: Highway

Counties: Austin, Brazoria, Chambers, Fort Bend, Galveston, Hardin, Harris, Jefferson, Liberty, Montgomery, Orange, San Jacinto and Waller Counties in Texas.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction;bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Modification Number	Publication Date
0	01/03/2014

* SUTX2011-013 08/10/2011

Description	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER (Paving and Structures)	$ 12.98	
ELECTRICIAN	$ 27.11	
FORM BUILDER/FORM SETTER		
Paving & Curb	$ 12.34	
Structures	$ 12.23	
LABORER		
Asphalt Raker	$ 12.36	
Flagger	$ 10.33	
Laborer, Common	$ 11.02	

Laborer, Utility	$ 11.73
Pipelayer	$ 12.12
Work Zone Barricade Servicer	$ 11.67
PAINTER (Structures)	$ 18.62
POWER EQUIPMENT OPERATOR:	
Asphalt Distributor	$ 14.06
Asphalt Paving Machine	$ 14.32
Broom or Sweeper	$ 12.68
Concrete Pavement Finishing Machine	$ 13.07
Concrete Paving, Curing, Float, Texturing Machine	$ 11.71
Concrete Saw	$ 13.99
Crane, Hydraulic 80 tons or less	$ 13.86
Crane, Lattice boom 80 tons or less	$ 14.97
Crane, Lattice boom over 80 Tons	$ 15.80
Crawler Tractor	$ 13.68
Excavator, 50,000 pounds or less	$ 12.71
Excavator, Over 50,000 pounds	$ 14.53
Foundation Drill, Crawler Mounted	$ 17.43
Foundation Drill, Truck Mounted	$ 15.89
Front End Loader 3 CY or Less	$ 13.32
Front End Loader, Over 3 CY	$ 13.17
Loader/Backhoe	$ 14.29
Mechanic	$ 16.96
Milling Machine	$ 13.53
Motor Grader, Fine Grade	$ 15.69
Motor Grader, Rough	$ 14.23
Off Road Hauler	$ 14.60
Pavement Marking Machine	$ 11.18
Piledriver	$ 14.95
Roller, Asphalt	$ 11.95
Roller, Other	$ 11.57
Scraper	$ 13.47
Spreader Box	$ 13.58
Servicer	$ 13.97
Steel Worker	
Reinforcing Steel	$ 15.15
Structural Steel Welder	$ 12.85
Structural Steel	$ 14.39
TRUCK DRIVER	
Low Boy Float	$ 16.03
Single Axle	$ 11.46
Single or Tandem Axle Dump	$ 11.48
Tandem Axle Tractor w/Semi Trailer	$ 12.27

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses

(29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification.

Example: PLUM0198-005 07/01/2011. The first four letters PLUM, indicate the International union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rate.

0000/9999: weighted union wage rates will be published annually each January.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

For current Wage Determination Decisions, see the Department of Labor website (http://www.wdol.gov/dba.aspx#0).

SECTION M
CHANGE ORDER FORM

Change Order

No. _____

Date of Issuance: Effective Date:
Project: Owner: Owner's Contract No.:
Contract: Date of Contract:
Contractor: Engineer's Project No.:

The Contract Documents are modified as follows upon execution of this Change Order:

Description:

Attachments: (List documents supporting change):

CHANGE IN CONTRACT PRICE:
Original Contract Price:

CHANGE IN CONTRACT TIMES:
Original Contract Times:
□ Working days □ Calendar days

Substantial completion (days or date):
$ Ready for final payment (days or date):
[Increase] [Decrease] from previously approved Change

Orders No._____ to No._____:

[Increase] [Decrease] from previously approved Change Orders
No._____ to No._____:

Substantial completion (days):

$ Ready for final payment (days):
Contract Price prior to this Change Order: Contract Times prior to this Change Order:

Substantial completion (days or date):

$ Ready for final payment (days or date):
[Increase] [Decrease] of this Change Order: [Increase] [Decrease] of this Change Order:
Substantial completion (days or date):

$ Ready for final payment (days or date):
Contract Price incorporating this Change Order: Contract Times with all approved Change Orders:

Substantial completion (days or date):
$ Ready for final payment (days or date):

RECOMMENDED:	ACCEPTED:	ACCEPTED:
_____	_____	_____
By: Engineer (Authorized Signature)	By: Owner (Authorized Signature)	By: Contractor (Authorized signature)
_____	_____	_____
Date:	Date:	Date:

_____ _____
Approved by Funding Agency (if applicable): Date:

SECTION N
TECHNICAL SPECIFICATIONS

ITEM SS-101 SAFETY PLAN COMPLIANCE DOCUMENT (SPCD)

DESCRIPTION

101-1.1 The contractor shall thoroughly review the approved Construction Safety and Phasing Plan (CSPP) and shall comply with approved CSPP. The contractor shall certify such compliance by completing the attached SPCD and submitting to the Engineer for approval.

Contractor Safety Plan Compliance Documents

Owner Name: Jack Brooks Regional Airport / Jefferson County

Airport: Jack Brooks Regional Airport

Project Description: Runway 16-34 Rehabilitation

Contractor: APAC-Texas, Inc.

Each item listed below corresponds to a specific section of the approved CSPP. The contractor shall certify that he/she will comply with each section of the approved CSPP. Each certified section with a "no" response must be fully explained in an attachment to the SPCD. The document shall be signed and dated by a principle or owner in the Contractor's company. All other requested information shall be completed by the Contractor and submitted to the Engineer for approval as part of the SPCD.

1. **Section 1 - Correspondence:** This project shall be completed in accordance with Section 1 "Coordination" of the approved Construction Safety Plan Compliance Document.

Owner:	
Contact: Alex Rupp	**Phone: 409-719-4900**
Engineer:	
Project Manager: Tom Dodson	**Phone: 713-491-8333**
Project Engineer: Thomas Sikora	**Phone: 713-491-8333**
Construction Observer:	**Phone:**
Materials Testing:	**Phone:**
Contractor:	
Project Manager: Johnathan Murphy	**Phone:** 409-284-4124
Superintendent: Mike Weible	**Phone:** 409-781-2082
Subcontractors: American Remediation Options, Inc.	
LIST ALL SUBS CPave, Inc.	
Stripes & Stops	

Yes SB No *

2. **Section 2 - Phasing:** This project shall be completed in accordance with Section 2 "Phasing" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

3. **Section 3 – Areas of Operations Affected by Construction Activity:** This project shall be completed in accordance with Section 3 "Areas of Operations Affected by Construction Activity" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

4. **Section 4 – Protection of Navigational Aids (NAVAIDS):** This project shall be completed in accordance with Section 4 "Protection of Navigational Aids (NAVAIDS)" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

5. **Section 5 – Contractor Access:** This project shall be completed in accordance with Section 5 "Contractor Access" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

6. **Section 6 – Wildlife Management:** This project shall be completed in accordance with Section 6 "Wildlife Management" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

7. **Section 7 – Foreign Object Debris (FOD) Management:** This project shall be completed in accordance with Section 7 "Foreign Object Debris (FOD) Management" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

8. **Section 8 – Hazardous Materials (HAZMAT) Management:** This project shall be completed in accordance with Section 8 "Hazardous Materials (HAZMAT) Management" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

9. **Section 9 – Notification of Construction Activities:** This project shall be completed in accordance with Section 9 "Notification of Construction Activities" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

10. **Section 10 – Inspection Requirements:** This project shall be completed in accordance with Section 10 "Inspection Requirements" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

11. **Section 11 – Underground Utilities:** This project shall be completed in accordance with Section 11 "Underground Utilities" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

12. **Section 12 – Penalties:** This project shall be completed in accordance with Section 12 "Penalties" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

13. **Section 13 – Special Conditions:** This project shall be completed in accordance with Section 13 "Special Conditions" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

14. **Section 14 – Runway and Taxiway Visual Aids:** This project shall be completed in accordance with 14 "Runway and Taxiway Visual Aids" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

15. **Section 15 – Marking and Signs for Access Routes:** This project shall be completed in accordance with Section 15 "Marking and Signs for Access Routes" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

16. **Section 16 – Hazard Marking and Lighting:** This project shall be completed in accordance with Section 16 "Hazard Marking and Lighting" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

17. **Section 17 – Protection of Safety Areas, Object Free Areas, Object Free Zones, and Approach / Departure Surfaces:** This project shall be completed in accordance with Section 17 "Protection of Safety Areas, Object Free Areas, Object Free Zones, and Approach / Departure Surfaces" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

18. **Section 18 – Other Limitations on Construction:** This project shall be completed in accordance with Section 18 "Other Limitations on Construction" of the approved Construction Safety Plan Compliance Document.

Yes SB No *

I certify that, for the project identified herein, the responses to the foregoing items are correct as marked, and that I shall comply with the approved Construction Safety and Plan.

Signed: _____
Contractor's Authorized Representative

Date: 9/11/2014

Scott Blanchard Asst. Secretary
Print Name and Title of Contractor's Representative

END OF ITEM SS-101

ITEM SS-120 SITE PREPARATION AND MOBILIZATION

DESCRIPTION

120-1.1 This item covers the preparation of the site for construction of the proposed improvements. The attention of the bidder is directed to the necessity for careful examination of the entire project site to determine, at the time of bid preparation, the full extent of work to be done under the item "Site Preparation." The entire job site shall be cleared of all man-made obstructions and debris, of whatever nature, and made ready in all respects for the construction of the proposed improvements.

The item "Site Preparation" shall include:

1. Mobilization
2. Temporary Field Office
3. Lighted Barricades and Closed Taxiway and Runway Markings
4. Contractor's Access/Haul Road
5. Contractor's Staging Areas
6. Airport Security Requirements
7. Airport Safety Requirements
8. Instrument Control
9. Clean Up

CONSTRUCTION METHODS

120-2.1 MOBILIZATION. The Contractor shall consider and include his cost for providing personnel, equipment, materials, bonds, etc. required for the prosecution of the work under this item.

120-2.2 TEMPORARY FIELD OFFICE. In addition to any office space Contractor chooses to provide for his personnel, Contractor is to also provide a temporary field office space for Resident Project Representative (RPR) for the project duration. The space for the temporary field office shall be for the exclusive use by the Engineer as a field office and shall conform to the requirements listed below. The dimensions and other requirements specified herein are minimums and the building may be built by the Contractor for the specific purposes noted herein and/or may be connected to his own field office(s). It is not intended to prohibit the use of commercially built trailers or prefabricated buildings which may deviate in minor dimension or detail from the requirements listed herein but may in some features exceed the listed requirements and in all major respects be entirely suitable for the purpose intended. The Contractor is to submit information on proposed temporary field office for approval by the Engineer prior to furnishing the office space on-site.

Minimum requirements for office:

a. Office space to be at least 8' X 8' lighted and conditioned space.

b. The space may be entirely or a part of a portable or other suitable type building with 7-ft minimum ceiling height; must be floored, weatherproof and reasonably dustproof. The space must have at least one door provided with a substantial lock the isolates the space from Contractors space(s) with keys placed in the possession of the Engineer. The building need not be new but the facility furnished under this item shall be neat, clean, sound and usable for the purpose intended.

c. The building shall be provided with electric lights and power outlets. The building shall be provided with desk, chair, file cabinet, and layout table in good working order. In cold weather the space shall be provided with adequate vented space heating facilities and fuel for heating. In hot weather the building shall be equipped with adequate air conditioning units. Heating and cooling and utility service will be furnished at no cost to the Owner or Engineer.

d. The space shall be provided with internet access with a minimum download speed of at least 3 megabytes per second (Mbps). This service shall be provided for the length of the contract or construction project, whichever is greater. Additionally, within this space the Contractor is to provide a scanner or similar device for transmitting printed material via email or internet ftp. Contractor is to establish this service within 2 weeks of Notice to Proceed.

Furnishing the field office will not be measured for separate payment, but will be considered subsidiary to "Site Preparation." The building shall remain the property of the Contractor and be returned to him at the close of the construction period.

120-2.3 LIGHTED BARRICADES AND CLOSED TAXIWAY AND RUNWAY MARKINGS. The Contractor shall furnish, install, maintain, and remove closed taxiway and runway markings and lighted barricades in accordance with details on the plans and as directed by the Engineer. The closed taxiway and runway markers shall be aviation yellow, nylon-reinforced vinyl. The markers shall be secured to the pavement/ground as shown on the plans and as directed by the Engineer. The lighted barricades shall be constructed and installed as shown on the plans. All lighted barricades and closed taxiway and runway markings shall be constructed in accordance with AC 150/5370-2F Operational Safety on Airports During Construction.

All work involved in the furnishing, installation, maintenance, and removal of lighted barricades, barrels and closed runway markings will not be measured for separate payment, but will be considered subsidiary to the bid item "Site Preparation."

120-2.4 CONTRACTOR'S ACCESS/HAUL ROAD. The Contractor shall layout, construct, maintain, and repair all access/haul roads needed to construct the work. The existing access roads shown on the plans shall be repaired, as determined necessary by the Engineer, at the close of the project. All such work, including all materials and labor, involved in the layout, construction, maintenance, and repair of the Contractor's access/haul roads will not be measured for separate payment but will be considered subsidiary to the bid item "Site Preparation." Temporary pipe culverts shall be installed and maintained as required and shall be of the size as directed by the Engineer. The type of pipe used for temporary pipe shall be at the option of the Contractor. Temporary pipe culverts will not be measured for separate payment, but will be considered subsidiary to the access/haul road. All temporary pipe culverts shall be removed by the Contractor and shall remain his property at the close of the project.

120-2.5 CONTRACTOR'S STAGING AREAS. The areas designated in the plans or by the Engineer as the Contractor's staging area shall be cleared and graded by the Contractor as needed for use by the Contractor in constructing the work on this project. All areas used or otherwise occupied by the Contractor for his operations shall be cleaned, regraded, and seeded, as directed by the Engineer, prior to the final acceptance of the project by the Airport. All work involved in the preparation and restoration of areas used or occupied by the Contractor, including clearing, grubbing, regrading, seeding, and installing and removing fence, will not be measured for separate payment but will be considered subsidiary to the bid item "Site Preparation."

120-2.6 AIRPORT SECURITY REQUIREMENTS. The Contractor shall abide by the Airport Security requirements that are outlined in the Construction Safety and Phasing Plan (CSPP) of the plans. Any costs associated with the Airport Security requirements will not be measured for separate payment but will be considered subsidiary to the bid item "Site Preparation."

120-2.7 AIRPORT SAFETY REQUIREMENTS. The Contractor shall abide by the Airport Safety requirements that are outlined in the Construction Safety and Phasing Plan (CSPP) of the plans. All costs associated with the Airport Safety requirements will not be measured for separate payment but will be considered subsidiary to the bid item "Site Preparation."

120-2.8 INSTRUMENT CONTROL. The Contractor will be furnished survey baselines and benchmarks to control the work as shown on the Plans. The Contractor shall be responsible for the additional instrument control necessary to layout and construct the work. The Contractor shall provide the instrument control as provided for in Section 50 of the General Provisions. The Contractor's instrument control of the work shall not be measured for separate payment, but will be considered subsidiary to the bid item "Site Preparation".

120-2.9 CLEAN UP. From time to time, the Contractor shall clean up the site in order that the site presents a neat appearance and that the progress of work will not be impeded. One such clean up shall immediately precede final inspection.

Immediately following acceptance of the work by the Owner, the Contractor shall remove all temporary equipment, surplus materials, and debris resulting from his operations, and leave the site in a condition fully acceptable to the Owner.

MEASUREMENT AND PAYMENT

120-3.1 Site preparation will be measured as a lump sum complete item. Work completed and accepted under this item will be paid for at the contract lump sum price bid for "Site Preparation," which price shall be full compensation for furnishing all labor, tools, equipment and incidentals necessary to complete the work.

Payment will be made under:

Item SS-120-1 Site Preparation - per Lump Sum

A minimum of two (2) partial payments will be made for Site Preparation. Periodic payments will be made in proportion to the amount of work accepted for payment in monthly pay applications, as outlined in the table below.

Monthly Pay Application Total exceeds	***Partial Payment of Site Preparation***
1% of total Contract value	**50% of Site Preparation less retainage, up to 2.5% of total Contract value**
5% of total Contract value	**100% of Site Preparation, less retainage, up to 5% of total Contract value**

Any remaining partial payments for "Site Preparation" will be made less retainage when the work is completed to 95% of the Contract total value.

END OF ITEM SS-120

ITEM P-101 SURFACE PREPARATION is hereby amended with respect to the paragraphs and sections cited below.

Add the following paragraph as noted:

101-1.2. Limits of pavement removal, pavement repair, joint and crack repair, paint and rubber removal, and cold planing are estimated in the plans. Actual limits of these items shall be coordinated with the Engineer prior to construction.

Revise the following paragraph as noted:

101-3.1 REMOVAL OF EXISTING PAVEMENT

a. Concrete: The existing concrete to be removed shall be freed from the pavement to remain unless jackhammers are used for the complete removal. ***When the pavement removal limit is located at a joint,*** this shall be accomplished by ~~line drilling or~~ sawing through the complete depth of the slab 1 ft inside the perimeter of the final removal limits or outside the load transfer devices, whichever is greater. In this case, the limits of removal would be located on joints. ~~If line drilling is used, the distance between holes shall not exceed the diameter of the hole.~~ The pavement between the perimeter of the pavement removal and the saw cut ~~or line drilled holes~~ shall be removed with a jackhammer. Where the perimeter of the removal limits is not located on the joint, the perimeter shall be saw cut 2 in in depth or 1/4 the slab thickness, whichever is less. Again, the concrete shall be ~~line drilled or~~ saw cut the full depth of the pavement 6 in***ches*** inside the removal limits. The pavement inside the saw cut or line shall be broken by methods suitable to the Contractor; however, if the material is to be wasted on the airport site, it shall be reduced to a maximum size designated by the airport owner. The Contractor's removal operation shall not cause damage to cables, utility ducts, pipelines, or drainage structures under the pavement. Any damage shall be repaired by the Contractor at no expense to the airport owner.

Add the following paragraph as noted:

c. Disposal: All existing pavement removed shall be disposed of off-site. All hauling will be considered a necessary and incidental part of the work. Its costs shall be considered by the Contractor and included in the contract unit price for the pay items of work involved. No payment will be made separately or directly for hauling on any part of the work.

Revise the following paragraph as noted:

101-3.2 PREPARATION OF JOINTS AND CRACKS. All joints and cracks in bituminous and concrete pavements to be overlaid with asphaltic concrete shall be cleaned of joint and crack sealer, debris, and vegetation. Any excess joint or crack sealer on the surface of the pavement shall also be removed from the pavement surface. If vegetation is a problem a soil sterilant shall be applied. ***Cracks and joints wider than 1/4 inch and less than 1/2 inch shall be filled with a hot-poured joint sealant conforming to ASTM D 6690.*** Cracks and joints wider than ~~3/8~~ ***1/2*** inch shall be filled with a mixture of emulsified asphalt and aggregate. The aggregate shall consist of limestone, volcanic ash, sand, or other material that will cure to form a hard substance. The combined gradation shall be as shown in Table 1.

Add the following paragraph as noted:

a. Soil Sterilants: Soil sterilants shall contain Bromacil or Prometone and shall be approved by the Engineer. Application rates shall be in accordance with the manufacturer's recommendations.

b. Crack Preparation: A high temperature compressed air lance shall be used at all times to blast out any vegetation, dirt, dampness and loose materials from the cracks. Existing crack sealant which is deteriorated shall be removed as directed by the Engineer. The high velocity hot air shall be not less than 2,000 °F in temperature. The air lance shall operate in a no flame impingment condition and shall have a directional controlled velocity of 330-fps minimum and a combustion temperature at ignition of no less than 2,000 °F. After cleaning of crack, tack coat shall be applied prior to the application of emulsified asphalt and aggregate. Tack coat shall conform to Item P-603 of these specifications.

c. Filler Application: After cracks have been cleaned, received soil sterilant and tack coat, and have been approved by the Engineer, the cracks shall be filled with the emulsified asphalt and aggregate described within this specification. The mix shall be raked in the crack by hand in order to completely fill the entire crack. Once the crack is filled, excess asphalt mix shall be rounded up along the length of the crack, and pinched into the crack using a small asphalt roller. The application and compaction method shall be approved by the Engineer prior to beginning crack cleaning operations.

Revise the following paragraph as noted:

b. Asphaltic Concrete Pavement Repair: The failed areas shall be removed as specified in paragraph 101-3.1b. All failed material including surface, base course, subbase course, and subgrade shall be removed. The base course and subbase shall be replaced if it has been infiltrated with clay, silt, or other material affecting the load-bearing capacity. Materials and methods of construction shall comply with the other applicable sections of this specification. ***All asphalt used for the permanent repair shall conform to Item P-401 of these specifications. The pavement thickness shall be consistent with the adjacent existing pavement thickness and strength.***

Revise the following paragraph as noted:

101-3.5 COLD PLANING.

a. Patching: The machine shall be capable of cutting a vertical edge without chipping or spalling the edges of the pavement to remain. The machine shall have a positive method of controlling the depth of cut. The ***Contractor*** ~~Engineer~~ shall layout the area to be milled ***and receive approval from the Engineer before beginning cold planing***. The area shall be laid out with straightedges in increments of 1 ft widths. The area to be milled shall cover only the failed area. Any excessive area that is milled because the Contractor doesn't have the appropriate machine, or areas that are damaged because of his negligence, shall not be included in the measurement for payment.

Replace the following paragraph as noted:

BASIS OF PAYMENT

101-5.1 Payment. Payment shall be made at contract unit price for the unit of measurement as specified hereinbefore. This price shall be full compensation for furnishing all materials and for all preparation, hauling, and placing of the material and for all labor, equipment, tools, and incidentals necessary to complete this item.

Payment will be made under:

Item P-101-5.1 Crack Seal Asphalt Pavement — per Linear Foot

END OF MOD P-101

ITEM P-101 SURFACE PREPARATION

DESCRIPTION

101-1.1. This item shall consist of preparation of existing pavement surfaces for overlay, removal of existing pavement, and other miscellaneous items. The work shall be accomplished in accordance with these specifications and the applicable drawings.

EQUIPMENT

101-2.1. All equipment shall be specified hereinafter or as approved by the Engineer. The equipment shall not cause damage to the pavement to remain in place.

CONSTRUCTION

101-3.1. REMOVAL OF EXISTING PAVEMENT

a. Concrete: The existing concrete to be removed shall be freed from the pavement to remain unless jackhammers are used for the complete removal. this shall be accomplished by line drilling or sawing through the complete depth of the slab one foot inside the perimeter of the final removal limits or outside the load transfer devices, whichever is greater. In this case, the limits of removal would be located on joints. If line drilling is used, the distance between holes shall not exceed the diameter of the hole. The pavement between the perimeter of the pavement removal and the saw cut or line-drilled holes shall be removed with a jackhammer. Where the perimeter of the removal limits is not located on the joint, the perimeter shall be saw cut 2 inches in depth or 1/4 the slab thickness, whichever is less. Again, the concrete shall be line drilled or saw cut the full depth of the pavement 6 inches inside the removal limits. The pavement inside the saw cut or line shall be broken by methods suitable to the Contractor; however, if the material is to be wasted on the airport site, it shall be reduced to a maximum size designated by the airport owner. The Contractor's removal operation shall not cause damage to cables, utility ducts, pipelines, or drainage structures under the pavement. Any damage shall be repaired by the Contractor at no expense to the airport owner.

b. Asphaltic Concrete: Asphaltic concrete pavement to be removed shall be cut to the full depth of the bituminous material around the perimeter of the area to be removed. The pavement shall be removed in such a manner that the joint for each layer of pavement replacement is offset one foot from the joint in the preceding layer. This does not apply if the removed pavement is to be replaced with concrete or soil. If the material is to be wasted on the airport site, it shall be broken to a maximum size as designated by the airport owner.

101-3.2. PREPARATION OF JOINTS AND CRACKS. All joints and cracks in bituminous and concrete pavements to be overlaid with asphaltic concrete shall be cleaned of joint and crack sealer, debris, and vegetation. Any excess joint or crack sealer on the surface of the pavement shall also be removed from the pavement surface. If vegetation is a problem a soil sterilant shall be applied. Cracks and joints wider than 3/8 inch shall be filled with a mixture of emulsified asphalt and aggregate. The aggregate shall consist of limestone, volcanic ash, sand, or other material that will cure to form a hard substance. The combined gradation shall be as shown in Table 1.

Table 1

Sieve Size	Percent Passing
No. 4	100
No. 8	90-100
No. 16	65-90

No. 30	40-60
No. 50	25-42
No. 100	15-30
No. 200	10-20

Up to 3% cement can be added to accelerate the set time. The mixture shall not contain more than 20% natural sand without approval in writing from the Engineer.

The proportions of asphalt emulsion and aggregate shall be determined in the field and may be varied to facilitate construction requirements. Normally, these proportions will be approximately one part asphalt emulsion to five parts aggregate by volume. The material shall be poured into the joints or cracks or shall be placed in the joint or crack and compacted to form a voidless mass. The joint or crack shall be filled within 0 to 1/8 inch of the surface. Any material spilled outside the width of the joint shall be removed from the surface prior to constructing the overlay. Where concrete overlays are to be constructed, only the excess joint material on the surface and vegetation in the joints need to be removed.

101-3.3. REMOVAL OF PAINT AND RUBBER. All paint and rubber over one foot wide that will affect the bond of the new overlay shall be removed from the surface of the existing pavement. Chemicals, high-pressure water, heater scarifier (asphaltic concrete only), cold milling, or sandblasting may be used. Any methods used shall not cause major damage to the pavement. Major damage is defined as changing the properties of the pavement or removing pavement over 1/8 inch deep. If chemicals are used, they shall comply with the state's environmental protection regulations. No material shall be deposited on the runway shoulders. All wastes shall be disposed of in areas indicated in this specification or shown on the plans. This specification shall not be used for removal of rubber deposits to improve skid resistance or obliterate traffic markings where a new overlay is not to be constructed.

101-3.4. CONCRETE SPALL OR FAILED ASPHALTIC CONCRETE PAVEMENT REPAIR.

a. Repair of Concrete Spalls in Areas to be overlaid with Asphalt: The Contractors shall repair all spalled concrete as shown on the plans or as directed by the Resident Engineer. The perimeter of the repair shall be sawed a minimum of 1 inch deep or shall be cut with approved tools to this depth. The deteriorated material shall be removed to a depth where the existing material is firm or cannot be easily removed with a geologist pick. The removed area shall be filled with asphaltic concrete with a minimum Marshal stability of 1,200 lbs. and maximum flow of 20. The material shall be compacted with equipment approved by the Resident Engineer until the material is dense and no movement or marks can be noted. The material shall not be placed in lifts over 4 inches in depth. This method of repair applies only to pavement to be overlaid.

b. Asphaltic Concrete Pavement Repair: The failed areas shall be removed as specified in paragraph 101-3.1b. All failed material including surface, base course, subbase course, and subgrade shall be removed. The base course and subbase shall be replaced if it has been infiltrated with clay, silt, or other material affecting the load-bearing capacity. Materials and methods of construction shall comply with the other applicable sections of this specification.

101-3.5. COLD PLANING.

a. Patching: The machine shall be capable of cutting a vertical edge without chipping or spalling the edges of the pavement to remain. The machine shall have a positive method of controlling the depth of cut. The Engineer shall layout the area to be milled. The area shall be laid out with straightedges in increments of 1-foot widths. The area to be milled shall cover only the failed area. Any excessive area that is milled because the Contractor doesn't have the appropriate machine, or areas that are damaged because of his negligence, shall not be included in the measurement for payment.

b. Profiling, Grade Correction, or Surface Correction: The machine shall have a minimum width of 10 feet. It shall be equipped with electronic grade control devices on both sides that will cut the surface to the grade and tolerances specified. The machine shall cut vertical edges. A positive method of dust control shall be provided. The machine shall be capable of discharging the millings in a truck or leaving them in a defined windrow.

METHOD OF MEASUREMENT

101-4.1. MEASUREMENT.

a. General: If there is no quantity shown in the bidding schedule, the work covered by this section shall be considered as a subsidiary obligation of the Contractor covered under the other contract items. Only accepted work will be measured.

b. Pavement Removal: The unit of measurement for pavement removal shall be the number of square yards removed by the Contractor. Any pavement removed outside the limits of removal because the pavement was damaged by negligence on the part of the Contractor shall not be included in the measurement for payment.

c. Joint and Crack Repair: The unit of measurement for joint and crack repair shall be the linear foot of joint.

d. Paint and Rubber Removal: The unit of measurement for paint and rubber removal shall be the square foot.

e. Spall and Failed Asphaltic Concrete Pavement Repair:

(1) The unit of measure for concrete spall repair shall be the number of square feet. The average depth of the patch shall be agreed upon by the Contractor and the Resident Engineer. The quantity shall be divided in the following categories:

(a) 0 to 4 inches in average depth.

(b) 4 to 8 inches in average depth.

(c) Greater than 8 inches in average depth.

(2) The unit of measure for failed asphaltic concrete pavement shall be as follow:

(a) Asphaltic Concrete Square Yards.

(b) Base Course Square Yards.

(c) Subbase Course Square Yards.

(d) Subgrade Square Yards.

f. Cold Planing: The unit of measure for cold planing shall be the number square yards. The average depth of the cold planing shall be determined by the Engineer and the Contractor prior to accomplishment of the work. When surface correction is required, if the initial cut doesn't correct the condition, the Contractor shall re-plane the area and will be paid only once for the total depth of planning. The quantity shall be divided into the following categories:

(a) 0 to 2 inches

(b) 0 to 3 inches

(c) 0 to 4 inches

(d) 0 to 5 inches

(e) 0 to 6 inches

BASIS OF PAYMENT

101-5.1 PAYMENT. Payment shall be made at contract unit price for the unit of measurement as specified hereinbefore. This price shall be full compensation for furnishing all materials and for all preparation, hauling, and placing of the material and for all labor, equipment, tools, and incidentals necessary to complete this item.

END OF ITEM P-101

ITEM P-152 EXCAVATION AND EMBANKMENT is hereby amended with respect to the paragraphs and sections cited below.

Revise the following paragraph as noted:

152-1.2 CLASSIFICATION.

e. Borrow Excavation. Borrow excavation shall consist of approved material required for the construction of embankment or for other portions of the work in excess of the quantity of ***potentially*** usable material available from required excavations. Borrow material shall be obtained from areas within the limits of the airport property but outside the normal limits of necessary grading, or from areas outside the airport.

Revise the following paragraph as noted:

152-1.3 Unsuitable Excavation. Any material containing vegetable or organic matter, such as muck, peat, organic silt, or sod shall be considered unsuitable for use in embankment construction. Material, when approved by the Engineer as suitable to support vegetation, may be used on the embankment slope. ***Material not considered by the Engineer to be suitable for use on the embankment slope shall be disposed of off-site or as directed by the Engineer. Undercutting of material unsatisfactory for subgrade foundation, roads, shoulders, or areas intended for turfing shall be considered unsuitable excavation and shall be excavated to the depth specified by the Engineer below the subgrade.***

Revise the following paragraph as noted:

152-2.2 EXCAVATION. No excavation shall be started until the work has been staked out by the Contractor and the Engineer has obtained elevations and measurements of the ground surface. All suitable excavated material shall be used in the formation of embankment, subgrade, or for other purposes shown on the plans. All unsuitable material shall be disposed of as ***described in Section 152-1.3*** ~~shown on the plans~~.

Revise the following paragraph as noted:

152-2.2 EXCAVATION.

a. Selective Grading. When ***the quality of material varies significantly*** ~~selective grading is indicated on the plans~~, the more suitable material as designated by the Engineer shall be used in constructing the embankment or in capping the pavement subgrade. If, at the time of excavation, it is not possible to place this material in its final location, it shall be stockpiled in approved areas ~~so that it can be measured for payment for rehandling as specified in paragraph 3.3~~. ***Selective grading will not be measured for separate payment but will be considered subsidiary to "Unclassified Excavation".***

Revise the following paragraph as noted:

152-2.2 EXCAVATION.

b. Undercutting. Rock, shale, hardpan, loose rock, boulders, or other material unsatisfactory for safety areas, subgrades, roads, shoulders, or any areas intended for turfing shall be excavated to a minimum depth of 12 in (300 mm), or to the depth specified by the Engineer, below the subgrade. Muck, peat, matted roots, or other yielding material, unsatisfactory for subgrade foundation, shall be removed to the depth specified. Unsuitable materials shall be disposed of ***as directed in section P-152-1.3*** ~~at locations shown on the plans~~. This excavated material shall be paid for at the contract unit price per cubic yard (per cubic meter) for ***Unsuitable Excavation***. The excavated area shall be

refilled with suitable material obtained from the grading operations or borrow areas and compacted to specified densities. The necessary refilling will constitute a part of ***Unsuitable Excavation*** ~~the embankment~~. Where rock cuts are made and refilled with selected material, any pockets created in the rock surface shall be drained ***as directed by the Engineer*** ~~in accordance with the details shown on the plans~~.

Revise the following paragraph as noted:

152-2.2 EXCAVATION.

d. Removal of Utilities. The removal of ***some*** existing structures and utilities required to permit the orderly progress of work ***may*** ~~will~~ be accomplished by someone other than the Contractor, for example, the utility unless otherwise shown on the plans. All existing foundations shall be excavated for at least 2 feet (60 cm) below the top of subgrade or as indicated on the plans, and the material disposed of as directed. All foundations thus excavated shall be backfilled with suitable material and compacted as specified herein. ***All work associated with the excavation, removal, backfill, disposal and/or stockpiling of the existing structures and culverts will not be measured for separate payment but will be considered subsidiary to "Unclassified Excavation".***

Replace the second paragraph of Section 152-2.2.e as noted:

The in-place field density shall be determined in accordance with ~~ASTM D 1556 or ASTM D 2167~~ ***ASTM D 6938, but shall be verified by the Engineer by either ASTM D1556 or ASTM D2167 using a "one-point Proctor" method for each type of soil proposed as embankment***. Stones or rock fragments larger than 4 inches (100 mm) in their greatest dimension will not be permitted in the top 6 inches (150 mm) of the subgrade. The finished grading operations, conforming to the typical cross section, shall be completed and maintained at least 1,000 feet (300 m) ahead of the paving operations or as directed by the Engineer.

Revise the following paragraph as noted:

152-2.3 BORROW EXCAVATION. Borrow area(s) within the airport property are indicated on the plans. Borrow excavation shall be made only at these designated locations and within the horizontal and vertical limits as staked or as directed. ***Contractor is to measure volume of available borrow material by conducting surveys of the defined borrow stockpiles and compute volume based on average end-area method. Contractor is to provide calculations of borrow area to Engineer prior to beginning any earth-moving activities.***

Replace the seventh paragraph of Section 152-2.6 FORMATION OF EMBANKMENTS as noted:

The in-place field density shall be determined in accordance with ***ASTM D 6938*** ~~ASTM D 1556 or ASTM D 2167~~.

Add the following paragraph as noted:

METHOD OF MEASUREMENT

152-3.1 The quantity of excavation to be paid for shall be the number of cubic yards (cubic meters) measured in its original position.

Measurement shall not include the quantity of materials excavated without authorization beyond normal slope lines, or the quantity of material used for purposes other than those directed.

Measurement of excavation/embankment shall be based on plan quantities. These quantities are believed to be correct and shall be utilized for final excavation quantity payment not withstanding and adjustments to the project by written direction of the Engineer. Should the contractor find discrepancies and/or errors, he/she shall bring the discrepancy and/or error to

the attention of the Engineer immediately and corrections shall be made to the quantity of excavation to be paid for by change order. It is expressly understood by the contractor that upon disturbance of the existing ground and no notification to the engineer of possible errors, that the contractor accepts as final payment the quantities of excavation as detailed on the plans and laid out in the proposal. No adjustment has been made to the plan quantities for the construction or demolition of existing drainage structures. The Contractor shall make his own determination as to the amount of unsuitable excavated material which may be encountered and the resulting additional borrow material required for the construction of the embankment. There will be no adjustment for additional embankment required to construct the project if the excavated material is deemed unsuitable.

Replace the following section as noted:

152-3.4 For payment specified by the cubic yard (cubic meter), measurement for all **excavation and embankment** shall be computed by the average end area method. The end area is that bound by the original ground line established by field cross sections and the final theoretical pay line established by cross sections shown on the plans, subject to verification by the Engineer. After completion of all **excavation and embankment** operations and prior to the placing of base or subbase material, the final **excavation and embankment** shall be verified by the Engineer by means of field cross sections taken randomly at intervals not exceeding 500 linear feet (150 meters).

Final field cross sections shall be employed if the following changes have been made:

a. Plan width of embankments or excavations are changed by more than plus or minus 1.0 ft (0.3 meter); or

b. Plan elevations of embankments or excavations are changed by more than plus or minus 0.5 ft (0.15 meter).

In cut sections, the additional cut required to construct the topsoil layer to the plan grade has not been measured and will not be measured for separate payment but will be subsidiary to "Unclassified Excavation". In fill sections, the additional fill required to replace the stripped material has not been measured and will not be measured for payment but will be subsidiary to "Unclassified Excavation".

No allowance has been made in the measurement for shrink/swell. The Contractor shall make his own determination as to the amount of shrink/swell involved in the construction of the embankment.

The Contractor shall make his own determination as to the suitability of the excavated material to be placed in embankments and the resulting additional off-site material required for the construction of the embankment. Additional off-site material required for the formation of embankment shall not be measured for separate payment but shall be considered subsidiary to "Unclassified Excavation".

152-3.5 Unsuitable excavation shall be measured from the surface of the ground, after stripping has been accomplished, or from the bottom of the planned excavation, to the depth of the excavation as directed by the Engineer. Measurements will be taken by the Engineer, and the volume of excavation will be calculated by the average end area method. The necessary refilling of unsuitable areas will not be measured for separate payment but will be subsidiary to "Unsuitable Excavation". Only that amount of excavation directed by the Engineer will be measured for payment.

Replace the following section "Basis of Payment" as noted:

BASIS OF PAYMENT

152-4.1 For "Unclassified excavation" payment shall be made at the contract unit price per cubic yard (cubic meter). ***Payment will be made based on the plan quantity.*** This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

152-4.5 For "Borrow Excavation" payment shall be made at the contract unit price per cubic yard (cubic meter). ***Payment will be made based on the plan quantity.*** This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-152-4.1	**Excavation and Embankment—per Cubic Yard (cubic meter)**

END OF MOD P-152

ITEM P-152 EXCAVATION AND EMBANKMENT

DESCRIPTION

152-1.1 This item covers excavation, disposal, placement, and compaction of all materials within the limits of the work required to construct safety areas, runways, taxiways, aprons, and intermediate as well as other areas for drainage, building construction, parking, or other purposes in accordance with these specifications and in conformity to the dimensions and typical section(s) shown on the plans.

152-1.2 CLASSIFICATION. All material excavated shall be classified as defined below:

a. Unclassified Excavation. Unclassified excavation shall consist of the excavation and disposal of all material, regardless of its nature, which is not otherwise classified and paid for under the following items.

b. Borrow Excavation. Borrow excavation shall consist of approved material required for the construction of embankment or for other portions of the work in excess of the quantity of usable material available from required excavations. Borrow material shall be obtained from areas within the limits of the airport property but outside the normal limits of necessary grading, or from areas outside the airport.

152-1.3 Unsuitable Excavation. Any material containing vegetable or organic matter, such as muck, peat, organic silt, or sod shall be considered unsuitable for use in embankment construction. Material, when approved by the Engineer as suitable to support vegetation, may be used on the embankment slope.

CONSTRUCTION METHODS

152-2.1 General. Before beginning excavation, grading, and embankment operations in any area, the area shall be completely cleared and grubbed in accordance with Item P-151.

The suitability of material to be placed in embankments shall be subject to approval by the Engineer. All unsuitable material shall be disposed of in waste areas shown on the plans. All waste areas shall be graded to allow positive drainage of the area and of adjacent areas. The surface elevation of waste areas shall not extend above the surface elevation of adjacent usable areas of the airport, unless specified on the plans or approved by the Engineer.

When the Contractor's excavating operations encounter artifacts of historical or archaeological significance, the operations shall be temporarily discontinued. At the direction of the Engineer, the Contractor shall excavate the site in such a manner as to preserve the artifacts encountered and allow for their removal. Such excavation will be paid for as extra work.

Those areas outside of the pavement areas in which the top layer of soil material has become compacted, by hauling or other activities of the Contractor shall be scarified and disked to a depth of 4 inches (100 mm), in order to loosen and pulverize the soil.

If it is necessary to interrupt existing surface drainage, sewers or under-drainage, conduits, utilities, or similar underground structures, the Contractor shall be responsible for and shall take all necessary precautions to preserve them or provide temporary services. When such facilities are encountered, the Contractor shall notify the Engineer, who shall arrange for their removal if necessary. The Contractor shall, at his/her own expense, satisfactorily repair or pay the cost of all damage to such facilities or structures that may result from any of the Contractor's operations during the period of the contract.

152-2.2 EXCAVATION. No excavation shall be started until the work has been staked out by the Contractor and the Engineer has obtained elevations and measurements of the ground surface. All suitable excavated material shall be used in the formation of embankment, subgrade, or for other purposes shown on the plans. All unsuitable material shall be disposed of as shown on the plans.

When the volume of the excavation exceeds that required to construct the embankments to the grades indicated, the excess shall be used to grade the areas of ultimate development or disposed of as directed. When the volume of excavation is not sufficient for constructing the fill to the grades indicated, the deficiency shall be obtained from borrow areas.

The grade shall be maintained so that the surface is well drained at all times. When necessary, temporary drains and drainage ditches shall be installed to intercept or divert surface water that may affect the work.

a. Selective Grading. When selective grading is indicated on the plans, the more suitable material as designated by the Engineer shall be used in constructing the embankment or in capping the pavement subgrade. If, at the time of excavation, it is not possible to place this material in its final location, it shall be stockpiled in approved areas so that it can be measured for payment for rehandling as specified in paragraph 3.3.

b. Undercutting. Rock, shale, hardpan, loose rock, boulders, or other material unsatisfactory for safety areas, subgrades, roads, shoulders, or any areas intended for turfing shall be excavated to a minimum depth of 12 inches (300 mm), or to the depth specified by the Engineer, below the subgrade. Muck, peat, matted roots, or other yielding material, unsatisfactory for subgrade foundation, shall be removed to the depth specified. Unsuitable materials shall be disposed of at locations shown on the plans. This excavated material shall be paid for at the contract unit price per cubic yard (per cubic meter) for Unclassified Excavation. The excavated area shall be refilled with suitable material obtained from the grading operations or borrow areas and compacted to specified densities. The necessary refilling will constitute a part of the embankment. Where rock cuts are made and refilled with selected material, any pockets created in the rock surface shall be drained in accordance with the details shown on the plans.

c. Overbreak. Overbreak, including slides, is that portion of any material displaced or loosened beyond the finished work as planned or authorized by the Engineer. The Engineer shall determine if the displacement of such material was unavoidable and his/her decision shall be final. All overbreak shall be graded or removed by the Contractor and disposed of as directed; however, payment will not be made for the removal and disposal of overbreak that the Engineer determines as avoidable. Unavoidable overbreak will be classified as "Unclassified Excavation."

d. Removal of Utilities. The removal of existing structures and utilities required to permit the orderly progress of work will be accomplished by someone other than the Contractor, e.g., the utility unless otherwise shown on the plans. All existing foundations shall be excavated for at least 2 feet (60 cm) below the top of subgrade or as indicated on the plans, and the material disposed of as directed. All foundations thus excavated shall be backfilled with suitable material and compacted as specified herein.

e. Compaction Requirements. The subgrade under areas to be paved shall be compacted to a depth of ***16 inches*** and to a density of not less than **95** percent of the maximum density as determined by ASTM **D 1557.** The material to be compacted shall be within +/- 2 percent of optimum moisture content before rolled to obtain the prescribed compaction (except for expansive soils).

The in-place field density shall be determined in accordance with ASTM D 1556 or ASTM D 2167. Stones or rock fragments larger than 4 inches (100 mm) in their greatest dimension will not be permitted in the top 6 inches (150 mm) of the subgrade. The finished grading operations, conforming to the typical cross section, shall be completed and maintained at least 1,000 feet (300 m) ahead of the paving operations or as directed by the Engineer.

In cuts, all loose or protruding rocks on the back slopes shall be barred loose or otherwise removed to line of finished grade of slope. All cut-and-fill slopes shall be uniformly dressed to the slope, cross section, and alignment shown on the plans or as directed by the Engineer.

Blasting will be permitted only when proper precautions are taken for the safety of all persons, the work, and the property. All damage done to the work or property shall be repaired at the Contractor's expense. All operations of the Contractor in connection with the transportation, storage, and use of explosives shall conform to all state and local regulations and explosive manufacturers' instructions, with applicable approved permits reviewed by the Engineer. Any approval given, however, will not relieve the Contractor of his/her responsibility in blasting operations.

Where blasting is approved, the Contractor shall employ a vibration consultant, approved by the Engineer, to advise on explosive charge weights per delay and to analyze records from seismograph recordings. The seismograph shall be capable of producing a permanent record of the three components of the motion in terms of particle velocity, and in addition shall be capable of internal dynamic calibration.

In each distinct blasting area, where pertinent factors affecting blast vibrations and their effects in the area remain the same, the Contractor shall submit a blasting plan of the initial blasts to the Engineer for approval. This plan must consist of hole size, depth, spacing, burden, type of explosives, type of delay sequence, maximum amount of explosive on any one delay period, depth of rock, and depth of overburden if any. The maximum explosive charge weights per delay included in the plan shall not be increased without the approval of the engineering.

The Contractor shall keep a record of each blast fired—its date, time and location; the amount of explosives used, maximum explosive charge weight per delay period, and, where necessary, seismograph records identified by instrument number and location.

These records shall be made available to the Engineer on a monthly basis or in tabulated form at other times as required.

152-2.3 BORROW EXCAVATION. Borrow area(s) within the airport property are indicated on the plans. Borrow excavation shall be made only at these designated locations and within the horizontal and vertical limits as staked or as directed.

When borrow sources are outside the boundaries of the airport property, it shall be the Contractor's responsibility to locate and obtain the supply, subject to the approval of the Engineer. The Contractor shall notify the Engineer, at least 15 days prior to beginning the excavation, so necessary measurements and tests can be made. All unsuitable material shall be disposed of by the Contractor. All borrow pits shall be opened up to expose the vertical face of various strata of acceptable material to enable obtaining a uniform product. Borrow pits shall be excavated to regular lines to permit accurate measurements, and they shall be drained and left in a neat, presentable condition with all slopes dressed uniformly.

152-2.4 DRAINAGE EXCAVATION. Drainage excavation shall consist of excavating for drainage ditches such as intercepting; inlet or outlet, for temporary levee construction; or for any other type as designed or as shown on the plans. The work shall be performed in the proper sequence with the other construction. All satisfactory material shall be placed in fills; unsuitable material shall be placed in waste areas or as directed. Intercepting ditches shall be constructed prior to starting adjacent excavation operations. All necessary work shall be performed to secure a finish true to line, elevation, and cross section.

The Contractor shall maintain ditches constructed on the project to the required cross section and shall keep them free of debris or obstructions until the project is accepted.

152-2.5 PREPARATION OF EMBANKMENT AREA. Where an embankment is to be constructed to a height of 4 feet (120 cm) or less, all sod and vegetable matter shall be removed from the surface upon which the embankment is to be placed, and the cleared surface shall be completely broken up by plowing or scarifying to a minimum depth of 6 inches (150 mm). This area shall then be compacted as indicated in paragraph 2.6. When the height of fill is greater than 4 feet (120 cm), sod not required to be removed shall be thoroughly disked and recompacted to the density of the surrounding ground before construction of embankment.

Where embankments are to be placed on natural slopes steeper than 3 to 1, horizontal benches shall be constructed as shown on the plans.

No direct payment shall be made for the work performed under this section. The necessary clearing and grubbing and the quantity of excavation removed will be paid for under the respective items of work.

152-2.6 FORMATION OF EMBANKMENTS. Embankments shall be formed in successive horizontal layers of not more than 8 inches (200 mm) in loose depth for the full width of the cross section, unless otherwise approved by the Engineer.

The grading operations shall be conducted, and the various soil strata shall be placed, to produce a soil structure as shown on the typical cross section or as directed. Materials such as brush, hedge, roots, stumps, grass and other organic matter, shall not be incorporated or buried in the embankment.

Operations on earthwork shall be suspended at any time when satisfactory results cannot be obtained because of rain, freezing, or other unsatisfactory conditions of the field. The Contractor shall drag, blade, or slope the embankment to provide proper surface drainage.

The material in the layer shall be within +/-2 percent of optimum moisture content before rolling to obtain the prescribed compaction. In order to achieve a uniform moisture content throughout the layer, wetting or drying of the material and manipulation shall be required when necessary. Should the material be too wet to permit proper compaction or rolling, all work on all of the affected portions of the embankment shall be delayed until the material has dried to the required moisture content. Sprinkling of dry material to obtain the proper moisture content shall be done with approved equipment that will sufficiently distribute the water. Sufficient equipment to furnish the required water shall be available at all times. Samples of all embankment materials for testing, both before and after placement and compaction, will be taken for each ***1,000 SY of each lift of embankment***. Based on these tests, the Contractor shall make the necessary corrections and adjustments in methods, materials or moisture content in order to achieve the correct embankment density.

Rolling operations shall be continued until the embankment is compacted to not less than 95 percent of maximum density for noncohesive soils, and 90 percent of maximum density for cohesive soils as determined by ASTM ***D 1557***. Under all areas to be paved, the embankments shall be compacted to a depth of ***16 inches*** and to a density of not less than ***95*** percent of the maximum density as determined by ASTM ***D 1557***.

On all areas outside of the pavement areas, no compaction will be required on the top 4 inches (100 mm).

The in-place field density shall be determined in accordance with ASTM D 1556 or ASTM D 2167.

Compaction areas shall be kept separate, and no layer shall be covered by another until the proper density is obtained.

During construction of the embankment, the Contractor shall route his/her equipment at all times, both when loaded and when empty, over the layers as they are placed and shall distribute the travel evenly over the entire width of the embankment. The equipment shall be operated in such a manner that hardpan, cemented gravel, clay, or other chunky soil material will be broken up into small particles and become incorporated with the other material in the layer.

In the construction of embankments, layer placement shall begin in the deepest portion of the fill; as placement progresses, layers shall be constructed approximately parallel to the finished pavement grade line.

When rock and other embankment material are excavated at approximately the same time, the rock shall be incorporated into the outer portion of the embankment and the other material shall be

incorporated under the future paved areas. Stones or fragmentary rock larger than 4 inches (100 mm) in their greatest dimensions will not be allowed in the top 6 inches (150 mm) of the subgrade. Rockfill shall be brought up in layers as specified or as directed and every effort shall be exerted to fill the voids with the finer material forming a dense, compact mass. Rock or boulders shall not be disposed of outside the excavation or embankment areas, except at places and in the manner designated by the Engineer.

When the excavated material consists predominantly of rock fragments of such size that the material cannot be placed in layers of the prescribed thickness without crushing, pulverizing or further breaking down the pieces, such material may be placed in the embankment as directed in layers not exceeding 2 feet (60 cm) in thickness. Each layer shall be leveled and smoothed with suitable leveling equipment and by distribution of spalls and finer fragments of rock. These type lifts shall not be constructed above an elevation 4 feet (120 cm) below the finished subgrade.

Frozen material shall not be placed in the embankment nor shall embankment be placed upon frozen material.

There will be no separate measurement of payment for compacted embankment, and all costs incidental to placing in layers, compacting, disking, watering, mixing, sloping, and other necessary operations for construction of embankments will be included in the contract price for excavation, borrow, or other items.

152-2.7 FINISHING AND PROTECTION OF SUBGRADE. After the subgrade has been substantially completed the full width shall be conditioned by removing any soft or other unstable material that will not compact properly. The resulting areas and all other low areas, holes or depressions shall be brought to grade with suitable select material. Scarifying, blading, rolling and other methods shall be performed to provide a thoroughly compacted subgrade shaped to the lines and grades shown on the plans.

Grading of the subgrade shall be performed so that it will drain readily. The Contractor shall take all precautions necessary to protect the subgrade from damage. He/she shall limit hauling over the finished subgrade to that which is essential for construction purposes.

All ruts or rough places that develop in a completed subgrade shall be smoothed and recompacted.

No subbase, base, or surface course shall be placed on the subgrade until the subgrade has been approved by the Engineer.

152-2.8 HAUL. All hauling will be considered a necessary and incidental part of the work. Its cost shall be considered by the Contractor and included in the contract unit price for the pay of items of work involved. No payment will be made separately or directly for hauling on any part of the work.

152-2.9 TOLERANCES. In those areas upon which a subbase or base course is to be placed, the top of the subgrade shall be of such smoothness that, when tested with a 16-foot (4.8 m) straightedge applied parallel and at right angles to the centerline, it shall not show any deviation in excess of 1/2-inch (12 mm), or shall not be more than 0.05-foot (.015 m) from true grade as established by grade hubs or pins. Any deviation in excess of these amounts shall be corrected by loosening, adding, or removing materials; reshaping; and recompacting by sprinkling and rolling.

On safety areas, intermediate and other designated areas, the surface shall be of such smoothness that it will not vary more than 0.10 foot (0.03 m) from true grade as established by grade hubs. Any deviation in excess of this amount shall be corrected by loosening, adding or removing materials, and reshaping.

152-2.10 TOPSOIL. When topsoil is specified or required as shown on the plans or under Item T-905, it shall be salvaged from stripping or other grading operations. The topsoil shall meet the requirements of Item T-905. If, at the time of excavation or stripping, the topsoil cannot be placed in its proper and final section of finished construction, the material shall be stockpiled at approved locations. Stockpiles shall not be placed within ***1,000*** feet of runway pavement or ***500*** feet of taxiway pavement and shall not be placed on areas that subsequently will require any excavation or embankment. If, in the judgment of the

Engineer, it is practical to place the salvaged topsoil at the time of excavation or stripping, the material shall be placed in its final position without stockpiling or further rehandling.

Upon completion of grading operations, stockpiled topsoil shall be handled and placed as directed, or as required in Item T-905.

No direct payment will be made for topsoil as such under Item P-152. The quantity removed and placed directly or stockpiled shall be paid for at the contract unit price per cubic yard (cubic meter) for "Unclassified Excavation."

When stockpiling of topsoil and later rehandling of such material is directed by the Engineer, the material so rehandled shall be paid for at the contract unit price per cubic yard (cubic meter) for "Topsoiling," as provided in Item T-905.

METHOD OF MEASUREMENT

152-3.1 The quantity of excavation to be paid for shall be the number of cubic yards (cubic meters) measured in its original position.

Measurement shall not include the quantity of materials excavated without authorization beyond normal slope lines, or the quantity of material used for purposes other than those directed.

152-3.2 Borrow material shall be paid for on the basis of the number of cubic yards (cubic meters) measured in its original position at the borrow pit.

152-3.3 Stockpiled material shall be paid for on the basis of the number of cubic yards (cubic meters) measured in the stockpiled position as soon as the material has been stockpiled.

152-3.4 For payment specified by the cubic yard (cubic meter), measurement for all **[excavation] [embankment]** shall be computed by the average end area method. The end area is that bound by the original ground line established by field cross sections and the final theoretical pay line established by **[excavation] [embankment]** cross sections shown on the plans, subject to verification by the Engineer. After completion of all **[excavation] [embankment]** operations and prior to the placing of base or subbase material, the final **[excavation] [embankment]** shall be verified by the Engineer by means of field cross sections taken randomly at intervals not exceeding 500 linear feet (150 meters).

Final field cross sections shall be employed if the following changes have been made:

a. Plan width of embankments or excavations are changed by more than plus or minus 1.0 foot (0.3 meter); or

b. Plan elevations of embankments or excavations are changed by more than plus or minus 0.5 foot (0.15 meter).

BASIS OF PAYMENT

152-4.1 For "Unclassified excavation" payment shall be made at the contract unit price per cubic yard (cubic meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

152-4.2 For "Rock Excavation" payment shall be made at the contract unit price per cubic yard (cubic meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

152-4.3 For "Muck Excavation" payment shall be made at the contract unit price per cubic yard (cubic meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

152-4.4 For "Drainage Excavation" payment shall be made at the contract unit price per cubic yard (cubic meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

152-4.5 For "Borrow Excavation" payment shall be made at the contract unit price per cubic yard (cubic meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

152-4.6 For "Stockpiled Material" payment shall be made at the contract unit price per cubic yard (cubic meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

152-4.7 For "Embankment in Place" payment shall be made at the contract unit price per cubic yard (cubic meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-152-4.1	Unclassified Excavation—per cubic yard (cubic meter)
Item P-152-4.2	Rock Excavation—per cubic yard (cubic meter)
Item P-152-4.3	Muck Excavation—per cubic yard (cubic meter)
Item P-152-4.4	Drainage Excavation—per cubic yard (cubic meter)
Item P-152-4.5	Borrow Excavation—per cubic yard (cubic meter)
Item P-152-4.6	Stockpiled material—per cubic yard (cubic meter)
Item P-152-4.7	Embankment in Place—per cubic yard (cubic meter)

TESTING REQUIREMENTS

ASTM D 698	Test for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5-pound (2.49 kg) Rammer and 12-inch (305 mm) Drop
ASTM D 1556	Test for Density of Soil In Place by the Sand-Cone Method
ASTM D 1557	Test for Laboratory Compaction Characteristics of Soil Using Modified Effort
ASTM D 2167	Test for Density and Unit Weight of Soil In Place by the Rubber Ballon Method.
ASTM D 6938	Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods.

END OF ITEM P-152

ITEM P-501 PORTLAND CEMENT CONCRETE PAVEMENT is hereby amended with respect to the paragraphs and sections cited below.

Modify Section 501-2.3 CEMENTITIOUS MATERIALS as noted:

Remove all references to Class N Fly Ash. Class N Fly Ash will not be permitted.

Modify the second paragraph of Section 501-4.10.f as noted:

Dowel bars at ~~contraction~~ ***construction*** joints may be placed in the full thickness of pavement by a mechanical device approved by the Engineer. ***Inserting bars at contraction joints in plastic concrete will not be permitted.*** The device shall be capable of installing dowel bars within the maximum permissible alignment tolerances ***without marring the finished surface or creating voids around the inserted bars***. Dowels bars at longitudinal construction joints shall be ***epoxy*** bonded in drilled holes ***when bars are inserted after concrete placement.***

Modify Section 501-3.1 PROPORTIONS as noted:

Concrete shall be designed to achieve a 28-day ~~flexural~~ strength that meets or exceeds the acceptance criteria contained in paragraph 501-5.2 for a ***compressive*** ~~flexural~~ strength of **3,500 psi**. The mix shall be designed using the procedures contained in Chapter 9 of the Portland Cement Association's manual, "Design and Control of Concrete Mixtures".

Delete Section 501-4.10.d JOINTS, Keyways in its entirety.

Delete Section 501-4.12.a SURFACE TEXTURE, Brush or Broom Finish in its entirety.

Delete Section 501-4.12.c SURFACE TEXTURE, Artificial Turf Finish in its entirety.

Delete Section 501-4.13. SKID-RESISTANT SURFACES SAW-CUT GROOVING in its entirety.

Delete Section 501-4.14.e CURING, Water Method in its entirety.

Add the following to Section 501-4.19.f as noted:

The quantity and areas of Portland cement concrete spall repair shown on the plans is for bidding purposes only. The actual dimensions of areas to be repaired shall be identified by visual inspection of the surface of the slab. Areas larger than 6 inches in length and 1.5 inches in width at the widest point shall be repaired.

Areas of surface spall repair and areas of deterioration beneath the surface shall be outlined with paint. The Contractor shall measure the areas of repair and report the total quantity of repair to the Engineer. Prior to beginning construction, the Engineer or his representative will verify the areas and quantities of repair. Discrepancies between the Contractor's and Engineer's repair areas and quantities shall be resolved prior to beginning spall repair construction.

Delete Section 501-5.1.a Flexural Strength in its entirety.

Delete Section 501-5.1.b Pavement Thickness in its entirety.

Modify Section 501-5.2 ACCEPTANCE CRITERIA as noted:

Remove all references to Flexural strength, Thickness, and Edge slump. These characteristics will not be evaluated for acceptance.

Add the following to Section 501-5.2 as noted:

The concrete shall develop a minimum compressive strength of 3,500 psi at 28 days as determined by test cylinders made in accordance with ASTM C 31 and tested in accordance with ASTM C 39.

Insert the following as a third paragraph to Section 501-5.2.e.(3) ACCEPTANCE CRITERIA, Smoothness:

Contractor is to provide a 16-foot straightedge for use by the Engineer in evaluating smoothness. There will be no separate pay for providing straightedge; straightedge to remain property of the Contractor upon completion of the project.

Modify Section 501-7.1 as noted:

501-7.1 ***For spall repair, the use of*** Portland cement concrete ***or an elastomeric concrete*** ~~pavement~~ shall be measured by the number of **square feet** of ***concrete*** ~~either plain or reinforced pavement as~~ specified in-place, completed and accepted. ~~Saw-cut grooving shall be measured by the number of square yards (square meters) of saw-cut grooving as specified in-place, completed and accepted.~~

The elastomeric concrete shall consist of a fluid base or binder with suitable reinforcing agents to provide a product which mixes in five minutes or less, flows readily, strongly adheres to concrete, and requires no external application of heat for curing. The elastomeric concrete utilized must set up and allow traffic no later than two (2) hours after the final pour. Elastomeric concrete shall meet or exceed the following properties:

PROPERTIES	REQUIREMENT	SPECIFICATION
Tensile		
Strength	600 psi	ASTM D 412 (mod)
Elongation	25	ASTM D 412 (mod)
Hardness, Type D durometer, points	50	ASTM D 2240
Compressive		
Stress psi		
5% Deflection	800min/1400max	ASTM D695
Adhesion to Concrete (psi)		
Dry Bond	400 min	
Wet Bond	250 min	

The Contractor's Quality Control Plan shall not be measured separately but shall be considered an incidental aspect of the pavement construction.

Modify Section 501-8.1 PAYMENT as noted:

Payment shall be made at the contract unit price per square foot for spall repairs. These prices shall be full compensation for sawing and removing existing pavement; for the removal, loading, hauling, and disposal of the loose concrete or loose subbase off site; for furnishing all materials and for all preparation and installation of these materials; and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment. Payment shall be made under:

Item P-501-8.1a	**Concrete Spall Repair – Elastomeric Concrete – per Square Foot**
Item P-501-8.1b	**Concrete Spall Repair – Portland Cement Concrete – per Square Foot**

END OF MOD P-501

ITEM P-501 PORTLAND CEMENT CONCRETE PAVEMENT

DESCRIPTION

501-1.1 This work shall consist of pavement composed of Portland cement concrete, **with reinforcement** constructed on a prepared underlying surface in accordance with these specifications and shall conform to the lines, grades, thickness, and typical cross sections shown on the plans.

MATERIALS

501-2.1 AGGREGATES.

a. Reactivity. Aggregates shall be tested for deleterious reactivity with alkalis in the cement, which may cause excessive expansion of the concrete. Separate tests of coarse and fine aggregate shall be made in accordance with ASTM C 1260. If the expansion of coarse or fine aggregate test specimens, tested in accordance with ASTM C 1260, does not exceed 0.10 % at 28 days (30 days from casting), the coarse or fine aggregates shall be accepted.

If the expansion of any aggregate, coarse or fine, at 28 days is greater than 0.10%, tests of combined materials shall be made in accordance with ASTM C 1567 using the aggregates, cementitious materials, and/or specific reactivity reducing chemicals in the proportions proposed for the mixture design. If the expansion of the proposed combined materials test specimens, tested in accordance with ASTM C 1567, does not exceed 0.10 % at 28 days, the proposed combined materials will be accepted. If the expansion of the proposed combined materials test specimens is greater than 0.10% at 28 days, the aggregates will not be accepted unless adjustments to the combined materials mixture can reduce the expansion to less than 0.10 % at 28 days, or new aggregates shall be evaluated and tested.

b. Fine Aggregate. Fine aggregate shall conform to the requirements of ASTM C 33. Gradation shall meet the requirements of Table 1 when tested in accordance with ASTM C 136, except as may otherwise be qualified under Section 6 of ASTM C 33.

TABLE 1. GRADATION FOR FINE AGGREGATE (ASTM C 33)

Sieve Designation (Square Openings)	Percentage by Weight Passing Sieves
3/8 in. (9.5 mm)	100
No. 4 (4.75 mm)	95-100
No. 8 (2.36 mm)	80-100
No. 16 (1.18 mm)	50-85
No. 30 (600 micro-m)	25-60
No. 50 (300 micro-m)	10-30
No. 100 (150 micro-m)	2-10

c. Coarse Aggregate. Coarse aggregate shall conform to the requirements of ASTM C 33. Gradation, within the separated size groups, shall meet the requirements of Table 2 when tested in accordance with ASTM C 136. When the nominal maximum size of the aggregate is greater than 1 inch, the aggregates shall be furnished in two size groups.

Aggregates delivered to the mixer shall consist of crushed stone, crushed or uncrushed gravel, air-cooled blast furnace slag, crushed recycled concrete pavement, or a combination thereof. The aggregate shall be composed of clean, hard, uncoated particles and shall meet the requirements for deleterious substances contained in ASTM C 33, Class **4S**. Dust and other coating shall be removed from the aggregates by washing. The aggregate in any size group shall not contain more than 8 percent by weight of flat or elongated pieces when tested in accordance with ASTM D 4791. A flat or elongated

particle is one having a ratio between the maximum and the minimum dimensions of a circumscribing rectangular prism exceeding 5 to 1.

The percentage of wear shall be no more than 35 when tested in accordance with ASTM C 131 or ASTM C 535.

TABLE 2. GRADATION FOR COARSE AGGREGATE ASTM C 33

Sieve Designations (square openings)		Percentage by Weight Passing Sieves	
		#4	#67
in.	mm	1-1/2" – 3/4"*	3/4" – No. 4
2-1/2	63	---	---
2	50.8	100	---
1-1/2	38.1	90-100	---
1	25.0	20-55	100
3/4	19.0	0-15	90-100
1/2½	12.5	---	---
3/8	9.5	0-5	20-55
No. 4	4.75	---	0-10
No. 8	2.36	---	0-5

d. Aggregate susceptibility to Disintegration (D) Cracking. Aggregates that have a history of D-cracking shall not be used. Prior to approval of mixture design and production of Portland cement concrete the Contractor shall submit written certification that the aggregate does not have a history of D-Cracking and that the aggregate meets the specified State requirements.

(1) Other sources of crushed stone aggregate shall be approved if the durability factor as determined by ASTM C 666 is greater than or equal to 95 and all other quality test requirements within these specifications are fulfilled. The FAA will consider and reserves final approval of other State classification procedures.

(2) Crushed gravel and sand-gravel aggregates shall not be required to meet freeze-thaw durability ratings. These aggregates shall be approved for use in concrete by the state highway agency in the state from which the aggregate originates and the state in which they are to be used and shall meet all other criteria within these specifications.

501-2.2 CEMENT. Cement shall conform to the requirements of ASTM C 150 Type I or II.

If for any reason, cement becomes partially set or contains lumps of caked cement, it shall be rejected. Cement salvaged from discarded or used bags shall not be used.

Only cements containing less than 0.6% equivalent alkali or cements that can demonstrate a positive reduction in the expansion created by alkali-silica reactions shall be used.

501-2.3 CEMENTITIOUS MATERIALS.

a. Fly Ash or Natural Pozzolan. Flyash shall meet the requirements of ASTM C 618, Class F or N with the exception of loss of ignition, where the maximum shall be less than 6 percent. Class F or N flyash for use in mitigating alkali-silica reactivity shall have a Calcium Oxide (CaO) content of less than

13 percent and a total equivalent alkali content less than 3 percent. Flyash such as is produced in furnace operations using liming materials or soda ash (sodium carbonate) as an additive shall not be acceptable. The Contractor shall furnish the previous three most recent, consecutive ASTM C-618 reports for each source of flyash proposed in the mix design, and shall furnish each additional report as they become available during the project. The reports can be used for acceptance or the material may be tested independently by the Engineer.

b. Blast Furnace Slag (Slag Cement). Ground Granulated Blast Furnace (GGBF) slag shall conform to ASTM C 989, Grade 100 or 120. GGBF shall be used only at a rate between 25 and 55 percent of the total cementitious material by mass.

501-2.4 PREMOLDED JOINT FILLER. Premolded joint filler for expansion joints shall conform to the requirements of **ASTM D 1752, Type III** and shall be punched to admit the dowels where called for on the plans. The filler for each joint shall be furnished in a single piece for the full depth and width required for the joint, unless otherwise specified by the Engineer. When the use of more than one piece is required for a joint, the abutting ends shall be fastened securely and held accurately to shape by stapling or other positive fastening means satisfactory to the Engineer.

501-2.5 JOINT SEALER. The joint sealer for the joints in the concrete pavement shall meet the requirements of Item P-605 and shall be of the type(s) specified in the plans.

501-2.6 STEEL REINFORCEMENT. Reinforcing shall consist of **Welded deformed steel fabric** conforming to the requirements of **ASTM A 497.**

501-2.7 DOWEL AND TIE BARS. Tie bars shall be deformed steel bars and conform to the requirements of ASTM A 615 or ASTM A 996, except that rail steel bars, Grade 50 or 60, shall not be used for tie bars that are to be bent or restraightened during construction. Tie bars designated as Grade 40 in ASTM A 615 can be used for construction requiring bent bars.

Dowel bars shall be plain steel bars conforming to ASTM A 615 or ASTM A 966 and shall be free from burring or other deformation restricting slippage in the concrete. High strength dowel bars shall conform to ASTM A 714, Class 2, Type S, Grade I, II or III, Bare Finish. Before delivery to the construction site each dowel bar shall be painted with one coat of paint conforming to MIL-DTL-24441/20A.SSPC Paint 5 or SSPC Paint 25.Metal or plastic collars shall be full circular device supporting the dowel until the epoxy hardens.

The sleeves for dowel bars used in expansion joints shall be metal or other type of an approved design to cover 2 to 3 inches (50 mm to 75 mm) of the dowel, with a closed end and with a suitable stop to hold the end of the bar at least 1 inch (25 mm) from the closed end of the sleeve. Sleeves shall be of such design that they will not collapse during construction.

501-2.8 WATER. Water used in mixing or curing shall be clean and free of oil, salt, acid, alkali, sugar, vegetable, or other substances injurious to the finished product. Water will be tested in accordance with the requirements of AASHTO T 26. Water known to be of potable quality may be used without testing.

501-2.9 COVER MATERIAL FOR CURING. Curing materials shall conform to one of the following specifications:

a. Liquid membrane-forming compounds for curing concrete shall conform to the requirements of ASTM C 309, Type 2, Class B, or Class A if wax base only.

b. White polyethylene film for curing concrete shall conform to the requirements of ASTM C 171.

c. White burlap-polyethylene sheeting for curing concrete shall conform to the requirements of ASTM C 171.

d. Waterproof paper for curing concrete shall conform to the requirements of ASTM C 171.

501-2.10 ADMIXTURES. The use of any material added to the concrete mix shall be approved by the Engineer. The Contractor shall submit certificates indicating that the material to be furnished meets all of the requirements indicated below. In addition, the Engineer may require the Contractor to submit complete test data from an approved laboratory showing that the material to be furnished meets all of the requirements of the cited specifications. Subsequent tests may be made of samples taken by the Engineer from the supply of the material being furnished or proposed for use on the work to determine whether the admixture is uniform in quality with that approved.

a. Air-Entraining Admixtures. Air-entraining admixtures shall meet the requirements of ASTM C 260 and shall consistently entrain the air content in the specified ranges under field conditions. The air-entrainment agent and any water reducer admixture shall be compatible.

b. Chemical Admixtures. Water-reducing, set retarding, and set-accelerating admixtures shall meet the requirements of ASTM C 494, including the flexural strength test.

501-2.11 EPOXY-RESIN. Epoxy-resin used to anchor dowels and tie bars in pavements shall conform to the requirements of ASTM C 881, Type I, Grade 3, Class C. Class A or B shall be used when the surface temperature of the hardened concrete is below 60 degrees F (16 degrees C).

501-2.12 MATERIAL ACCEPTANCE. Prior to use of materials, the Contractor shall submit certified test reports to the Engineer for those materials proposed for use during construction. The certification shall show the appropriate ASTM test(s) for each material, the test results, and a statement that the material passed or failed.

The Engineer may request samples for testing, prior to and during production, to verify the quality of the materials and to ensure conformance with the applicable specifications.

MIX DESIGN

501-3.1 PROPORTIONS. Concrete shall be designed to achieve a 28-day flexural strength that meets or exceeds the acceptance criteria contained in paragraph 501-5.2 for a flexural strength of **650 psi**. The mix shall be designed using the procedures contained in Chapter 9 of the Portland Cement Association's manual, "Design and Control of Concrete Mixtures".

The Contractor shall note that to ensure that the concrete actually produced will meet or exceed the acceptance criteria for the specified strength, the mix design average strength must be higher than the specified strength. The amount of overdesign necessary to meet specification requirements depends on the producer's standard deviation of flexural test results and the accuracy that that value can be estimated from historic data for the same or similar materials.

The minimum cementitious material (cement plus fly ash, or GGBFS) shall be **564** pounds per cubic yard **335** kg per cubic meter). The ratio of water to cementitious material, including free surface moisture on the aggregates but not including moisture absorbed by the aggregates shall not be more than **0.45** by weight.

Prior to the start of paving operations and after approval of all material to be used in the concrete, the Contractor shall submit a mix design showing the proportions and flexural strength obtained from the concrete at 7 and 28 days. The mix design shall include copies of test reports, including test dates, and a complete list of materials including type, brand, source, and amount of cement, fly ash, ground slag, coarse aggregate, fine aggregate, water, and admixtures. The fineness modulus of the fine aggregate and the air content shall also be shown. The mix design shall be submitted to the Engineer at least **15 working** days prior to the start of operations. The submitted mix design shall not be more than 90 days old. Production shall not begin until the mix design is approved in writing by the Engineer.

Should a change in sources be made, or admixtures added or deleted from the mix, a new mix design must be submitted to the Engineer for approval.

Flexural strength test specimens shall be prepared in accordance with ASTM C 192 and tested in accordance with ASTM C 78. The mix determined shall be workable concrete having a slump for side-form concrete between 1 and 2 inches (25 mm and 50 mm) as determined by ASTM C 143. For vibrated slip-form concrete, the slump shall be between 1/2 inch (13 mm) and 1 1/2 inches (38 mm).

501-3.2 CEMENTITIOUS MATERIALS.

a. Fly Ash. Fly ash may be used in the mix design. When fly ash is used as a partial replacement for cement, the minimum cement content may be met by considering Portland cement plus fly ash as the total cementitious material. The replacement rate shall be determined from laboratory trial mixes, but shall be between 20 and 30 percent by weight of the total cementitious material. If fly ash is used in conjunction with ground granular blast furnace slag the maximum replacement rate shall not exceed 10 percent by weight of total cementitious material.

b. Ground Slag. Ground blast-furnace slag may be used in a mix design containing Type I or Type II cement. The slag, or slag plus fly ash if both are used, may constitute between 25 to 55 percent of the total cementitious material by weight. If the concrete is to be used for slipforming operations and the air temperature is expected to be lower than 55 degrees F (13 degrees C) the percent slag shall not exceed 30 percent by weight.

501-3.3 ADMIXTURES.

a. Air-Entraining. Air-entraining admixture shall be added in such a manner that will insure uniform distribution of the agent throughout the batch. The air content of freshly mix air-entrained concrete shall be based upon trial mixes with the materials to be used in the work adjusted to produce concrete of the required plasticity and workability. The percentage of air in the mix shall be 4.5. Air content shall be determined by testing in accordance with ASTM C 231 for gravel and stone coarse aggregate and ASTM C 173 for slag and other highly porous coarse aggregate.

b. Chemical. Water-reducing, set-controlling, and other approved admixtures shall be added to the mix in the manner recommended by the manufacturer and in the amount necessary to comply with the specification requirements. Tests shall be conducted on trial mixes, with the materials to be used in the work, in accordance with ASTM C 494.

501-3.4 CONCRETE MIX DESIGN LABORATORY. The Contractor's laboratory used to develop the concrete mix design shall meet the requirements of ASTM C 1077. The laboratory accreditation must be current and listed on the accrediting authority's website. All test methods required for developing the concrete mix design must be listed on the lab accreditation. A copy of the laboratory's current accreditation and accredited test methods shall be submitted to the Engineer prior to start of construction.

CONSTRUCTION METHODS

501-4.1 EQUIPMENT. Equipment necessary for handling materials and performing all parts of the work shall be approved by the engineer as to design, capacity, and mechanical conditions. The equipment shall be at the jobsite sufficiently ahead of the start of paving operations to be examined thoroughly and approved.

a. Batch Plant and Equipment. The batch plant and equipment shall conform to the requirements of ASTM C 94.

b. Mixers and Transportation Equipment.

(1) General. Concrete may be mixed at a central plant, or wholly or in part in truck mixers. Each mixer shall have attached in a prominent place a manufacturer's nameplate showing the capacity of the drum in terms of volume of mixed concrete and the speed of rotation of the mixing drum or blades.

(2) Central plant mixer. Central plant mixers shall conform to the requirements of ASTM C 94.

The mixer shall be examined daily for changes in condition due to accumulation of hard concrete or mortar or wear of blades. The pickup and throwover blades shall be replaced when they have worn down 3/4 inch (19 mm) or more. The Contractor shall have a copy of the manufacturer's design on hand showing dimensions and arrangement of blades in reference to original height and depth.

(3) Truck mixers and truck agitators. Truck mixers used for mixing and hauling concrete and truck agitators used for hauling central-mixed concrete shall conform to the requirements of ASTM C 94.

(4) Nonagitator trucks. Nonagitating hauling equipment shall conform to the requirements of ASTM C 94.

c. Finishing Equipment. The standard method of constructing concrete pavements on FAA projects shall be with an approved slip-form paving equipment designed to spread, consolidate, screed, and float-finish the freshly placed concrete in one complete pass of the machine so a dense and homogeneous pavement is achieved with a minimum of hand finishing. The paver-finisher shall be a heavy duty, self-propelled machine designed specifically for paving and finishing high quality concrete pavements. It shall weigh at least 2200 lbs. per foot of paving lane width and powered by an engine having at least 6.0 horsepower per foot of lane width.

On projects requiring less than 500 square yards of cement concrete pavement or requiring individual placement areas of less than 500 square yards, or irregular areas at locations inaccessible to slip-form paving equipment, cement concrete pavement may be placed with approved placement and finishing equipment utilizing stationary side forms. Hand screeding and float finishing may only be utilized on small irregular areas as allowed by the Engineer.

d. Vibrators. Vibrator shall be the internal type. Operating frequency for internal vibrators shall be between 8,000 and 12,000 vibrations per minute. Average amplitude for internal vibrators shall be 0.025-0.05 inches (0.06-0.13 cm).

The number, spacing, and frequency shall be as necessary to provide a dense and homogeneous pavement and meet the recommendations of ACI 309, Guide for Consolidation of Concrete. Adequate power to operate all vibrators shall be available on the paver. The vibrators shall be automatically controlled so that they shall be stopped as forward motion ceases. The contractor shall provide an electronic or mechanical means to monitor vibrator status. The checks on vibrator status shall occur a minimum of two times per day or when requested by the Engineer.

Hand held vibrators may be used in irregular areas only, but shall meet the recommendations of ACI 309, Guide for Consolidation of Concrete.

e. Concrete Saws. The Contractor shall provide sawing equipment adequate in number of units and power to complete the sawing to the required dimensions. The Contractor shall provide at least one standby saw in good working order and a supply of saw blades at the site of the work at all times during sawing operations.

f. Side Forms. Straight side forms shall be made of steel and shall be furnished in sections not less than 10 feet (3 m) in length. Forms shall have a depth equal to the pavement thickness at the edge, and a base width equal to or greater than the depth. Flexible or curved forms of proper radius shall be

used for curves of 100-foot (31 m) radius or less. Forms shall be provided with adequate devices for secure settings so that when in place they will withstand, without visible spring or settlement, the impact and vibration of the consolidating and finishing equipment. Forms with battered top surfaces and bent, twisted or broken forms shall not be used. Built-up forms shall not be used, except as approved by the Engineer. The top face of the form shall not vary from a true plane more than 1/8 inch (3 mm) in 10 feet (3 m), and the upstanding leg shall not vary more than 1/4 inch (6 mm). The forms shall contain provisions for locking the ends of abutting sections together tightly for secure setting. Wood forms may be used under special conditions, when approved by the Engineer.

g. Pavers. The paver shall be fully energized, self-propelled, and designed for the specific purpose of placing, consolidating, and finishing the concrete pavement, true to grade, tolerances, and cross section. It shall be of sufficient weight and power to construct the maximum specified concrete paving lane width as shown in the plans, at adequate forward speed, without transverse, longitudinal or vertical instability or without displacement. The paver shall be equipped with electronic or hydraulic horizontal and vertical control devices.

501-4.2 FORM SETTING. Forms shall be set sufficiently in advance of the concrete placement to insure continuous paving operation. After the forms have been set to correct grade, the underlying surface shall be thoroughly tamped, either mechanically or by hand, at both the inside and outside edges of the base of the forms. Forms shall be staked into place sufficiently to maintain the form in position for the method of placement.

Form sections shall be tightly locked and shall be free from play or movement in any direction. The forms shall not deviate from true line by more than 1/8 inch (3 mm) at any joint. Forms shall be so set that they will withstand, without visible spring or settlement, the impact and vibration of the consolidating and finishing equipment. Forms shall be cleaned and oiled prior to the placing of concrete.

The alignment and grade elevations of the forms shall be checked and corrections made by the Contractor immediately before placing the concrete.

501-4.3 CONDITIONING OF UNDERLYING SURFACE. The compacted underlying surface on which the pavement will be placed shall be widened approximately 3 feet (1 m) to extend beyond the paving machine track to support the paver without any noticeable displacement. After the underlying surface has been placed and compacted to the required density, the areas that will support the paving machine and the area to be paved shall be trimmed or graded to the plan grade elevation and profile by means of a properly designed machine. The grade of the underlying surface shall be controlled by a positive grade control system using lasers, stringlines, or guide wires. If the density of the underlying surface is disturbed by the trimming operations, it shall be corrected by additional compaction and retested at the option of the Engineer before the concrete is placed except when stabilized subbases are being constructed. If damage occurs on a stabilized subbase, it shall be corrected full depth by the Contractor. If traffic is allowed to use the prepared grade, the grade shall be checked and corrected immediately before the placement of concrete. The prepared grade shall be moistened with water, without saturating, immediately ahead of concrete placement to prevent rapid loss of moisture from concrete. The underlying surface shall be protected so that it will be entirely free of frost when concrete is placed.

501-4.4 CONDITIONING OF UNDERLYING SURFACE, SIDE-FORM AND FILL-IN LANE CONSTRUCTION. The prepared underlying surface shall be moistened with water, without saturating, immediately ahead of concrete placement to prevent rapid loss of moisture from the concrete. Damage caused by hauling or usage of other equipment shall be corrected and retested at the option of the Engineers. If damage occurs to a stabilized subbase, it shall be corrected full depth by the Contractor. A template shall be provided and operated on the forms immediately in advance of the placing of all concrete. The template shall be propelled only by hand and not attached to a tractor or other power unit. Templates shall be adjustable so that they may be set and maintained at the correct contour of the underlying surface. The adjustment and operation of the templates shall be such as will provide an accurate retest of the grade before placing the concrete thereon. All excess material shall be removed and wasted. Low areas shall be filled and compacted to a condition similar to that of the surrounding

grade. The underlying surface shall be protected so that it will be entirely free from frost when the concrete is placed. The use of chemicals to eliminate frost in the underlying surface shall not be permitted.

The template shall be maintained in accurate adjustment, at all times by the Contractor, and shall be checked daily.

501-4.5 HANDLING, MEASURING, AND BATCHING MATERIAL. The batch plant site, layout, equipment, and provisions for transporting material shall assure a continuous supply of material to the work. Stockpiles shall be constructed in such a manner that prevents segregation and intermixing of deleterious materials.

Aggregates that have become segregated or mixed with earth or foreign material shall not be used. All aggregates produced or handled by hydraulic methods, and washed aggregates, shall be stockpiled or binned for draining at least 12 hours before being batched. Rail shipments requiring more than 12 hours will be accepted as adequate binning only if the car bodies permit free drainage.

Batching plants shall be equipped to proportion aggregates and bulk cement, by weight, automatically using interlocked proportioning devices of an approved type. When bulk cement is used, the Contractor shall use a suitable method of handling the cement from weighing hopper to transporting container or into the batch itself for transportation to the mixer, such as a chute, boot, or other approved device, to prevent loss of cement. The device shall be arranged to provide positive assurance that the cement content specified is present in each batch.

501-4.6 MIXING CONCRETE. The concrete may be mixed at the work site, in a central mix plant or in truck mixers. The mixer shall be of an approved type and capacity. Mixing time shall be measured from the time all materials, except water, are emptied into the drum. All concrete shall be mixed and delivered to the site in accordance with the requirements of ASTM C 94.

Mixed concrete from the central mixing plant shall be transported in truck mixers, truck agitators, or nonagitating trucks. The elapsed time from the addition of cementitious material to the mix until the concrete is deposited in place at the work site shall not exceed 30 minutes when the concrete is hauled in nonagitating trucks, nor 90 minutes when the concrete is hauled in truck mixers or truck agitators. Retempering concrete by adding water or by other means will not be permitted. With transit mixers additional water may be added to the batch materials and additional mixing performed to increase the slump to meet the specified requirements provided the addition of water is performed within 45 minutes after the initial mixing operations and provided the water/cementitious ratio specified in the approved mix design is not exceeded, and approved by the Engineer.

501-4.7 LIMITATIONS ON MIXING AND PLACING. No concrete shall be mixed, placed, or finished when the natural light is insufficient, unless an adequate and approved artificial lighting system is operated.

a. Cold Weather. Unless authorized in writing by the Engineer, mixing and concreting operations shall be discontinued when a descending air temperature in the shade and away from artificial heat reaches 40 degrees F (4 degrees C) and shall not be resumed until an ascending air temperature in the shade and away from artificial heat reaches 35 degrees F (2 degrees C).

The aggregate shall be free of ice, snow, and frozen lumps before entering the mixer. The temperature of the mixed concrete shall not be less than 50 degrees F (10 degrees C) at the time of placement. Concrete shall not be placed on frozen material nor shall frozen aggregates be used in the concrete.

When concreting is authorized during cold weather, water and/or the aggregates may be heated to not more than 150 degrees F (66 degrees C). The apparatus used shall heat the mass uniformly and shall be arranged to preclude the possible occurrence of overheated areas which might be detrimental to the materials.

b. Hot Weather. During periods of hot weather when the maximum daily air temperature exceeds 85 degrees F (30 degrees C), the following precautions shall be taken.

The forms and/or the underlying surface shall be sprinkled with water immediately before placing the concrete. The concrete shall be placed at the coolest temperature practicable, and in no case shall the temperature of the concrete when placed exceed 90 degrees F (35 degrees C). The aggregates and/or mixing water shall be cooled as necessary to maintain the concrete temperature at or not more than the specified maximum.

The finished surfaces of the newly laid pavement shall be kept damp by applying a water-fog or mist with approved spraying equipment until the pavement is covered by the curing medium. If necessary, wind screens shall be provided to protect the concrete from an evaporation rate in excess of 0.2 psf per hour as determined in accordance with Figure 2.1.5 in ACI 305R, Hot Weather Concreting, which takes into consideration relative humidity, wind velocity, and air temperature.

When conditions are such that problems with plastic cracking can be expected, and particularly if any plastic cracking begins to occur, the Contractor shall immediately take such additional measures as necessary to protect the concrete surface. Such measures shall consist of wind screens, more effective fog sprays, and similar measures commencing immediately behind the paver. If these measures are not effective in preventing plastic cracking, paving operations shall be immediately stopped.

c. Temperature Management Program. Prior to the start of paving operation for each day of paving, the contractor shall provide the engineer with a Temperature Management Program for the concrete to be placed to assure that uncontrolled cracking is avoided. As a minimum the program shall address the following items:

(1) Anticipated tensile strains in the fresh concrete as related to heating and cooling of the concrete material.

(2) Anticipated weather conditions such as ambient temperatures, wind velocity, and relative humidity.

(3) Anticipated timing of initial sawing of joint.

501-4.8 PLACING CONCRETE. The Contractor has the option of placing the concrete with either side (fixed) forms or slip-forms. At any point in concrete conveyance, the free vertical drop of the concrete from one point to another or to the underlying surface shall not exceed 3 feet (1 m). Backhoes and Grading equipment shall not be used to distribute the concrete in front of the paver. Front end loaders will not be used unless the contractor demonstrates that they can be used without contaminating the concrete and base course and it is approved by the Engineer.

Hauling equipment or other mechanical equipment can be permitted on adjoining previously constructed pavement when the concrete strength reaches **a flexural strength of 550 psi (3,792 kPa)** based on the average of four field cured specimens per 2,000 cubic yards (1,530 cubic meters) of concrete placed. Also, subgrade and subbase planers, concrete pavers, and concrete finishing equipment may be permitted to ride upon the edges of previously constructed pavement when the concrete has attained a minimum flexural strength of 400 psi.

a. Slip-Form Construction. The concrete shall be distributed uniformly into final position by a self propelled slip-form paver without delay. The alignment and elevation of the paver shall be regulated from outside reference lines established for this purpose. The paver shall vibrate the concrete for the full width and depth of the strip of pavement being placed and the vibration shall be adequate to provide a consistency of concrete that will stand normal to the surface with sharp well defined edges. The sliding forms shall be rigidly held together laterally to prevent spreading of the forms.

The plastic concrete shall be effectively consolidated by internal vibration with transverse vibrating units for the full width of the pavement and/or a series of equally placed longitudinal vibrating units. The space from the outer edge of the pavement to longitudinal unit shall not exceed 9 inches. The spacing of internal units shall be uniform and shall not exceed 18 inches.

The term internal vibration means vibrating units located within the specified thickness of pavement section.

The rate of vibration of each vibrating unit shall be within 8000 to 12000 cycles per minute and the amplitude of vibration shall be sufficient to be perceptible on the surface of the concrete along the entire length of the vibrating unit an for a distance of at least one foot. The frequency of vibration or amplitude shall vary proportionately with the rate of travel to result in a uniform density and air content. The paving machine shall be equipped with a tachometer or other suitable device for measuring and indicating the actual frequency of vibrations.

The concrete shall be held at a uniform consistency. The slip-form paver shall be operated with as nearly a continuous forward movement as possible. And all operations of mixing, delivering, and spreading concrete shall be coordinated to provide uniform progress with stopping and starting of the paver held to a minimum. If for any reason, it is necessary to stop the forward movement of the paver, the vibratory and tamping elements shall also be stopped immediately. No tractive force shall be applied to the machine, except that which is controlled from the machine.

When concrete is being placed adjacent to an existing pavement, that part of the equipment which is supported on the existing pavement shall be equipped with protective pads on crawler tracks or rubber-tired wheels on which the bearing surface is offset to run a sufficient distance from the edge of the pavement to avoid breaking the pavement edge.

b. Side-Form Construction. Side form sections shall be straight, free from warps, bends, indentations, or other defects. Defective forms shall be removed from the work. Metal side forms shall be used except at end closures and transverse construction joints where straight forms of other suitable material may be used.

Side forms may be built up by rigidly attaching a section to either top or bottom of forms. If such build-up is attached to the top of metal forms, the build-up shall also be metal.

Width of the base of all forms shall be equal to at least 80 percent of the specified pavement thickness.

Side forms shall be of sufficient rigidity, both in the form and in the interlocking connection with adjoining forms, that springing will not occur under the weight of subgrading and paving equipment or from the pressure of the concrete. The Contractor shall provide sufficient forms so that there will be no delay in placing concrete due to lack of forms.

Before placing side forms, the underlying material shall be at the proper grade. Side forms shall have full bearing upon the foundation throughout their length and width of base and shall be placed to the required grade and alignment of the finished pavement. They shall be firmly supported during the entire operation of placing, compacting, and finishing the pavement.

Forms shall be drilled in advance of being placed to line and grade to accommodate tie bars where these are specified.

Immediately in advance of placing concrete and after all subbase operations are completed, side forms shall be trued and maintained to the required line and grade for a distance sufficient to prevent delay in placing.

Side forms shall remain in place at least 12 hours after the concrete has been placed, and in all cases until the edge of the pavement no longer requires the protection of the forms. Curing compound shall be applied to the concrete immediately after the forms have been removed.

Side forms shall be thoroughly cleaned and oiled each time they are used and before concrete is placed against them.

Concrete shall be spread, screeded, shaped and consolidated by one or more self-propelled machines. These machines shall uniformly distribute and consolidate concrete without segregation so that the completed pavement will conform to the required cross section with a minimum of handwork.

The number and capacity of machines furnished shall be adequate to perform the work required at a rate equal to that of concrete delivery.

Concrete for the full paving width shall be effectively consolidated by internal vibrators without causing segregation. Internal type vibrators' rate of vibration shall be not less than 7,000 cycles per minute. Amplitude of vibration shall be sufficient to be perceptible on the surface of the concrete more than one foot from the vibrating element. The Contractor shall furnish a tachometer or other suitable device for measuring and indicating frequency of vibration.

Power to vibrators shall be connected so that vibration ceases when forward or backward motion of the machine is stopped.

The provisions relating to the frequency and amplitude of internal vibration shall be considered the minimum requirements and are intended to ensure adequate density in the hardened concrete.

c. Consolidation Testing. The provisions relating to the frequency and amplitude of internal vibration shall be considered the minimum requirements and are intended to ensure adequate density in the hardened concrete. If a lack of consolidation of the concrete is suspected by the Engineer, additional referee testing may be required. Referee testing of hardened concrete will be performed by cutting cores from the finished pavement after a minimum of 24 hours curing. Density determinations will be made based on the water content of the core as taken. ASTM C 642 shall be used for the determination of core density in the saturated-surface dry condition. Referee cores will be taken at the minimum rate of one for each 500 cubic yards of pavement, or fraction thereof.

The average density of the cores shall be at least 97 percent of the original mix design density, with no cores having a density of less than 96 percent of the original mix design density.

Failure to meet the above requirements will be considered as evidence that the minimum requirements for vibration are inadequate for the job conditions, and additional vibrating units or other means of increasing the effect of vibration shall be employed so that the density of the hardened concrete as indicated by further referee testing shall conform to the above listed requirements.

501-4.9 STRIKE-OFF OF CONCRETE AND PLACEMENT OF REINFORCEMENT. Following the placing of the concrete, it shall be struck off to conform to the cross section shown on the plans and to an elevation such that when the concrete is properly consolidated and finished, the surface of the pavement shall be at the elevation shown on the plans. When reinforced concrete pavement is placed in two layers, the bottom layer shall be struck off to such length and depth that the sheet of reinforcing steel fabric or bar mat may be laid full length on the concrete in its final position without further manipulation. The reinforcement shall then be placed directly upon the concrete, after which the top layer of the concrete shall be placed, struck off, and screeded. If any portion of the bottom layer of concrete has been placed more than 30 minutes without being covered with the top layer or if initial set has taken place, it shall be removed and replaced with freshly mixed concrete at the Contractor's expense. When reinforced concrete is placed in one layer, the reinforcement may be positioned in advance of concrete placement or it may be placed in plastic concrete by mechanical or vibratory means after spreading.

Reinforcing steel, at the time concrete is placed, shall be free of mud, oil, or other organic matter that may adversely affect or reduce bond. Reinforcing steel with rust, mill scale or a combination of both will be considered satisfactory, provided the minimum dimensions, weight, and tensile properties of a hand wire-brushed test specimen are not less than the applicable ASTM specification requirements.

501-4.10 JOINTS. Joints shall be constructed as shown on the plans and in accordance with these requirements. All joints shall be constructed with their faces perpendicular to the surface of the pavement and finished or edged as shown on the plans. Joints shall not vary more than 1/2 inch (13 mm) from their designated position and shall be true to line with not more than 1/4-inch (6 mm) variation in 10 feet (3 m). The surface across the joints shall be tested with a 10-foot (3 m) straightedge as the joints are finished and any irregularities in excess of 1/4 inch (6 mm) shall be corrected before the concrete has hardened. All joints shall be so prepared, finished, or cut to provide a groove of uniform width and depth as shown on the plans.

a. Construction. Longitudinal construction joints shall be slip-formed or formed against side forms with or without keyways, as shown in the plans.

Transverse construction joints shall be installed at the end of each day's placing operations and at any other points within a paving lane when concrete placement is interrupted for more than 30 minutes or it appears that the concrete will obtain its initial set before fresh concrete arrives. The installation of the joint shall be located at a planned contraction or expansion joint. If placing of the concrete is stopped, the Contractor shall remove the excess concrete back to the previous planned joint.

b. Contraction. Contraction joints shall be installed at the locations and spacing as shown on the plans. Contraction joints shall be installed to the dimensions required by forming a groove or cleft in the top of the slab while the concrete is still plastic or by sawing a groove into the concrete surface after the concrete has hardened. When the groove is formed in plastic concrete the sides of the grooves shall be finished even and smooth with an edging tool. If an insert material is used, the installation and edge finish shall be according to the manufacturer's instructions. The groove shall be finished or cut clean so that spalling will be avoided at intersections with other joints. Grooving or sawing shall produce a slot at least 1/8 inch (3 mm) wide and to the depth shown on the plans.

c. Expansion. Expansion joints shall be installed as shown on the plans. The premolded filler of the thickness as shown on the plans, shall extend for the full depth and width of the slab at the joint, except for space for sealant at the top of the slab. The filler shall be securely staked or fastened into position perpendicular to the proposed finished surface. A cap shall be provided to protect the top edge of the filler and to permit the concrete to be placed and finished. After the concrete has been placed and struck off, the cap shall be carefully withdrawn leaving the space over the premolded filler. The edges of the joint shall be finished and tooled while the concrete is still plastic. Any concrete bridging the joint space shall be removed for the full width and depth of the joint.

d. Keyways. Keyways (only female keys permitted) shall be formed in the plastic concrete by means of side forms or the use of keyway liners that are inserted during the slip-form operations. The keyway shall be formed to a tolerance of 1/4 inch (6 m) in any dimension and shall be of sufficient stiffness to support the upper keyway flange without distortion or slumping of the top of the flange. The dimensions of the keyway forms shall not vary more than plus or minus 1/4 inch (6 mm) from the mid-depth of the pavement. Liners that remain in place permanently and become part of the keyed joint shall be made of galvanized, copper clad, or of similar rust-resistant material compatible with plastic and hardened concrete and shall not interfere with joint reservoir sawing and sealing.

e. Tie bars. Tie bars shall consist of deformed bars installed in joints as shown on the plans. Tie bars shall be placed at right angles to the centerline of the concrete slab and shall be spaced at intervals shown on the plans. They shall be held in position parallel to the pavement surface and in the middle of the slab depth. When tie bars extend into an unpaved lane, they may be bent against the form at longitudinal construction joints, unless threaded bolt or other assembled tie bars are specified. These bars shall not be painted, greased, or enclosed in sleeves. When slip-form operations call for tie bars,

two-piece hook bolts can be installed in the female side of the keyed joint provided the installation is made without distorting the keyed dimensions or causing edge slump. If a bent tie bar installation is used, the tie bars shall be inserted through the keyway liner only on the female side of the joint. In no case shall a bent tie bar installation for male keyways be permitted.

f. Dowel bars. Dowel bars or other load-transfer units of an approved type shall be placed across joints in the manner as shown on the plans. They shall be of the dimensions and spacings as shown and held rigidly in the middle of the slab depth in the proper horizontal and vertical alignment by an approved assembly device to be left permanently in place. The dowel or load-transfer and joint devices shall be rigid enough to permit complete assembly as a unit ready to be lifted and placed into position. A metal, or other type, dowel expansion cap or sleeve shall be furnished for each dowel bar used with expansion joints. These caps shall be substantial enough to prevent collapse and shall be placed on the ends of the dowels as shown on the plans. The caps or sleeves shall fit the dowel bar tightly and the closed end shall be watertight. The portion of each dowel painted with rust preventative paint, as required under paragraph 501-2.7 and shown on the plans to receive a debonding lubricant, shall be thoroughly coated with asphalt MC-70, or an approved lubricant, to prevent the concrete from bonding to that portion of the dowel. If free-sliding plastic-coated or epoxy-coated steel dowels are used, a lubrication bond breaker shall be used except when approved pullout tests indicate it is not necessary. Where butt-type joints with dowels are designated, the exposed end of the dowel shall be oiled.

Dowel bars at contraction joints may be placed in the full thickness of pavement by a mechanical device approved by the Engineer. The device shall be capable of installing dowel bars within the maximum permissible alignment tolerances. Dowels bars at longitudinal construction joints shall be bonded in drilled holes.

g. Installation. All devices used for the installation of expansion joints shall be approved by the Engineer.

The top of an assembled joint device shall be set at the proper distance below the pavement surface and the elevation shall be checked. Such devices shall be set to the required position and line and shall be securely held in place by stakes or other means to the maximum permissible tolerances during the pouring and finishing of the concrete. The premolded joint material shall be placed and held in a vertical position; if constructed in sections, there shall be no offsets between adjacent units.

Dowel bars and assemblies shall be checked for position and alignment. The maximum permissible tolerances on dowel bar alignment shall be in accordance with paragraph 501-5.2e(6). During the concrete placement operation, it is advisable to place plastic concrete directly on dowel assemblies immediately prior to passage of the paver to help maintain dowel position and alignment within maximum permissible tolerances.

When concrete is placed using slip-form pavers, dowels and tie bars shall be placed in longitudinal construction joints by bonding the dowels or tie bars into holes drilled into the hardened concrete. Holes approximately 1/8-inch to 1/4-inch (3 to 6 mm) greater in diameter than the dowel or tie bar shall be drilled with rotary-type core drills that must be held securely in place to drill perpendicularly into the vertical face of the pavement slab. Rotary-type percussion drills may be used provided that spalling of concrete does not occur. Any damage of the concrete shall be repaired by the Contractor in a method approved by the Engineer. Dowels or tie bars shall be bonded in the drilled holes using an epoxy resin material. Installation procedures shall be adequate to insure that the area around dowels is completely filled with epoxy grout. Epoxy shall be injected into the back of the hole and displaced by the insertion of the dowel bar. Bars shall be completely inserted into the hole and shall not be withdrawn and reinserted creating air pockets in the epoxy around the bar. The Contractor shall furnish a template for checking the position and alignment of the dowels. Dowel bars shall not be less than 10 inches (25 cm) from a transverse joint and shall not interfere with dowels in the transverse direction.

h. Sawing of Joints. Joints shall be cut as shown on the plans. Equipment shall be as described in paragraph 501-4.1. The circular cutter shall be capable of cutting a groove in a straight line

and shall produce a slot at least 1/8 inch (3 mm) wide and to the depth shown on the plans. The top portion of the slot shall be widened by sawing to provide adequate space for joint sealers as shown on the plans. Sawing shall commence as soon as the concrete has hardened sufficiently to permit cutting without chipping, spalling, or tearing and before uncontrolled shrinkage cracking of the pavement occurs. Sawing shall be carried on both during the day and night as required. The joints shall be sawed at the required spacing, consecutively in sequence of the concrete placement. Curing compound, if being used as the cure type, shall be reapplied in the initial sawcut and maintained for the remaining cure period. Curing compound shall not be applied, and used as the cure method, to any final concrete face that is to receive a sealant. All slurry and debris produced in the sawing of joints shall be removed by vacuuming and washing.

501-4.11 FINAL STRIKE-OFF, CONSOLIDATION, AND FINISHING.

a. Sequence. The sequence of operations shall be the strike-off, floating and removal of laitance, straightedging, and final surface finish. The addition of superficial water to the surface of the concrete to assist in finishing operations will not be permitted.

b. Finishing at Joints. The concrete adjacent to joints shall be compacted or firmly placed without voids or segregation against the joint material; it shall be firmly placed without voids or segregation under and around all load-transfer devices, joint assembly units, and other features designed to extend into the pavement. Concrete adjacent to joints shall be mechanically vibrated as required in paragraph 501-4.8.a. After the concrete has been placed and vibrated adjacent to the joints, the finishing machine shall be operated in a manner to avoid damage or misalignment of joints. If uninterrupted operations of the finishing machine, to, over, and beyond the joints, cause segregation of concrete, damage to, or misalignment of the joints, the finishing machine shall be stopped when the screed is approximately 8 inches (20 cm) from the joint. Segregated concrete shall be removed from the front of and off the joint; and the forward motion of the finishing machine shall be resumed. Thereafter, the finishing machine may be run over the joint without lifting the screed, provided there is no segregated concrete immediately between the joint and the screed or on top of the joint.

c. Machine Finishing. The concrete shall be spread as soon as it is placed, and it shall be struck off and screeded by a finishing machine. The machine shall go over each area as many times and at such intervals as necessary to give to proper consolidation and to leave a surface of uniform texture. Excessive operation over a given area shall be avoided. When side forms are used, the tops of the forms shall be kept clean by an effective device attached to the machine, and the travel of the machine on the forms shall be maintained true without lift, wobbling, or other variation tending to affect the precision finish. During the first pass of the finishing machine, a uniform ridge of concrete shall be maintained ahead of the front screed for its entire length. When in operation, the screed shall be moved forward with a combined longitudinal and transverse shearing motion, always moving in the direction in which the work is progressing, and so manipulated that neither end is raised from the side forms during the striking-off process. If necessary, this shall be repeated until the surface is of uniform texture, true to grade and cross section, and free from porous areas.

d. Hand Finishing. Hand finishing methods will not be permitted, except under the following conditions: in the event of breakdown of the mechanical equipment, hand methods may be used to finish the concrete already deposited on the grade; in areas of narrow widths or of irregular dimensions where operation of the mechanical equipment is impractical. Concrete, as soon as placed, shall be struck off and screeded. An approved portable screed shall be used. A second screed shall be provided for striking off the bottom layer of concrete when reinforcement is used.

The screed for the surface shall be a least 2 feet (0.6 m) longer than the maximum width of the slab to be struck off. It shall be of approved design, sufficiently rigid to retain its shape, and shall be constructed either of metal or of other suitable material covered with metal. Consolidation shall be attained by the use of suitable vibrators.

e. Floating. After the concrete has been struck off and consolidated, it shall be further smoothed and trued by means of a longitudinal float using one of the following methods:

(1) Hand Method. Long-handled floats shall not be less than 12 feet (3.6 m) in length and 6 inches (15 cm) in width, stiffened to prevent flexibility and warping. The float shall be operated from foot bridges spanning but not touching the concrete or from the edge of the pavement. Floating shall pass gradually from one side of the pavement to the other. Forward movement along the centerline of the pavement shall be in successive advances of not more than one-half the length of the float. Any excess water or laitance in excess of 1/8-inch (3 mm) thick shall be removed and wasted.

(2) Mechanical method. The Contractor may use a machine composed of a cutting and smoothing float(s), suspended from and guided by a rigid frame and constantly in contact with, the side forms or underlying surface. If necessary, long-handled floats having blades not less than 5 feet (1.5 m) in length and 6 inches (15 cm) in width may be used to smooth and fill in open-textured areas in the pavement. When the crown of the pavement will not permit the use of the mechanical float, the surface shall be floated transversely by means of a long-handled float. Care shall be taken not to work the crown out of the pavement during the operation. After floating, any excess water and laitance in excess of 1/8-inch (3 mm) thick shall be removed and wasted. Successive drags shall be lapped one-half the length of the blade.

f. Straight-edge Testing and Surface Correction. After the pavement has been struck off and while the concrete is still plastic, it shall be tested for trueness with a Contractor furnished 16-foot (5 m) straightedge swung from handles 3 feet (1 m) longer than one-half the width of the slab. The straightedge shall be held in contact with the surface in successive positions parallel to the centerline and the whole area gone over from one side of the slab to the other, as necessary. Advancing shall be in successive stages of not more than one-half the length of the straightedge. Any excess water and laitance in excess of 1/8-inch (3 mm) thick shall be removed from the surface of the pavement and wasted. Any depressions shall be immediately filled with freshly mixed concrete, struck off, consolidated, and refinished. High areas shall be cut down and refinished. Special attention shall be given to assure that the surface across joints meets the smoothness requirements of paragraph 501-5.2e(3). Straightedge testing and surface corrections shall continue until the entire surface is found to be free from observable departures from the straightedge and until the slab conforms to the required grade and cross section. The use of long-handled wood floats shall be confined to a minimum; they may be used only in emergencies and in areas not accessible to finishing equipment.

501-4.12 SURFACE TEXTURE. The surface of the pavement shall be finished with either a brush or broom, burlap drag, or artificial turf finish for all newly constructed concrete pavements. It is important that the texturing equipment not tear or unduly roughen the pavement surface during the operation. Any imperfections resulting from the texturing operation shall be corrected to the satisfaction of the Engineer.

a. Brush or Broom Finish. If the pavement surface texture is to be a type of brush or broom finish, it shall be applied when the water sheen has practically disappeared. The equipment shall operate transversely across the pavement surface, providing corrugations that are uniform in appearance and approximately 1/16 of an inch (2 mm) in depth.

b. Burlap Drag Finish. If a burlap drag is used to texture the pavement surface, it shall be at least 15 ounces per square yard (555 grams per square meter). To obtain a textured surface, the transverse threads of the burlap shall be removed approximately 1 foot (0.3 m) from the trailing edge. A heavy buildup of grout on the burlap threads produces the desired wide sweeping longitudinal striations on the pavement surface. The corrugations shall be uniform in appearance and approximately 1/16 of an inch (2 mm) in depth.

c. Artificial Turf Finish. If artificial turf is used to texture the surface, it shall be applied by dragging the surface of the pavement in the direction of concrete placement with an approved full-width drag made with artificial turf. The leading transverse edge of the artificial turf drag will be securely fastened to a lightweight pole on a traveling bridge. At least 2 feet of the artificial turf shall be in contact

with the concrete surface during dragging operations. A variety of different types of artificial turf are available and approval of any one type will be done only after it has been demonstrated by the Contractor to provide a satisfactory texture. One type that has provided satisfactory texture consists of 7,200 approximately 0.85-inches-long polyethylene turf blades per square foot. The corrugations shall be uniform in appearance and approximately 1/16 of an inch (2 mm) in depth.

501-4.13 SKID-RESISTANT SURFACES SAW-CUT GROOVING. If shown on the plans, skid resistant surfaces for asphalt pavements shall be provided by construction of saw-cut grooves. Saw-cut grooves must meet the requirements of Item P-621.

501-4.14 CURING. Immediately after finishing operations are completed and marring of the concrete will not occur, the entire surface of the newly placed concrete shall be cured for a 7-day cure period in accordance with one of the methods below. Failure to provide sufficient cover material of whatever kind the Contractor may elect to use, or lack of water to adequately take care of both curing and other requirements, shall be cause for immediate suspension of concreting operations. The concrete shall not be left exposed for more than 1/2 hour during the curing period.

When a two-sawcut method is used to construct the contraction joint, the curing compound shall be applied to the sawcut immediately after the initial cut has been made. The sealant reservoir shall not be sawed until after the curing period has been completed. When the one cut method is used to construct the contraction joint, the joint shall be cured with wet rope, wet rags, or wet blankets. The rags, ropes, or blankets shall be kept moist for the duration of the curing period.

a. Impervious Membrane Method. The entire surface of the pavement shall be sprayed uniformly with white pigmented curing compound immediately after the finishing of the surface and before the set of the concrete has taken place. The curing compound shall not be applied during rainfall. Curing compound shall be applied by mechanical sprayers under pressure at the rate of 1 gallon (4 liters) to not more than 150 square feet (14 square meters). The spraying equipment shall be of the fully atomizing type equipped with a tank agitator. At the time of use, the compound shall be in a thoroughly mixed condition with the pigment uniformly dispersed throughout the vehicle. During application the compound shall be stirred continuously by mechanical means. Hand spraying of odd widths or shapes and concrete surfaces exposed by the removal of forms will be permitted. When hand spraying is approved by the Engineer, a double application rate shall be used to insure coverage. The curing compound shall be of such character that the film will harden within 30 minutes after application. Should the film become damaged from any cause, including sawing operations, within the required curing period, the damaged portions shall be repaired immediately with additional compound or other approved means. Upon removal of side forms, the sides of the exposed slabs shall be protected immediately to provide a curing treatment equal to that provided for the surface.

b. Polyethylene Films. The top surface and sides of the pavement shall be entirely covered with polyethylene sheeting. The units shall be lapped at least 18 inches (457 mm). The sheeting shall be placed and weighted to cause it to remain in contact with the surface and sides. The sheeting shall have dimensions that will extend at least twice the thickness of the pavement beyond the edges of the pavement. Unless otherwise specified, the sheeting shall be maintained in place for 7 days after the concrete has been placed.

c. Waterproof Paper. The top surface and sides of the pavement shall be entirely covered with waterproofed paper. The units shall be lapped at least 18 inches (457 mm). The paper shall be placed and weighted to cause it to remain in contact with the surface covered. The paper shall have dimensions that will extend at least twice the thickness of the pavement beyond the edges of the slab. The surface of the pavement shall be thoroughly saturated prior to placing of the paper. Unless otherwise specified, the paper shall be maintained in place for 7 days after the concrete has been placed.

d. White Burlap-Polyethylene Sheets. The surface of the pavement shall be entirely covered with the sheeting. The sheeting used shall be such length (or width) that it will extend at least twice the thickness of the pavement beyond the edges of the slab. The sheeting shall be placed so that the entire

surface and both edges of the slab are completely covered. The sheeting shall be placed and weighted to remain in contact with the surface covered, and the covering shall be maintained fully saturated and in position for 7 days after the concrete has been placed.

(1) Curing in Cold Weather. The concrete shall be maintained at a temperature of at least 50 degrees F (10 degrees C) for a period of 72 hours after placing and at a temperature above freezing for the remainder of the curing time. The Contractor shall be responsible for the quality and strength of the concrete placed during cold weather, and any concrete injured by frost action shall be removed and replaced at the Contractor's expense.

e. Water Method. The entire area shall be covered with burlap or other water absorbing material. The material shall be of sufficient thickness to retain water for adequate curing without excessive runoff. The material shall be kept wet at all times and maintained for 7 days. When the forms are stripped, the vertical walls shall also be kept moist. It shall be the responsibility of the Contractor to prevent ponding of the curing water on the subbase.

501-4.15 REMOVING FORMS. Unless otherwise specified, forms shall not be removed from freshly placed concrete until it has hardened sufficiently to permit removal without chipping, spalling, or tearing. After the forms have been removed, the sides of the slab shall be cured as outlined in one of the methods indicated in paragraph 501-4.14. Major honeycombed areas shall be considered as defective work and shall be removed and replaced in accordance with paragraph 501-5.2(f).

501-4.16 SEALING JOINTS. The joints in the pavement shall be sealed in accordance with Item **P-605.**

501-4.17 PROTECTION OF PAVEMENT. The Contractor shall protect the pavement and its appurtenances against both public traffic and traffic caused by the Contractor's employees and agents. This shall include watchmen to direct traffic and the erection and maintenance of warning signs, lights, pavement bridges, crossovers, and protection of unsealed joints from intrusion of foreign material, etc. Any damage to the pavement occurring prior to final acceptance shall be repaired or the pavement replaced at the Contractor's expense. The Contractor shall have available at all times, materials for the protection of the edges and surface of the unhardened concrete. Such protective materials shall consist of rolled polyethylene sheeting at least 4 mils (0.1 mm) thick of sufficient length and width to cover the plastic concrete slab and any edges. The sheeting may be mounted on either the paver or a separate movable bridge from which it can be unrolled without dragging over the plastic concrete surface. When rain appears imminent, all paving operations shall stop and all available personnel shall begin covering the surface of the unhardened concrete with the protective covering.

501-4.18 OPENING TO TRAFFIC. The pavement shall not be opened to traffic until test specimens molded and cured in accordance with ASTM C 31 have attained a flexural strength of 550 pounds per square inch (3,792 kPa) when tested in accordance with ASTM C 78. If such tests are not conducted, the pavement shall not be opened to traffic until 14 days after the concrete was placed. Prior to opening the pavement to construction traffic, all joints shall either be sealed or protected from damage to the joint edge and intrusion of foreign materials into the joint. As a minimum, backer rod or tape may be used to protect the joints from foreign matter intrusion. The pavement shall be cleaned before opening for normal operations.

501-4.19 REPAIR, REMOVAL, REPLACEMENT OF SLABS.

a. General. New pavement slabs that are broken or contain cracks shall be removed and replaced or repaired, as specified hereinafter at no cost to the owner. Spalls along joints shall be repaired as specified. Removal of partial slabs is not permitted. Removal and replacement shall be full depth, shall be full width of the slab, and the limit of removal shall be normal to the paving lane and to each original transverse joint. The engineer will determine whether cracks extend full depth of the pavement and may require cores to be drilled on the crack to determine depth of cracking. Such cores shall be 4-inch (100 mm) diameter, shall be drilled by the Contractor and shall be filled by the Contractor with a well consolidated concrete mixture bonded to the walls of the hole with epoxy resin, using approved

procedures. Drilling of cores and refilling holes shall be at no expense to the owner. All epoxy resin used in this work shall conform to ASTM C 881, Type V.

b. Shrinkage Cracks. Shrinkage cracks, which do not exceed 4 inches in depth, shall be cleaned and then pressure injected with epoxy resin, Type IV, Grade 1, using procedures as approved. Care shall be taken to assure that the crack is not widened during epoxy resin injection. All epoxy resin injection shall take place in the presence of the Engineer. Shrinkage cracks, which exceed 4 inches in depth, shall be treated as full depth cracks in accordance with paragraphs 4.19b and 4.19c.

c. Slabs With Cracks through Interior Areas. Interior area is defined as that area more than 6 inches (600 mm) from either adjacent original transverse joint. The full slab shall be removed and replaced at no cost to the owner, when there are any full depth cracks, or cracks greater than 4" in depth, that extend into the interior area.

d. Cracks Close To and Parallel To Joints. All cracks essentially parallel to original joints, extending full depth of the slab, and lying wholly within 6 inches either side of the joint shall be treated as specified hereinafter. Any crack extending more than 6 inches (600 mm) from the joint shall be treated as specified above in subparagraph "Slabs With Cracks Through Interior Area."

(1) Full Depth Cracks Present, Original Joint Not Opened. When the original uncracked joint has not opened, the crack shall be sawed and sealed, and the original joint filled with epoxy resin as specified below. The crack shall be sawed with equipment specially designed to follow random cracks. The reservoir for joint sealant in the crack shall be formed by sawing to a depth of 3/4 inch (19 mm), plus or minus 1/16 inch (1.6 mm), and to a width of 5/8 inch (16 mm), plus or minus 1/8 inch (3.2 mm). Any equipment or procedure which causes raveling or spalling along the crack shall be modified or replaced to prevent such raveling or spalling. The joint sealant shall be a liquid sealant as specified. Installation of joint seal shall be as specified for sealing joints or as directed. If the joint sealant reservoir has been sawed out, the reservoir and as much of the lower saw cut as possible shall be filled with epoxy resin, Type IV, Grade 2, thoroughly tooled into the void using approved procedures. If only the original narrow saw cut has been made, it shall be cleaned and pressure injected with epoxy resin, Type IV, Grade 1, using approved procedures. If filler type material has been used to form a weakened plane in the transverse joint, it shall be completely sawed out and the saw cut pressure injected with epoxy resin, Type IV, Grade 1, using approved procedures. Where a parallel crack goes part way across paving lane and then intersects and follows the original joint which is cracked only for the remained of the width, it shall be treated as specified above for a parallel crack, and the cracked original joint shall be prepared and sealed as originally designed.

(2) Full Depth Cracks Present, Original Joint Also Cracked. At a joint, if there is any place in the lane width where a parallel crack and a cracked portion of the original joint overlap, the entire slab containing the crack shall be removed and replaced for the full lane width and length.

e. Removal and Replacement of Full Slabs. Where it is necessary to remove full slabs, unless there are keys or dowels present, all edges of the slab shall be cut full depth with a concrete saw. All saw cuts shall be perpendicular to the slab surface. If keys, dowels, or tie bars are present along any edges, these edges shall be sawed full depth 24 inches (150 mm) from the edge if only keys are present, or just beyond the end of the dowels or tie bars if they are present. These joints shall then be carefully sawed on the joint line to within 1 inch (25 mm) of the depth of the dowel or key.

The main slab shall be further divided by sawing full depth, at appropriate locations, and each piece lifted out and removed. Suitable equipment shall be used to provide a truly vertical lift, and approved safe lifting devices used for attachment to the slabs. The narrow strips along keyed or doweled edges shall be carefully broken up and removed using light, hand-held jackhammers, 30 LB (14 kg) or less, or other approved similar equipment.

Care shall be taken to prevent damage to the dowels, tie bars, or keys or to concrete to remain in place. The joint face below keys or dowels shall be suitably trimmed so that there is not abrupt offset in any

direction greater than 1/2 inch (12 mm) and no gradual offset greater than 1 inch (25 mm) when tested in a horizontal direction with a 12-foot (3.6 m) straightedge.

No mechanical impact breakers, other than the above hand-held equipment shall be used for any removal of slabs. If underbreak between 1-1/2 and 4 inches (37 and 100 mm) deep occurs at any point along any edge, the area shall be repaired as directed before replacing the removed slab. Procedures directed will be similar to those specified for surface spalls, modified as necessary.

If underbreak over 4 inches (100 mm) deep occurs, the entire slab containing the underbreak shall be removed and replaced. Where there are no dowels, tie bars, or keys on an edge, or where they have been damaged, dowels of the size and spacing as specified for other joints in similar pavement shall be installed by epoxy grouting them into holes drilled into the existing concrete using procedures as specified. Original damaged dowels or tie bars shall be cut off flush with the joint face. Protruding portions of dowels shall be painted and lightly oiled. All 4 edges of the new slab shall thus contain dowels or original keys or original tie bars.

Placement of concrete shall be as specified for original construction. Prior to placement of new concrete, the underlying material (unless it is stabilized) shall be re-compacted and shaped as specified in the appropriate SECTION of these specifications. The surfaces of all four joint faces shall be cleaned of all loose material and contaminants and coated with a double application of membrane forming curing compound as bond breaker. Care shall be taken to prevent any curing compound from contacting dowels or tie bars. The resulting joints around the new slab shall be prepared and sealed as specified for original construction.

f. Repairing Spalls Along Joints. Where directed, spalls along joints of new slabs, and along parallel cracks used as replacement joints, shall be repaired by first making a vertical saw cut at least 1 inch (25 mm) outside the spalled area and to a depth of at least 2 inches (50 mm). Saw cuts shall be straight lines forming rectangular areas. The concrete between the saw cut and the joint, or crack, shall be chipped out to remove all unsound concrete and at least 1/2 inch (12 mm) of visually sound concrete. The cavity thus formed shall be thoroughly cleaned with high-pressure water jets supplemented with compressed air to remove all loose material. Immediately before filling the cavity, a prime coat of epoxy resin, Type III, Grade I, shall be applied to the dry cleaned surface of all sides and bottom of the cavity, except any joint face. The prime coat shall be applied in a thin coating and scrubbed into the surface with a stiff-bristle brush. Pooling of epoxy resin shall be avoided. The cavity shall be filled with low slump Portland cement concrete or mortar or with epoxy resin concrete or mortar. Concrete shall be used for larger spalls, generally those more than 1/2 cu. ft. (0.014 m3) in size, and mortar SHALL BE USED FOR THE SMALLER ONES. ANY SPALL LESS THAN 0.1 CU. FT. (O.OO3 m3) shall be repaired only with epoxy resin mortar or a Grade III epoxy resin. Portland cement concrete and mortar mixtures shall be proportioned as directed and shall be mixed, placed, consolidated, and cured as directed. Epoxy resin mortars shall be made with Type III, Grade 1, epoxy resin, using proportions and mixing and placing procedures as recommended by the manufacturer and approved by the Engineer. The epoxy resin materials shall be placed in the cavity in layers not over 2 inches (50 mm) thick. The time interval between placement of additional layers shall be such that the temperature of the epoxy resin material does not exceed 140oF (60oC) at any time during hardening. Mechanical vibrators and hand tampers shall be used to consolidate the concrete or mortar. Any repair material on the surrounding surfaces of the existing concrete shall be removed before it hardens. Where the spalled area abuts a joint, an insert or other bond-breaking medium shall be used to prevent bond at the joint face. A reservoir for the joint sealant shall be sawed to the dimensions required for other joints, or as required to be routed for cracks. The reservoir shall be thoroughly cleaned and sealed with the sealer specified for the joints. If any spall penetrates half the depth of the slab or more, the entire slab shall be removed and replaced as previously specified.

501-4.20 EXISTING CONCRETE PAVEMENT REMOVAL AND REPAIR.

All operations shall be carefully controlled to prevent damage to the concrete pavement and to the underlying material to remain in place. All saw cuts shall be made perpendicular to the slab surface.

a. Removal of Existing Pavement Slab.

When it is necessary to remove existing concrete pavement and leave adjacent concrete in place, the joint between the removal area and adjoining pavement to stay in place, **including dowels, tie bars or keys**, shall first be cut full depth with a standard diamond-type concrete saw. **If dowels are present at this joint, the saw cut shall be made full depth just beyond the end of dowels. The edge shall then be carefully sawed on the joint line to within 1 inch (25 mm) of the top of the dowel.** Next, a full depth saw cut shall be made parallel to the joint at least 24 inches (600 mm) from the joint and at least 12 inches (300 mm) from the end of any dowels. All pavement between this last saw cut and the joint line shall be carefully broken up and removed using hand-held jackhammers, 30 lb. (14 kg) or less, or the approved light-duty equipment which will not cause stress to propagate across the joint saw cut and cause distress in the pavement which is to remain in place. **Where dowels are present, care shall be taken to produce an even, vertical joint face below the dowels. If the Contractor is unable to produce such a joint face, or if underbreak or other distress occurs, the Contractor shall saw the dowels flush with the joint. The Contractor shall then install new dowels, of the size and spacing used for other similar joints, by epoxy resin bonding them in holes drilled in the joint face as specified in paragraph "Placing dowels and Tie-bars. All this shall be at no additional cost to the Owner.** The joint face shall be sawed or otherwise trimmed so that there is no abrupt offset in any direction greater than 1/2-inch (12 mm) and no gradual offset greater than 1 inch (25 mm) when tested in a horizontal direction with a 12 ft. (3.6 m) straightedge.

b. Edge Repair.

The edge of existing concrete pavement against which new pavement abuts shall be protected from damage at all times. Areas that are damaged during construction shall be repaired at not cost to the Owner; repair of previously existing damage areas **will be considered a subsidiary part of concrete pavement construction**.

(1) Spall Repair. Spalls shall be repaired where indicated and where directed. Repair materials and procedures shall be as previously specified in subparagraph "Repairing Spalls Along Joints."

(2) Underbreak Repair. All underbreak shall be repaired. First, all delaminated and loose material shall be carefully removed. Next, the underlying material shall be recompacted, without addition of any new material. Finally, the void shall be completely filled with paving concrete, thoroughly consolidated. Care shall be taken to produce an even joint face from top to bottom. Prior to placing concrete, the underlying material shall be thoroughly moistened. After placement, the exposed surface shall be heavily coated with curing compound.

(3) Underlying Material. The underlying material adjacent to the edge of an under the existing pavement which is to remain in place shall be protected from damage or disturbance during removal operations and until placement of new concrete, and shall be shaped as shown on the drawings or as directed. Sufficient material shall be kept in place outside the joint line to prevent disturbance (or sloughing) of material under the pavement that is to remain in place. Any material under the portion of the concrete pavement to remain in place, which is disturbed or loses its compaction shall be carefully removed and replaced with concrete as specified in paragraph "Underbreak Repair." The underlying material outside the joint line shall be thoroughly compacted and moist when new concrete is placed.

MATERIAL ACCEPTANCE

501-5.1 ACCEPTANCE SAMPLING AND TESTING. All acceptance sampling and testing necessary to determine conformance with the requirements specified in this section, with the exception of coring for thickness determination, will be performed by the Engineer at no cost to the Contractor. The Contractor

shall bear the cost of providing curing facilities for the strength specimens, per paragraph 501-5.1a(3), and coring and filling operations, per paragraph 501-5.1b(1).

Testing organizations performing these tests shall meet the requirements of ASTM C 1077. The laboratory accreditation must be current and listed on the accrediting authority's website. All test methods required for acceptance sampling and testing must be listed on the lab accreditation. A copy of the laboratory's current accreditation and accredited test methods shall be submitted to the Engineer prior to start of construction.

Concrete shall be accepted for strength and thickness on a lot basis.

A lot shall consist of:

a day's production not to exceed 4,000 square yards (3,350 square meters).

a. Flexural Strength.

(1) Sampling. Each lot shall be divided into four equal sublots. One sample shall be taken for each sublot from the plastic concrete delivered to the job site. Sampling locations shall be determined by the Engineer in accordance with random sampling procedures contained in ASTM D 3665. The concrete shall be sampled in accordance with ASTM C 172.

(2) Testing. Two (2) specimens shall be made from each sample. Specimens shall be made in accordance with ASTM C 31 and the flexural strength of each specimen shall be determined in accordance with ASTM C 78. The flexural strength for each sublot shall be computed by averaging the results of the two test specimens representing that sublot.

Immediately prior to testing for flexural strength, the beam shall be weighed and measured for determination of a sample unit weight. Measurements shall be made for each dimension; height, depth, and length, at the mid-point of the specimen and reported to the nearest tenth of an inch. The weight of the specimen shall be reported to the nearest 0.1 pound. The sample unit weight shall be calculated by dividing the sample weight by the calculated volume of the sample. This information shall be reported as companion information to the measured flexural strength for each specimen.

The samples will be transported while in the molds. The curing, except for the initial cure period, will be accomplished using the immersion in saturated lime water method.

Slump, air content, and temperature tests will also be conducted by the quality assurance laboratory for each set of strength test samples, per ASTM C 31.

(3) Curing. The Contractor shall provide adequate facilities for the initial curing of beams. During the 24 hours after molding, the temperature immediately adjacent to the specimens must be maintained in the range of 60 to 80 degrees F (16 to 27 degrees C), and loss of moisture from the specimens must be prevented. The specimens may be stored in tightly constructed wooden boxes, damp sand pits, temporary buildings at construction sites, under wet burlap in favorable weather, or in heavyweight closed plastic bags, or using other suitable methods, provided the temperature and moisture loss requirements are met.

(4) Acceptance. Acceptance of pavement for flexural strength will be determined by the Engineer in accordance with paragraph 501-5.2b.

b. Pavement Thickness.

(1) Sampling. Each lot shall be divided into four equal sublots and one core shall be taken by the Contractor for each sublot. Sampling locations shall be determined by the Engineer in accordance

with random sampling procedures contained in ASTM D 3665. Areas, such as thickened edges, with planned variable thickness, shall be excluded from sample locations.

Cores shall be neatly cut with a core drill. The Contractor shall furnish all tools, labor, and materials for cutting samples and filling the cored hole. Core holes shall be filled by the Contractor with a non-shrink grout approved by the Engineer within one day after sampling.

(2) Testing. The thickness of the cores shall be determined by the Engineer by the average caliper measurement in accordance with ASTM C 174.

(3) Acceptance. Acceptance of pavement for thickness shall be determined by the Engineer in accordance with paragraph 501-5.2c.

c. Partial Lots. When operational conditions cause a lot to be terminated before the specified number of tests have been made for the lot, or when the Contractor and Engineer agree in writing to allow overages or minor placements to be considered as partial lots, the following procedure will be used to adjust the lot size and the number of tests for the lot.

Where three sublots have been produced, they shall constitute a lot. Where one or two sublots have been produced, they shall be incorporated into the next lot or the previous lot and the total number of sublots shall be used in the acceptance criteria calculation, i.e., n=5 or n=6.

d. Outliers. All individual flexural strength tests within a lot shall be checked for an outlier (test criterion) in accordance with ASTM E 178, at a significance level of 5 percent. Outliers shall be discarded, and the PWL shall be determined using the remaining test values.

501-5.2 ACCEPTANCE CRITERIA.

a. General. Acceptance will be based on the following characteristics of the completed pavement:

(1) Flexural strength
(2) Thickness
(3) Smoothness
(4) Grade
(5) Edge slump
(6) Dowel bar alignment

Flexural strength and thickness shall be evaluated for acceptance on a lot basis using the method of estimating percentage of material within specification limits (PWL). Acceptance using PWL considers the variability (standard deviation) of the material and the testing procedures, as well as the average (mean) value of the test results to calculate the percentage of material that is above the lower specification tolerance limit (L).

Acceptance for flexural strength will be based on the criteria contained in accordance with paragraph 501-5.2e(1). Acceptance for thickness will be based on the criteria contained in paragraph 501-5.2e(2). Acceptance for smoothness will be based on the criteria contained in paragraph 501-5.2e(3). Acceptance for grade will be based on the criteria contained in paragraph 501-5.2e(4).

The Engineer may at any time, not withstanding previous plant acceptance, reject and require the Contractor to dispose of any batch of concrete mixture which is rendered unfit for use due to contamination, segregation, or improper slump. Such rejection may be based on only visual inspection. In the event of such rejection, the Contractor may take a representative sample of the rejected material in the presence of the Engineer, and if it can be demonstrated in the laboratory, in the presence of the Engineer, that such material was erroneously rejected, payment will be made for the material at the contract unit price.

b. Flexural Strength. Acceptance of each lot of in-place pavement for flexural strength shall be based on PWL. The Contractor shall target production quality to achieve 90 PWL or higher.

c. Pavement Thickness. Acceptance of each lot of in-place pavement shall be based on PWL. The Contractor shall target production quality to achieve 90 PWL or higher.

d. Percentage of Material Within Limits (PWL). The percentage of material within limits (PWL) shall be determined in accordance with procedures specified in Section 110 of the General Provisions.

The lower specification tolerance limit (L) for flexural strength and thickness shall be:

Lower Specification Tolerance Limit (L)

Flexural Strength	0.93 × strength specified in paragraph 501-3.1
Thickness	Lot Plan Thickness in inches – 0.50 inches

e. Acceptance Criteria.

(1) Flexural Strength. If the PWL of the lot equals or exceeds 90 percent, the lot shall be acceptable. Acceptance and payment for the lot shall be determined in accordance with paragraph 501-8.1.

(2) Thickness. If the PWL of the lot equals or exceeds 90 percent, the lot shall be acceptable. Acceptance and payment for the lot shall be determined in accordance with paragraph 501-8.1.

(3) Smoothness. As soon as the concrete has hardened sufficiently, the pavement surface shall be tested with a 16-foot (5 m) straightedge or other specified device. Surface smoothness deviations shall not exceed 1/4 inch (6 mm) from a 16-foot (5 m) straightedge placed in any direction, including placement along and spanning any pavement joint edge.

Areas in a slab showing high spots of more than 1/4 inch (6 mm) but not exceeding 1/2 inch (13 mm) in 16 feet (5 m) shall be marked and immediately ground down with an approved grinding machine to an elevation that will fall within the tolerance of 1/4 inch (6 mm) or less. Where the departure from correct cross section exceeds 1/2 inch (13 mm), the pavement shall be removed and replaced at the expense of the Contractor when so directed by the Engineer.

(4) Grade. An evaluation of the surface grade shall be made by the Engineer for compliance to the tolerances contained below. The finish grade will be determined by running levels at intervals of 50 ft (15.2 m) or less longitudinally and all breaks in grade transversely (not to exceed 50 ft) to determine the elevation of the completed pavement. The Contractor shall pay the costs of surveying the level runs, and this work shall be performed by a licensed surveyor. The documentation, stamped and signed by a licensed surveyor, shall be provided by the Contractor to the Engineer.

Lateral Deviation. Lateral deviation from established alignment of the pavement edge shall not exceed plus or minus 0.10 foot (30 mm) in any lane.

Vertical Deviation. Vertical deviation from established grade shall not exceed plus or minus 0.04 foot (12 mm) at any point.

(5) Edge Slump. When slip-form paving is used, not more than 15 percent of the total free edge of each 500 foot (150 m) segment of pavement, or fraction thereof, shall have an edge slump exceeding 1/4-inch (6 mm), and none of the free edge of the pavement shall have an edge slump exceeding 3/8-inch (10 mm). (The total free edge of 500 feet (150 m) of pavement will be considered the

cumulative total linear measurement of pavement edge originally constructed as nonadjacent to any existing pavement; i.e., 500 feet (150 m) of paving lane originally constructed as a separate lane will have 1,000 feet (300 m) of free edge, 500 feet (150 m) of fill-in lane will have no free edge, etc.). The area affected by the downward movement of the concrete along the pavement edge shall be limited to not more than 18 inches (457 mm) from the edge. When excessive edge slump cannot be corrected before the concrete has hardened, the area with excessive edge slump shall be removed and replaced at the expense of the Contractor when so directed by the Engineer.

(6) Dowel Bar Alignment. Dowel bars and assemblies shall be checked for position and alignment. The maximum permissible tolerance on dowel bar alignment in each plane, horizontal and vertical, shall not exceed 2 percent or 1/4 inch per foot (20 mm per meter) of a dowel bar. Vertical alignment of dowels shall be measured parallel to the designed top surface of the pavement, except for those across the crown or other grade change joints. Dowels across crowns and other joints at grade changes, shall be measured to a level surface. Horizontal alignment shall be checked perpendicular to the joint edge.

f. Removal and Replacement of Concrete. Any area or section of concrete that is removed and replaced shall be removed and replaced back to planned joints. The Contractor shall replace damaged dowels and the requirements for doweled longitudinal construction joints in paragraph 501-4.10 shall apply to all contraction joints exposed by concrete removal. Removal and replacement shall be in accordance with paragraph 501-4.19 of this specification.

CONTRACTOR QUALITY CONTROL

501-6.1 QUALITY CONTROL PROGRAM. The Contractor shall develop a Quality Control Program in accordance with Section 100 of the General Provisions. The program shall address all elements that effect the quality of the pavement including but not limited to:

a. Mix Design	**e.** Proportioning	**i.** Dowel Placement and Alignment
b. Aggregate Gradation	**f.** Mixing and Transportation	**j.** Flexural or Compressive Strength
c. Quality of Materials	**g.** Placing and Consolidation	**k.** Finishing and Curing
d. Stockpile Management	**h.** Joints	**l.** Surface Smoothness

501-6.2 QUALITY CONTROL TESTING. The Contractor shall perform all quality control tests necessary to control the production and construction processes applicable to this specification and as set forth in the Quality Control Program. The testing program shall include, but not necessarily be limited to, tests for aggregate gradation, aggregate moisture content, slump, and air content.

A Quality Control Testing Plan shall be developed as part of the Quality Control Program.

a. Fine Aggregate.

(1) Gradation. A sieve analysis shall be made at least twice daily in accordance with ASTM C 136 from randomly sampled material taken from the discharge gate of storage bins or from the conveyor belt.

(2) Moisture Content. If an electric moisture meter is used, at least two direct measurements of moisture content shall be made per week to check the calibration. If direct measurements are made in lieu of using an electric meter, two tests shall be made per day. Tests shall be made in accordance with ASTM C 70 or ASTM C 566.

b. Coarse Aggregate.

(1) Gradation. A sieve analysis shall be made at least twice daily for each size of aggregate. Tests shall be made in accordance with ASTM C 136 from randomly sampled material taken from the discharge gate of storage bins or from the conveyor belt.

(2) Moisture Content. If an electric moisture meter is used, at least two direct measurements of moisture content shall be made per week to check the calibration. If direct measurements are made in lieu of using an electric meter, two tests shall be made per day. Tests shall be made in accordance with ASTM C 566.

c. Slump. Four slump tests shall be performed for each lot of material produced in accordance with the lot size defined in Section 501-5.1. One test shall be made for each sublot. Slump tests shall be performed in accordance with ASTM C 143 from material randomly sampled from material discharged from trucks at the paving site. Material samples shall be taken in accordance with ASTM C 172.

d. Air Content. Four air content tests, shall be performed for each lot of material produced in accordance with the lot size defined in Section 501-5.1. One test shall be made for each sublot. Air content tests shall be performed in accordance with ASTM C 231 for gravel and stone coarse aggregate and ASTM C 173 for slag or other porous coarse aggregate, from material randomly sampled from trucks at the paving site. Material samples shall be taken in accordance with ASTM C 172.

e. Four unit weight and yield tests shall be made in accordance with ASTM C 138. The samples shall be taken in accordance with ASTM C 172 and at the same time as the air content tests.

501-6.3 CONTROL CHARTS. The Contractor shall maintain linear control charts for fine and coarse aggregate gradation, slump, and air content.

Control charts shall be posted in a location satisfactory to the Engineer and shall be kept up to date at all times. As a minimum, the control charts shall identify the project number, the contract item number, the test number, each test parameter, the Action and suspension Limits, or Specification limits, applicable to each test parameter, and the Contractor's test results. The Contractor shall use the control charts as part of a process control system for identifying potential problems and assignable causes before they occur. If the Contractor's projected data during production indicates a potential problem and the Contractor is not taking satisfactory corrective action, the Engineer may halt production or acceptance of the material.

a. Fine and Coarse Aggregate Gradation. The Contractor shall record the running average of the last five gradation tests for each control sieve on linear control charts. Specification limits contained in Tables 1 and 2 shall be superimposed on the Control Chart for job control.

b. Slump and Air Content. The Contractor shall maintain linear control charts both for individual measurements and range (i.e. difference between highest and lowest measurements) for slump and air content in accordance with the following Action and Suspension Limits.

CONTROL CHART LIMITS			
Control Parameter	Individual Measurements		Range Suspension Limit
	Action Limit	Suspension Limit	
Slip Form:			
Slump	+0 to -1 inch (0-25mm)	+0.5 to -1.5 inch (13-38mm)	+/- 1.5 inch (38 mm)
Air Content	+/- 1.2%	+/- 1.8%	+/- 2.5%
Fixed Form			
Slump	+ 0.5 to -1 inch (13-25mm)	+1 to -1.5 inch (25-38mm)	+/- 1.5 inch (38mm)
Air Content	+/- 1.2%	+/- 1.8%	+/- 2.5%

The individual measurement control charts shall use the mix design target values as indicators of central tendency.

501-6.4 CORRECTIVE ACTION. The Contractor Quality Control Program shall indicate that appropriate action shall be taken when the process is believed to be out of control. The Contractor Quality Control Program shall detail what action will be taken to bring the process into control and shall contain sets of rules to gauge when a process is out of control. As a minimum, a process shall be deemed out of control and corrective action taken if any one of the following conditions exists.

a. Fine and Coarse Aggregate Gradation. When two consecutive averages of five tests are outside of the Tables 1 or 2 specification limits, immediate steps, including a halt to production, shall be taken to correct the grading.

b. Fine and Coarse Aggregate Moisture Content. Whenever the moisture content of the fine or coarse aggregate changes by more than 0.5 percent, the scale settings for the aggregate batcher(s) and water batcher shall be adjusted.

c. Slump. The Contractor shall halt production and make appropriate adjustments whenever:

(1) one point falls outside the Suspension Limit line for individual measurements or range; or
(2) two points in a row fall outside the Action Limit line for individual measurements.

d. Air Content. The Contractor shall halt production and adjust the amount of air-entraining admixture whenever:

(1) one point falls outside the Suspension Limit line for individual measurements or range; or
(2) two points in a row fall outside the Action Limit line for individual measurements.

Whenever a point falls outside the Action Limits line, the air-entraining admixture dispenser shall be calibrated to ensure that it is operating correctly and with good reproducibility.

METHOD OF MEASUREMENT

501-7.1 Portland cement concrete pavement shall be measured by the number of **square yards (square meters)** of either plain or reinforced pavement as specified in-place, completed and accepted. Saw-cut grooving shall be measured by the number of square yards (square meters) of saw-cut grooving as specified in-place, completed and accepted.

BASIS OF PAYMENT

501-8.1 PAYMENT. Payment for concrete pavement meeting all acceptance criteria as specified in paragraph 501-5.2 Acceptance Criteria shall be based on results of strength and thickness tests.

Payment for acceptable lots of concrete pavement shall be adjusted in accordance with paragraph 501-8.1a for strength and thickness and 501-8.1c for smoothness, subject to the limitation that:

The total project payment for concrete pavement shall not exceed **100** percent of the product of the contract unit price and the total number of **square yards (square meters)** of concrete pavement used in the accepted work (See Note 2 under Table 3).

Payment shall be full compensation for all labor, materials, tools, equipment, and incidentals required to complete the work as specified herein and on the drawings, except for saw-cut grooving.

a. Basis of Adjusted Payment. The pay factor for each individual lot shall be calculated in accordance with Table 3. A pay factor shall be calculated for both flexural strength and thickness. The lot pay factor shall be the higher of the two values when calculations for both flexural strength and thickness are 100 percent or higher. The lot pay factor shall be the product of the two values when only one of the calculations for either flexural strength or thickness is 100 percent or higher. The lot pay factor shall be the lower of the two values when calculations for both flexural strength and thickness are less than 100 percent .

TABLE 3. PRICE ADJUSTMENT SCHEDULE [1]

Percentage of Material Within Specification Limits (PWL)	Lot Pay Factor (Percent of Contract Unit Price)
96 – 100	106
90 – 95	PWL + 10
75 – 90	0.5PWL + 55
55 – 74	1.4PWL – 12
Below 55	Reject [2]

[1] ALTHOUGH IT IS THEORETICALLY POSSIBLE TO ACHIEVE A PAY FACTOR OF 106 PERCENT FOR EACH LOT, ACTUAL PAYMENT IN EXCESS OF 100 PERCENT SHALL BE SUBJECT TO THE TOTAL PROJECT PAYMENT LIMITATION SPECIFIED IN PARAGRAPH 501-8.1.

[2] The lot shall be removed and replaced. However, the Engineer may decide to allow the rejected lot to remain. In that case, if the Engineer and Contractor agree in writing that the lot shall not be removed, it shall be paid for at 50 percent of the contract unit price AND THE TOTAL PROJECT PAYMENT LIMITATION SHALL BE REDUCED BY THE AMOUNT WITHHELD FOR THE REJECTED LOT.

For each lot accepted, the adjusted contract unit price shall be the product of the lot pay factor for the lot and the contract unit price. Payment shall be subject to the total project payment limitation specified in paragraph 501-8.1. Payment in excess of 100 percent for accepted lots of concrete pavement shall be used to offset payment for accepted lots of concrete pavement that achieve a lot pay factor less than 100 percent.

b. Payment. Payment shall be made under:

Item P-501-8.1a Portland Cement Concrete Pavement—per square yard (square meter)

c. Basis of adjusted payment for Smoothness. Price adjustment for pavement smoothness will apply to the total area of concrete within a section of pavement and shall be applied in accordance the following equation and schedule:

(Sq yds in section) x (original unit price per sq yds) x PFm =
= reduction in payment for area within section

Average Profile Index (Inches per mile) pavement strength rating			Contract Unit Price Adjustment
over 30,000 lb	30,000 lb or less	Short Sections	PFm
0 - 7	0 - 10	0 - 15	0.00
7.1 - 9	10.1 - 11	15.1 - 16	0.02
9.1 - 11	11.1 - 12	16.1 - 17	0.04
11.1 - 13	12.1 - 13	17.1 - 18	0.06
13.1 - 14	13.1 - 14	18.1 - 20	0.08
14.1 - 15	14.1 - 15	20.1 - 22	0.10
15.1 & up	15.1 & up	22.1 & up	corrective work required

TESTING REQUIREMENTS

ASTM C 31	Making and Curing Concrete Test Specimens in the Field
ASTM C 39	Compressive Strength of Cylindrical Concrete Specimens
ASTM C 70	Surface Moisture in Fine Aggregate
ASTM C 78	Test for Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)
ASTM C 88	Test for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C 131	Test for Resistance to Abrasion of Small Size Coarse Aggregate by Use of the Los Angeles Machine
ASTM C 136	Sieve Analysis of Fine and Coarse Aggregates
ASTM C 138	Test for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
ASTM C 143	Test for Slump of Hydraulic Cement Concrete
ASTM C 172	Sampling Freshly Mixed Concrete
ASTM C 173	Test for Air Content of Freshly Mixed Concrete by the Volumetric Method
ASTM C 174	Measuring Thickness of Concrete Elements Using Drilled Concrete Cores
ASTM C 227	Potential Alkali Reactivity of Cement-Aggregate Combinations (Mortar-Bar Method)
ASTM C 231	Test for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C 289	Potential Alkali-Silica Reactivity of Aggregates (Chemical Method)
ASTM C 295	Petrographic Examination of Aggregates for Concrete
ASTM C 114	Chemical Analysis of Hydraulic Cement
ASTM C 535	Test for Resistance to Degradation of Large-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C 566	Total Evaporable Moisture Content of Aggregates by Drying

ASTM C 642	Test for Density, Absorption, and Voids in Hardened Concrete
ASTM C 666	Resistance of Concrete to Rapid Freezing and Thawing
ASTM C 1077	Standard Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction And Criteria for Laboratory Evaluation
ASTM C 1260	Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)
ASTM D 3665	Random Sampling of Paving Materials
ASTM D 4791	Test Method for Flat or Elongated Particles in Coarse Aggregate
ASTM E 178	Practice for Dealing With Outlying Observations
ASTM E 1274	Test for Measuring Pavement Roughness Using a Profilograph
AASHTO T 26	Quality of Water to be Used in Concrete

MATERIAL REQUIREMENTS

ASTM A 184	Specification for Fabricated Deformed Steel Bar Mats for Concrete Reinforcement
ASTM A 185	Specification for Steel Welded Wire Fabric, Plain, for Concrete Reinforcement
ASTM A 497	Specification for Steel Welded Wire Fabric, Deformed, for Concrete Reinforcement
ASTM A 615	Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
ASTM A 704	Specification for Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement
ASTM A 714	Specification for High-Strength Low-Alloy Welded and Seamless Steel Pipe
ASTM A 996	Specification for Rail-Steel and Axle Steel Deformed Bars for Concrete Reinforcement
ASTM C 33	Specification for Concrete Aggregates
ASTM C 94	Specification for Ready-Mixed Concrete
ASTM C 150	Specification for Portland Cement
ASTM C 171	Specification for Sheet Materials for Curing Concrete
ASTM C 260	Specification for Air-Entraining Admixtures for Concrete
ASTM C 309	Specification for Liquid Membrane-Forming Compounds for Curing Concrete
ASTM C 494	Specification for Chemical Admixtures for Concrete
ASTM C 595	Specification for Blended Hydraulic Cements
ASTM C 618	Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete

ASTM C 881	Specification for Epoxy-Resin Base Bonding System for Concrete
ASTM C 989	Specification for Ground Granulated Blast-Furnace Slag for Use in Concrete and Mortars
ASTM D 1751	Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types)
ASTM D 1752	Specification for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving And Structural Construction
ACI 305R	Hot Weather Concreting
ACI 306R	Cold Weather Concreting
ACI 309	Guide for Consolidation of Concrete

MIL-DTL-24441/20a(1999)_Paint, Epoxy-Polyamide, Green Primer, Formula 150, Type III
Department of Defense

END ITEM P-501

ITEM P-605 JOINT SEALING FILLER is hereby amended with respect to the paragraphs and sections cited below.

Add the following to Section 605-1.1 as noted:

This item shall also consist of the cleaning and sealing of cracks and joints in existing concrete pavement, at the locations shown in the plans or as directed by the Engineer.

Add the following to Section 605-2 as noted:

605-2.2 CRACK SEALERS. ***Crack sealing materials shall meet the requirements of*** ASTM D 5893, Type SL.

605-2.3 ***BACKER ROD. Backer rod shall meet the requirements of ASTM D 5249 and shall be both non-reactive and non-adhesive to the concrete and the sealant material..***

Add the following to the end of Section 605-3.1 as noted:

Prior to beginning the sealing operation, the Contractor shall have the sealant supplier demonstrate, to the satisfaction of the Engineer, the cleaning and installation procedures for the joint sealant to be installed on the project.

Replace the title of Section 605-3.2 PREPARATION OF JOINTS as noted:

605-3.2-1 PREPARATION OF JOINTS IN NEW PAVEMENT

Add the following to the end of Section 605-3.2 as noted:

605-3.2-2 PREPARATION OF JOINT/CRACK REPAIRS IN EXISTING PAVEMENT

a. Cleaning and Sealing of Cracks. ***Removal of any vegetation, dirt, loose materials, and deteriorated sealant from the cracks shall be accomplished by routing. Cracks shall be routed so that the exposed face of the crack is enlarged to a width of 1/2" and to a depth as detailed in the sealant manufacturer's recommendations. Other methods of crack cleaning and preparation may be used with the approval of the Engineer.***

b. Cleaning and Sealing of Joints. ***Removal of any vegetation, dirt, loose materials, and deteriorated sealant from existing joints shall be accomplished via the use of a high temperature compressed air lance. Existing joint sealant which is deteriorated shall be removed as directed by the Engineer. The high velocity hot air shall be not less than 2,000 °F in temperature. The air lance shall operate in a no flame impingment condition and shall have a directional controlled velocity of 330-fps minimum and a combustion temperature at ignition of no less than 2,000 °F. Other methods of joint cleaning and preparation may be used with the approval of the Engineer.***

If vegetation is a problem a soil sterilant shall be applied. Soil sterilants shall contain Bromacil or Prometone and shall be approved by the Engineer. Application rates shall be in accordance with the manufacturer's recommendations.

When the cracks/joints are thoroughly dry, and just prior to sealant placement, both vertical faces shall be cleaned by sandblasting with a nozzle attached to an aiming device that directs the sand blast at approximately a 45 degree angle and a maximum of two inches from the face of the crack/joint. Each crack/joint face shall be sandblasted individually. After sandblasting, compressed air shall be used to blow out the crack/joint and remove all residual dust. Air compressors shall be equipped with suitable traps capable of removing all free water and oil from

the compressed air and shall be capable of furnishing air with a pressure greater than 90 psi. The cracks/joints shall be thoroughly dry before the sealant is placed.

All cracks/joints shall be sealed the same day of the final sandblasting. Cleaned cracks/joints left open overnight or cracks/joints which become contaminated before sealing shall be re-cleaned as specified above.

Replace Section 605-4.1 as noted:

605-4.1 Concrete Crack Repair will be measured by the linear foot acceptably cleaned and sealed at the locations shown in the plans and as directed by the Engineer.

605-4.2 Concrete Joint Repair will be measured by the linear foot acceptably cleaned and sealed at the locations shown in the plans and as directed by the Engineer.

Replace Section 605-5.1 as noted:

605-5.1 Work completed and accepted under this item will be paid for at the contract unit price per linear foot, which price shall be full compensation for furnishing all labor, tools, equipment, materials, and incidentals necessary to complete the work.

Payment will be made under:

Item P-605-5.1 Concrete Joint Clean and Seal – per linear foot

When used as a component of new concrete pavement, payment for joint sealing material shall be considered subsidiary to the items in which it is a component.

END OF MOD P-605

ITEM P-605 JOINT SEALING FILLER

DESCRIPTION

605-1.1 This item shall consist of providing and installing a resilient and adhesive joint sealing filler capable of effectively sealing joints and cracks in pavements.

MATERIALS

605-2.1 JOINT SEALERS. Joint sealing materials shall meet the requirements of **ASTM D 5893, Type SL.**

Each lot or batch of sealing compound shall be delivered to the jobsite in the manufacturer's original sealed container. Each container shall be marked with the manufacturer's name, batch or lot number, the safe heating temperature, and shall be accompanied by the manufacturer's certification stating that the compound meets the requirements of this specification.

CONSTRUCTION METHODS

605-3.1 TIME OF APPLICATION. Joints shall be sealed as soon after completion of the curing period as feasible and before the pavement is opened to traffic, including construction equipment. The pavement temperature shall be above **50°F (10°C)** at the time of installation of the **poured joint sealing material.**

605-3.2 PREPARATION OF JOINTS.

a. Sawing. All joints shall be sawed in accordance with specifications and plan details. Immediately after sawing the joint, the resulting slurry shall be completely removed from joint and adjacent area by flushing with a jet of water, and by use of other tools as necessary.

b. Sealing. Immediately before sealing, the joints shall be thoroughly cleaned of all remaining laitance, curing compound, and other foreign material. Cleaning shall be accomplished by sandblasting. Sandblasting shall be accomplished in a minimum of two passes. One pass per joint face with the nozzle held at an angle directly toward the joint face and not more that 3 inches from it. Upon completion of cleaning, the joints shall be blown out with compressed air free of oil and water. Only air compressors with operable oil and water traps shall be used to prepare the joints for sealing. The joint faces shall be surface dry when the seal is applied.

605-3.3 INSTALLATION OF SEALANTS. Joints shall be inspected for proper width, depth, alignment, and preparation, and shall be approved by the Engineer before sealing is allowed. Sealants shall be installed in accordance with the following requirements:

Cold Applied Sealants. Cold applied joint sealing compound shall be applied by means of pressure equipment that will force the sealing material to the bottom of the joint and completely fill the joint without spilling the material on the surface of the pavement. A backing material shall be placed as shown on the plans and shall be non-adhesive to the concrete or the sealant material. Sealant that does not bond to the concrete surface of the joint walls, contains voids, or fails to set to a tack-free condition will be rejected and replaced by the Contractor at no additional cost. Before sealing the joints, the Contractor shall demonstrate that the equipment and procedures for preparing, mixing, and placing the sealant will produce a satisfactory joint seal. This shall include the preparation of two small batches and the application of the resulting material. Any sealant spilled on the surface of the pavement, structures and/or lighting fixtures, shall be removed immediately.

METHOD OF MEASUREMENT

605-4.1 Joint sealing material shall be measured by the **linear foot (meter)** of sealant in place, completed, and accepted.

BASIS OF PAYMENT

605-5.1 Payment for joint sealing material shall be made at the contract unit price per . The price shall be full compensation for furnishing all materials, for all preparation, delivering, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-605-5.1	Joint Sealing Filler — per gallon (liter)
Item P-605-5.2	Joint Sealing Filler — per pound (kg)

TESTING REQUIREMENTS

ASTM D 412 Test Methods for Vulcanized Rubber and Thermoplastic Elastomers – Tension

ASTM D 1644 Test Methods for Nonvolatile Content of Varnishes

MATERIAL REQUIREMENTS

ASTM D 1854 Jet-Fuel-Resistant Concrete Joint Sealer, Hot-Applied Elastic Type

ASTM D 3406 Joint Sealants, Hot-Applied, Elastomeric-Type, for Portland Cement Concrete Pavements

ASTM D 3569 Joint Sealant, Hot-Applied, Elastometric, Jet-Fuel-Resistant Type, for Portland Cement Concrete Pavements

ASTM D 3581 Joint Sealant, Hot-Applied, Jet-Fuel-Resistant Type, for Portland Cement Concrete and Tar-Concrete Pavements

ASTM D 5893 Standard Specifications for Cold Applied, Single Component, Chemically Curing Silicone Joint Sealant for Portland Cement Concrete Pavements

ASTM D 6690 Joint and Crack Sealants, Hot-Applied, for Concrete and Asphalt Pavements

FED SPEC SS-S-200E(2) Sealants, Joint, Two-Component, Jet-Blast Resistant, Cold Applied

END OF ITEM P-605

ITEM P-620 RUNWAY AND TAXIWAY PAINTING is hereby amended with respect to the paragraphs and sections sited below.

Replace Section 620-3.3 as noted:

620-3.3 PREPARATION OF SURFACE. ***Existing pavement markings are to be removed to the satisfaction of the OWNER in preparation of the layout for the new markings. The specified pavement markings shall be removed without damaging the existing pavement. The methods for removal shall be approved by the Engineer before construction begins. For areas to be repainted, the existing painted surface shall be cleaned by high-pressure water blasting or sand blasting, as required, to remove all foreign material which would reduce the bond between the new paint and the old paint. Use of any chemicals or impact abrasives during surface preparation shall be approved in advance by the Engineer. Grinding of the surface will not be permitted. Removed paint is property of the Contractor and is to be removed from the airport and disposed of by the Contractor according to local regulations and ordinances. Upon completion of paint removal, the surface of the pavement to receive the final markings (at times beyond the limits of the layouts) are to be cleaned and prepared by being free from dirt, grease, oil, laitance, or other foreign material that would reduce the bond between the paint and the pavement. There will be no separate payment for cleaning of the pavement after the marking removal.***

Revise the following paragraph before Table 1 in Section 620-3.5 as noted:

The paint shall be mixed in accordance with the manufacturer's instructions and applied to the pavement with a marking machine at the rate(s) shown in Table 1. The addition of thinner will not be permitted. A period ~~of~~ **recommended by the coal tar sealer manufacturer** shall elapse between placement of a bituminous surface course or seal coat and application of the paint.

Add the following paragraph after Table 1 in Section 620-3.5 as noted:

Pavement markings shall be completed in two applications. The first application shall be at the application rate specified in Table 1 for "First Pass". The second application shall be at the application rate specified in Table 1 for "Second Pass", placed in the opposite direction of the first pass. All glass beads shall only be included in the final application of the pavement markings.

Replace Section 620-4.1 as noted:

620-4.1 The quantity of runway and taxiway markings to be paid for shall be ***the number of square feet (square meters) of painting*** performed in accordance with the specifications and accepted by the Engineer. ***If multiple pavement marking applications are specified, there will be no separate measurement for payment of "First Pass" marking installation, and runway and taxiway markings are to be paid for shall be the number of square feet (square meters) of painting performed in accordance with the specifications and accepted by the Engineer as "Second Pass" markings.***

Add Section 620-4.2 as noted:

620-4.2 Pavement marking removal shall be measured by the lump sum of markings removed in accordance with the specifications and accepted by the Engineer.

Replace Section 620-5.1 as noted:

620-5.1 Payment for marking removal shall be made at the contract lump sum price and shall include furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment shall be made at the respective contract **price per square foot (square meter)** for runway and taxiway painting and **when called for,** reflective media. This price shall be full compensation for **layout of the replaced markings,** furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item.
Payment will be made under:

Item P-620 – 5.1	Retro-reflective Pavement Markings - per Square Foot
Item P-620 – 5.2	Preformed Runway Hold Sign Markings - per Square Foot
Item P-620 – 5.3	Non-reflective Black Outline - per Square Foot
Item P-620 – 5.4	Pavement Marking Removal - per Lump Sum

END OF MOD P-620

ITEM P-620 RUNWAY AND TAXIWAY PAINTING

DESCRIPTION

620-1.1 This item shall consist of the painting of numbers, markings, and stripes on the surface of runways, taxiways, and aprons, in accordance with these specifications and at the locations shown on the plans, or as directed by the Engineer.

MATERIALS

620-2.1 MATERIALS ACCEPTANCE. The Contractor shall furnish manufacturer's certified test reports for materials shipped to the project. The certified test reports shall include a statement that the materials meet the specification requirements. The reports can be used for material acceptance or the Engineer may perform verification testing. The reports shall not be interpreted as a basis for payment. The Contractor shall notify the Engineer upon arrival of a shipment of materials to the site.

620-2.2 PAINT. Paint shall be **Waterborne** in accordance with the requirements of paragraph 620-2.2. Paint shall be furnished in **White (37925), Yellow (33538 or 33655), Red (31136), and Black (37038)** in accordance with Federal Standard No 595.

a. WATERBORNE. Paint shall meet the requirements of Federal Specification TT-P-1952E, **Type III.**

b. EPOXY. Paint shall be a two component, minimum 99 percent solids type system conforming to the following:

(1) Pigments. Component A. Percent by weight.

(a) White:
Titanium Dioxide, ASTM D 476, type II shall be 18 percent minimum (16.5 percent minimum at 100 percent purity).

(b) Yellow and Colors:
Titanium Dioxide, ASTM D 476, type II shall be 14 to 17 percent. Organic yellow, other colors, and tinting as required to meet color standard. Epoxy resin shall be 75 to 79 percent.

(2) Epoxy Content. Component A. The weight per epoxy equivalent, when tested in accordance with ASTM D 1652 shall be the manufacturer's target plus or minus 50.

(3) Amine Number. Component B. When tested in accordance with ASTM D 2074 shall be the manufacturer's target plus or minus 50.

(4) Prohibited Materials. The manufacturer shall certify that the product does not contain mercury, lead, hexavalent chromium, halogenated solvents, nor any carcinogen, as defined in 29 CFR 1910.1200 in amounts exceeding permissible limits as specified in relevant Federal Regulations.

(5) Daylight Directional Reflectance:

(a) White: The daylight directional reflectance of the white paint shall not be less than 75 percent (relative to magnesium oxide), when tested in accordance with Federal Test Method Standard No. 141D/GEN, Method 6121.

(b) Yellow: The daylight directional reflectance of the yellow paint shall not be less than 38 percent (relative to magnesium oxide), when tested in accordance with Federal Test Method Standard No. 141D/GEN. The x and y values shall be consistent with the Federal Hegman yellow color standard chart for traffic yellow standard 33538, or shall be consistent with the tolerance listed below:

x .462	x .470	x .479	x .501
y .438	y .455	y .428	y .452

(6) Accelerated Weathering.

(a) Sample Preparation. Apply the paint at a wet film thickness of 0.013 inch (0.33 mm) to four 3 by 6 inch (8 by 15 cm) aluminum panels prepared as described in Federal Test Method Standard No. 141D/GEN, Method 2013. Air dry the sample 48 hours under standard conditions.

(b) Testing Conditions. Test in accordance with ASTM G 15453 using both Ultra Violet (UV-B) Light and condensate exposure, 72 hours total, alternating 4 hour UV exposure at 60 degree C, and 4 hours condensate exposure at 40 degrees C.

(c) Evaluation. Remove the samples and condition for 24 hours under standard conditions. Determine the directional reflectance and color match using the procedures in paragraph 620-2.2b(5) above. Evaluate for conformance with the color requirements.

(7) Volatile Organic Content. Determine the volatile organic content in accordance with 40 CFR Part 60 Appendix A, Method 24.

(8) Dry Opacity. Use Procedure B, Method B of Method 4121 of Federal Test Method Standard No. 141D/GEN. The wet film thickness shall be 0.015 inch (0.12 mm). The minimum opacity for white and colors shall be 0.92.

(9) Abrasion Resistance. Subject the panels prepared in paragraph 620-2.2b(6) to the abrasion test in accordance with ASTM D 968, Method A, except that the inside diameter of the metal guide tube shall be from 0.747 to 0.750 inch (18.97 to 19.05 mm). Five liters of unused sand shall be used for each test panel. The test shall be run on two test panels. [Note: five liters of sand weighs 17.5 lb. (7.94 kg).] Both baked and weathered paint films shall require not less than 150 liters of sand for the removal of the paint films.

(10) Hardness, Shore. Hardness shall be at least 80 when tested in accordance with ASTM D 2240.

c. METHACRYLATE. Paint shall be a two component, minimum 99 percent solids-type system conforming to the following:

(1) Pigments. Component A. Percent by weight.

(a) White:

Titanium Dioxide, ASTM D 476, type II shall be 6 percent minimum.
Methacrylate resin shall be 18 percent minimum.

(b) Yellow and Colors:

Titanium Dioxide, ASTM D 476, type II shall be 6 percent minimum. Organic yellow, other colors, and tinting as required to meet color standard. Methacrylate resin shall be 18 percent minimum.

(2) Prohibited Materials. The manufacturer shall certify that the product does not contain mercury, lead, hexavalent chromium, halogenated solvents, nor any carcinogen, as defined in 29 CFR 1910.1200 in amounts exceeding permissible limits as specified in relevant Federal Regulations.

(3) Daylight Directional Reflectance:

(a) White: The daylight directional reflectance of the white paint shall not be less than 80 percent (relative to magnesium oxide), when tested in accordance with Federal Test Method Standard No. 141D/GEN, Method 6121.

(b) Yellow: The daylight directional reflectance of the yellow paint shall not be less than 55 percent (relative to magnesium oxide), when tested in accordance with Federal Test Method Standard No. 141D/GEN. The x and y values shall be consistent with the Federal Hegman yellow color standard chart for traffic yellow standard 33538, or shall be consistent with the tolerance listed below:

x .462	x .470	x .479	x .501
y .438	y .455	y .428	y .452

(4) Accelerated Weathering.

(a) Sample Preparation. Apply the paint at a wet film thickness of 0.013 inch (0.33 mm) to four 3 by 6 inch (8 by 15 cm) aluminum panels prepared as described in Method 2013 of Federal Test Method Standard No. 141D/GEN. Air dry the sample 48 hours under standard conditions.

(b) Testing Conditions. Test in accordance with ASTM G 53 154 using both Ultra Violet (UV-B) Light and condensate exposure, 72 hours total, alternating 4 hour UV exposure at 60 degree C, and 4 hours condensate exposure at 40 degrees C.

(c) Evaluation. Remove the samples and condition for 24 hours under standard conditions. Determine the directional reflectance and color match using the procedures in paragraph 620-2.2c(3) above. Evaluate for conformance with the color requirements.

(5) Volatile Organic Content. Determine the volatile organic content in accordance with 40 CFR Part 60 Appendix A, Method 24.

(6) Dry Opacity. Use Procedure B, Method B of Method 4121 of Federal Test Method Standard No. 141D/GEN. The wet film thickness shall be 0.015 inch (0.12 mm). The minimum opacity for white and colors shall be 0.92.

(7) Abrasion Resistance. Subject the panels prepared in paragraph 620-2.2c(4) to the abrasion test in accordance with ASTM D 968, Method A, except that the inside diameter of the metal guide tube shall be from 0.747 to 0.750 inch (18.97 to 19.05 mm). Five liters of unused sand shall be used for each test panel. The test shall be run on two test panels. [Note: five liters of sand weighs 17.5 lb. (7.94 kg).] Both baked and weathered paint films shall require not less than 150 liters of sand for the removal of the paint films.

(8) Hardness, Shore. Hardness shall be at least 80 when tested in accordance with ASTM D 2240.

e. PREFORMED THERMOPLASTIC AIRPORT PAVEMENT MARKINGS. Markings must be composed of ester modified resins in conjunction with aggregates, pigments, and binders that have been factory produced as a finished product. The material must be impervious to degradation by aviation fuels, motor fuels, and lubricants.

(1) The markings must be able to be applied in temperatures down to 35°F without any special storage, preheating, or treatment of the material before application.

(a) The markings must be supplied with an integral, non-reflectorized black border.

(2) Graded Glass Beads.

(a) The material must contain a minimum of thirty percent (30%) intermixed graded glass beads by weight. The intermixed beads shall conform to **Federal Specification. TT-B-1325D, Type IV.**

(b) The material must have factory applied coated surface beads in addition to the intermixed beads at a rate of 1 lb. (± 10%) per 10 sq. ft. These factory applied coated surface beads shall have a minimum of 90% true spheres, minimum refractive index of 1.50, and meet the following gradation.

Size Gradation		Retained, %	Passing, %
US Mesh	µm		
12	1700	0 - 2%	98 - 100%
14	1400	0 - 3.5%	96.5 - 100%
16	1180	2 - 25%	75 - 98%
18	1000	28 - 63%	37 - 72%
20	850	63 - 72%	28 - 37%
30	600	67 - 77%	23 - 33%
50	300	89 - 95%	5 - 11%
80	200	97 - 100%	0 - 3%

(3) Heating Indicators. The top surface of the material (same side as the factory applied surface beads) shall have regularly spaced indents. These indents shall act as a visual cue during application that the material has reached a molten state so satisfactory adhesion and proper bead embedment has been achieved and a post-application visual cue that the installation procedures have been followed.

(4) Pigments. Percent by weight.

(a) White:
Titanium Dioxide, ASTM D 476, type II shall be 10 percent minimum.

(b) Yellow and Colors:
Titanium Dioxide, ASTM D 476, type II shall be 1 percent minimum.
Organic yellow, other colors, and tinting as required to meet color standard.

(5) Prohibited Materials. The manufacturer shall certify that the product does not contain mercury, lead, hexavalent chromium, halogenated solvents, nor any carcinogen as defined in 29 CFR 1910.1200 in amounts exceeding permissible limits as specified in relevant Federal Regulations.

(6) Daylight Directional Reflectance.

(a) White: The daylight directional reflectance of the white paint shall not be less than 75 percent (relative to magnesium oxide), when tested in accordance with Federal Test Method Standard No. 141D/GEN, Method 6121.

(b) Yellow: The daylight directional reflectance of the yellow paint shall not be less than 45 percent (relative to magnesium oxide), when tested in accordance with Federal Test Method Standard

No. 141D/GEN. The x and y values shall be consistent with the Federal Hegman yellow color standard chart for traffic yellow standard 33538, or shall be consistent with the tolerance listed below:

x .462	x .470	x .479	x .501
y .438	y .455	y .428	y .452

(7) Skid Resistance. The surface, with properly applied and embedded surface beads, must provide a minimum resistance value of 45 BPN when tested according to ASTM E303.

(8) Thickness. The material must be supplied at a nominal thickness of 65 mils (1.7 mm).

(9) Environmental Resistance. The material must be resistant to deterioration due to exposure to sunlight, water, salt, or adverse weather conditions and impervious to aviation fuels, gasoline, and oil.

(10) Retroreflectivity. The material, when applied in accordance with manufacturer's guidelines, must demonstrate a uniform level of nighttime retroreflection when tested in accordance to ASTM E1710.

(11) Packaging. A protective film around the box must be applied in order to protect the material from rain or premature aging.

(12) Manufacturing Control and ISO Certification. The manufacturer must be ISO 9001:2000 certified and provide proof of current certification. The scope of the certification shall include manufacture of reflective markings.

a. The markings must be a resilient thermoplastic product with uniformly distributed glass beads throughout the entire cross-sectional area. The markings must be resistant to the detrimental effects of aviation fuels, motor fuels and lubricants, hydraulic fluids, de-icers, anti-icers, protective coatings, etc. Lines, legends, and symbols must be capable of being affixed to bituminous and/or Portland cement concrete pavements by the use of a large radiant heater. Colors shall be available as required.

b. The markings must be capable of conforming to pavement contours, breaks, and faults through the action of airport traffic at normal pavement temperatures. The markings must be capable of fully conforming to grooved pavements, including pavement grooving per FAA AC 150/5320-12, current version. The markings shall have resealing characteristics, such that it is capable of fusing with itself and previously applied thermoplastics when heated with a heat source per manufacturer's recommendation.

c. Multicolored markings must consist of interconnected individual pieces of preformed thermoplastic pavement marking material, which through a variety of colors and patterns, make up the desired design. The individual pieces in each large marking segment (typically more than 20 ft. long) must be factory assembled with a compatible material and interconnected so that in the field it is not necessary to assemble the individual pieces within a marking segment. Obtaining multicolored effect by overlaying materials of different colors is not acceptable due to resulting inconsistent marking thickness and inconsistent application temperature in the marking/substrate interface.

e. The marking material must set up rapidly, permitting the access route to be re-opened to traffic a maximum of 15 minutes after application.

f. The marking material shall have an integral color throughout the thickness of the marking material.

620-2.3 REFLECTIVE MEDIA. Glass beads shall meet the requirements for **Federal Specification TT B 1325D, Type IV**. Glass beads shall be treated with all compatible coupling agents recommended by the manufacturers of the paint and reflective media to ensure adhesion and embedment.

Paint Color	Glass Beads, Type I, Gradation A	Glass Beads, Type III	Glass Beads, Type IV
White	See Table 1.	See Table 1.	See Table 1.
Yellow	See Table 1.	See Table 1.	See Table 1.
Red	See Table 1 and Note.	Not used.	See Table 1 and Note.
Pink	See Table 1 and Note.	Not used.	See Table 1 and Note.
Black	Not used.	Not used.	See Table 1 and Note.

CONSTRUCTION METHODS

620-3.1 WEATHER LIMITATIONS. The painting shall be performed only when the surface is dry and when the surface temperature is at least 45°F (7°C) and rising and the pavement surface temperature is at least 5°F (2.7°C) above the dew point. **Painting operations shall be discontinued when the surface temperature exceeds 95 degrees F (35 degrees C.), or when the wind conditions prevent sharp stripe edge definition.** Markings shall not be applied when the pavement temperature is greater than 120°F.

620-3.2 EQUIPMENT. Equipment shall include the apparatus necessary to properly clean the existing surface, a mechanical marking machine, a bead dispensing machine, and such auxiliary hand-painting equipment as may be necessary to satisfactorily complete the job.

The mechanical marker shall be an atomizing spray-type or airless type marking machine suitable for application of traffic paint. It shall produce an even and uniform film thickness at the required coverage and shall apply markings of uniform cross sections and clear-cut edges without running or spattering and without over spray.

620-3.3 PREPARATION OF SURFACE. Immediately before application of the paint, the surface shall be dry and free from dirt, grease, oil, laitance, or other foreign material that would reduce the bond between the paint and the pavement. The area to be painted shall be cleaned by sweeping and blowing or by other methods as required to remove all dirt, laitance, and loose materials without damage to the pavement surface. Use of any chemicals or impact abrasives during surface preparation shall be approved in advance by the Engineer.

620-3.4 LAYOUT OF MARKINGS. The proposed markings shall be laid out in advance of the paint application. The locations of markings to receive glass beads shall be shown on the plans.

620-3.5 APPLICATION. Paint shall be applied at the locations and to the dimensions and spacing shown on the plans. Paint shall not be applied until the layout and condition of the surface has been approved by the Engineer.

The edges of the markings shall not vary from a straight line more than 1/2 inch (12 mm) in 50 feet (15 m) and marking dimensions and spacings shall be within the following tolerances:

Dimension and Spacing	Tolerance
36 inches (910 mm) or less	±1/2 inch (12 mm)
greater than 36 inches to 6 feet (910 mm to 1.85 m)	± 1 inch (25 mm)
greater than 6 feet to 60 feet (1.85 m to 18.3 m)	± 2 inches (51 mm)
greater than 60 feet (18.3 m)	± 3 inches (76 mm)

The paint shall be mixed in accordance with the manufacturer's instructions and applied to the pavement with a marking machine at the rate(s) shown in Table 1. The addition of thinner will not be permitted. A period of **28 days** shall elapse between placement of a bituminous surface course or seal coat and application of the paint.

TABLE 1. APPLICATION RATES FOR PAINT AND GLASS BEADS

Paint Type	Paint Square feet per gallon, ft^2/gal (Square meters per liter, m^2/l)	Glass Beads, Type I, Gradation A Pounds per gallon of paint—lb./gal. (Kilograms per liter of paint—kg/l)	Glass Beads, Type III Pounds per gallon of paint—lb./gal. (Kilograms per liter of paint—kg/l	Glass Beads, Type IV Pounds per gallon of paint—lb./gal. (Kilograms per liter of paint—kg/)l
Waterborne (First Pass)	**270 ft^2/gal. maximum (2.8 m^2/l)**	--	--	--
Waterborne (Second Pass – Opposite Direction)	**90 ft^2/gal. maximum (2.8 m^2/l)**	--		**8 lb./gal. minimum (1.0 kg/l)**

Glass beads shall be distributed upon the marked areas at the locations shown on the plans to receive glass beads immediately after application of the paint. A dispenser shall be furnished which is properly designed for attachment to the marking machine and suitable for dispensing glass beads. Glass beads shall be applied at the rate(s) shown in Table 1. Glass beads shall not be applied to black paint. Glass beads shall adhere to the cured paint or all marking operations shall cease until corrections are made.

All emptied containers shall be returned to the paint storage area for checking by the Engineer. The containers shall not be removed from the airport or destroyed until authorized by the Engineer.

620-3.6 APPLICATION--PREFORMED AIRPORT PAVEMENT MARKINGS.

a. Asphalt and Portland cement To ensure minimum single-pass application time and optimum bond in the marking/substrate interface, the materials must be applied using a variable speed self-propelled mobile heater with an effective heating width of no less than 16 feet (4.88 m) and a free span between supporting wheels of no less than 18 feet (5.49 m). The heater must emit thermal radiation to the marking material in such a manner that the difference in temperature of 2 inch (5.08 cm) wide linear segments in the direction of heater travel must be within 5 percent of the overall average temperature of the heated thermoplastic material as it exits the heater. The material must be able to be applied at ambient and pavement temperatures down to 35°F (2°C) without any preheating of the pavement to a specific temperature. The material must be able to be applied without the use of a thermometer. The pavement shall be clean, dry, and free of debris. A non-VOC sealer with a maximum applied viscosity of 250 centi-Poise (ASTM D 2393) must be applied to the pavement shortly before the markings are applied. The supplier must enclose application instructions with each box/package.

620-3.7 PROTECTION AND CLEANUP. After application of the paint, all markings shall be protected from damage until the paint is dry. All surfaces shall be protected from excess moisture and/or rain and from disfiguration by spatter, splashes, spillage, or drippings of paint. The Contractor shall remove from the site all debris, waste, loose or unadhered reflective media, and by-products generated by the surface preparation and application operations to the satisfaction of the Engineer. The Contractor shall dispose of these wastes in strict compliance with all applicable state, local, and Federal environmental statutes and regulations.

METHOD OF MEASUREMENT

620-4.1 The quantity of runway and taxiway markings to be paid for shall be **the number of square feet (square meters) of painting** performed in accordance with the specifications and accepted by the Engineer.

BASIS OF PAYMENT

620-5.1 Payment shall be made at the respective contract **price per square foot (square meter)** for runway and taxiway painting and for reflective media. This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-620-5.1	Runway and Taxiway Painting
Item P-620-5.2	Reflective Media

TESTING REQUIREMENTS

ASTM C 136	Sieve Analysis of Fine and Coarse Aggregates
ASTM C 146	Chemical Analysis of Glass Sand
ASTM C 371	Wire-Cloth Sieve Analysis of Nonplastic Ceramic Powders
ASTM D 92	Test Method for Flash and Fire Points by Cleveland Open Cup
ASTM D 711	No-Pick-Up Time of Traffic Paint
ASTM D 968	Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive
ASTM D 1213-54(1975)	Test Method for Crushing Resistance of Glass Spheres
ASTM D 1652	Test Method for Epoxy Content of Epoxy Resins
ASTM D 2074	Test Method for Total Primary, Secondary, and Tertiary Amine Values of Fatty Amines by Alternative Indicator Method
ASTM D 2240	Test Method for Rubber Products-Durometer Hardness
ASTM G 15453	Operating Light and Water-Exposure Apparatus (Fluorescent Light Apparatus UV-Condensation Type) for Exposure of Nonmetallic Materials.
Federal Test Method Standard No. 141D/GEN	Paint, Varnish, Lacquer and Related Materials; Methods of Inspection, Sampling and Testing

MATERIAL REQUIREMENTS

ASTM D 476	Specifications for Dry Pigmentary Titanium Dioxide Pigments Products
Code of Federal Regulations	40 CFR Part 60, Appendix A – Definition of Traverse Point Number and Location
Code of Federal Regulations	29 CFR Part 1910.1200 – Hazard Communications
FED SPEC TT-B-1325D	Beads (Glass Spheres) Retroreflective

AASHTO M 247	Glass Beads Used in Traffic Paints
FED SPEC TT-P-1952E	Paint, Traffic and Airfield Marking, Waterborne
Commercial Item Description (CID) A-A-2886B	Paint, Traffic, Solvent Based
FED STD 595	Colors used in Government Procurement

END OF ITEM P-620

ITEM P-631 REFINED COAL TAR EMULSION WITH ADDITIVES, SLURRY SEAL SURFACE TREATMENT Is hereby amended with respect to the paragraphs and sections cited below.

Replace Section 631-6.2 as noted:

631-6.2 ~~Aggregate shall be measured by the ton (kg) of dry aggregate~~ ***Aggregate shall not be measured for separate payment.***

Replace Section 631-7.1 as noted:

631-7.1 Payment shall be made at the contract unit price per **gallon** for the refined coal tar emulsion with additives including water. ~~and at the contract price per ton (kg) for aggregate~~.

Add Section 631-7.2 as noted:

The aggregate material for refined coal tar emulsion slurry seal shall not be paid for separately, but shall be considered subsidiary to Item P-631-1 "Refined Coal Tar Emulsion with Additives for Slurry Seal Coat"

These prices shall be full compensation for furnishing all materials, preparing, mixing, and applying these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-631-5.1	***Runway 16/34 Refined Coal Tar Emulsion with Additives for Slurry Seal Coat—per Gallon***

END OF MOD P-631

ITEM P-631 REFINED COAL TAR EMULSION WITH ADDITIVES, SLURRY SEAL SURFACE TREATMENT

631-1.1 GENERAL. This item shall consist of a mixture of refined coal tar emulsion, mineral aggregate, additives, and water properly proportioned, mixed and applied as a slurry seal on new or existing (aged) asphalt concrete pavement.

MATERIALS

631-2.1 Refined Coal Tar Emulsion. A refined coal tar emulsion prepared from a high temperature refined coal tar conforming to the requirements of ASTM specification D 490 for grade 11-12. The use of oil and water gas tar is not allowed. Base refined coal tar emulsion must conform to all requirements of Federal Specification R-P-355.

631-2.2 Aggregate. The aggregate shall be washed dry silica sand or boiler slag free of dust, trash, clay, organic materials or other deleterious substances. The aggregate shall meet the gradation in Table 1, when tested in accordance with ASTM C 136.

TABLE 1. GRADATION OF AGGREGATES*

Sieve Size		Percent Retained	
		Minimum	Maximum
#20 or coarser	(0.850 mm)	0	2
#30	(0.600 mm)	0	12
#40	(0.425 mm)	2	60
#50	(0.300 mm)	5	60
#70	(0.212 mm)	5	60
#100	(0.150 mm)	5	30
#140	(0.106 mm)	0	10
#200	(0.075 mm)	0	2
Finer than #200		0	0.3

* Table 1 represents the maximum range of aggregate gradations.
In all cases the refined coal tar emulsion supplier is to give written approval of the aggregate used in the mix design.

631-2.3 Additive. As specified by the coal tar emulsion manufacturer.

631-2.4 Water. Water for mixing shall be potable, free of harmful soluble salts, and at least 50°F (10° C).

631-2.5 Crack Sealant. Crack sealant shall be certified for compatibility with the refined coal tar emulsion by the manufacturer of the refined coal tar emulsion, and approved by the engineer.

631-2.6 Oil Spot Primer. Oil spot primer shall be certified for compatibility with the refined coal tar emulsion by the manufacturer of the refined coal tar emulsion, and approved by the engineer.

631-2.7 Pavement Primer. Pavement primer shall be certified for compatibility with the refined coal tar emulsion by the manufacturer of the refined coal tar emulsion, and approved by the engineer.]

COMPOSITION AND APPLICATION

631-3.1 Composition. The refined coal tar emulsion seal coat is to consist of a mixture of refined coal tar emulsion, water, additive and aggregate, and be proportioned as shown in Table 2. The composition must have written approval of the coal tar emulsion manufacturer.

631-3.2 Job Mix Formula. The contractor shall submit the recommended formulation of water, emulsion, aggregate and application rate proposed for use to a testing laboratory together with sufficient materials to verify the formulation at least 5 days prior to the start of operations. The mix design shall be within the range shown in Table 2. No seal coat shall be produced for payment until a job mix formula has been approved by the Engineer. The formulation shall pass the fuel resistance test in Appendix A.

The job mix formula for each mixture shall be in effect until modified in writing by the Engineer.

TABLE 2.
COMPOSITION OF MIXTURE PER 100 GAL OF REFINED COAL TAR EMULSION

Application	Refined Coal Tar Emulsion	Water	Additive	Aggregate	Formula Rate of Application of Mix per Square Yard (Liters)	
	Gallons (Liters)	Gallons (Liters)	Gallons (Liters)	LBS (Liters)	Minimum Gallons (Liters)	Maximum Gallons (Liters)
Prime Coat (where required) as specified by the coal tar emulsion manufacturer.						
1st Seal Coat	100 (379)	25-70 (95-265)	2-6 (7.6-22.7)	300-700 (136-318)	0.12 (0.54)	0.20 (0.91)
2nd Seal Coat	100 (379)	25-70 (95-265)	2-6 (7.6-22.7)	300-700 (136-318)	0.12 (0.54)	0.20 (0.91)

631-3.3 Application Rate. Application rates are not to exceed 0.20 gal/yd. ^{2}/coat (0.91 liters/m^2/coat), and at no time are total coats to exceed 0.51 gal/yd^2 (2.3 liters/m^2).

631-3.4 Test Section. Prior to full production, the Contractor shall prepare a quantity of mixture in the proportions shown in the approved mix design. The amount of mixture shall be sufficient to place a test section a minimum of 250 square yards at the rate specified in the job mix formula. The area to be tested will be designated by the Engineer and will be located on a representative section of the pavement to be seal coated. The actual application rate will be determined by the Engineer during placement of the test section and will depend on the condition of the pavement surface.

The test section shall be used to verify the adequacy of the mix design and to determine the application rate. The same equipment and method of operations shall be used on the test section as will be used on the remainder of the work.

If the test section should prove to be unsatisfactory, the necessary adjustments to the job mix formula, mix composition, application rate, placement operations, and equipment shall be made. Additional test sections shall be placed and evaluated, if required. Full production shall not begin without the Engineer's approval. Acceptable test sections shall be paid for in accordance with paragraph 631-7.1.

CONSTRUCTION METHODS

631-4.1 Weather Limitations. The seal coat shall not be applied when the surface is wet or when the humidity or impending weather conditions will not allow proper curing. The seal coat shall be applied only when the atmospheric or pavement temperature is 50°F (10°C) and rising and is expected to remain above 50°F (10°C) for 24 hours, unless otherwise directed by the Engineer.

631-4.2 Equipment and Tools. The Contractor shall furnish all equipment, tools, and machinery necessary for the performance of the work.

a. Distributors. Distributors or spray units used for the spray application of the seal coat shall be self-propelled and capable of uniformly applying 0.12 to 0.55 gallons per square yard (0.54 to 2.5 liters per square meter) of material over the required width of application. Distributors shall be equipped with removable manhole covers, tachometers, pressure gauges, and volume-measuring devices.

The mix tank shall have a mechanically powered, full-sweep, mixer with sufficient power to move and homogeneously mix the entire contents of the tank.

The distributor shall be equipped with a positive placement pump so that a constant pressure can be maintained on the mixture to the spray nozzles.

b. Mixing Equipment. The mixing machine shall have a continuous flow mixing unit capable of accurately delivering a predetermined proportion of aggregate, water, and emulsion, and of discharging the thoroughly mixed product on a continuous basis. The mixing unit shall be capable of thoroughly blending all ingredients together and discharging the material to the spreader box without segregation.

c. Spreading Equipment. Spreading equipment shall be a mechanical-type squeegee distributor attached to the mixing machine, equipped with flexible material in contact with the surface to prevent loss of slurry from the spreader box. It shall be maintained to prevent loss of slurry on varying grades and adjusted to assure uniform spread. There shall be a lateral control device and a flexible strike-off capable of being adjusted to lay the slurry at the specified rate of application. The spreader box shall have an adjustable width. The box shall be kept clean; coal-tar emulsion and aggregate build-up on the box shall not be permitted.

d. Hand Squeegee or Brush Application. The use of hand spreading application shall be restricted to places not accessible to the mechanized equipment or to accommodate neat trim work at curbs, etc. Material that is applied by hand shall meet the same standards as that applied by machine.

e. Calibration. The Contractor shall furnish all equipment, materials and labor necessary to calibrate the equipment. It shall be calibrated to assure that it will produce and apply a mix that conforms to the job mix formula. Commercial equipment should be provided with a method of calibration by the manufacturer. All calibrations shall be made with the approved job materials prior to applying the seal coat to the pavement. A copy of the calibration test results shall be furnished to the Engineer.

631-4.3 Preparation Of Existing Asphalt Pavement Surfaces. Existing asphalt pavements indicated to be seal coated shall be prepared as follows:

- Patch bituminous pavement surfaces that have been softened by petroleum derivatives or have failed due to any other cause. Remove damaged pavement to the full depth of the damage and replace with new bituminous concrete similar to that of the existing pavement. If a solvent containing cold-applied material is used, complete patching a minimum of 90 days prior to the planned application of the sealer to permit solvent to escape before sealing.

- Remove all vegetation and debris from cracks to a minimum depth of 1". If extensive vegetation exists treat the specific area with a concentrated solution of a water-based herbicide approved by the engineer. Fill all cracks, ignoring hairline cracks (< 1/4" wide) with a crack sealant. Wider cracks (over 1½" wide (38.4 mm)), along with soft or sunken spots, indicate that the pavement or the pavement base should be repaired or replaced as stated above.

- Clean pavement surface immediately prior to placing the prime coat or seal coat by sweeping, flushing well with water leaving no standing water, or a combination of both, so that it is free of dust, dirt, grease, vegetation, oil or any type of objectionable surface film.

- Remove oil or grease that has not penetrated the asphalt pavement by scraping or by scrubbing with a detergent, then wash thoroughly with clean water. After cleaning, treat these areas with the oil spot primer.

- To insure adhesion to sound but oxidized pavements, mix and apply a prime coat of a type and at a rate recommended by the coal tar emulsion manufacturer, after all loose aggregate is removed.

631-4.4 Preparation Of New Asphalt Pavement Surfaces. New asphalt pavements indicated to be seal coated shall be prepared as follows:

- Cure new asphalt pavement surfaces so that there is no concentration of oils on the surface.
- A period of at least 60 days at +70°F daytime temperatures must elapse between the placement of a hot mixed asphalt concrete surface course and the application of the seal coat.
- Perform a water-break-free test to confirm that the surface oils have degraded and dissipated. (Cast one gallon of clean water out over the surface. The water should sheet out and wet the surface uniformly without crawling or showing oil rings.) If asphalt does not pass this test, additional time must be allowed for extra curing and retesting prior to sealing.
- Where oil spot priming is needed, remove oil or grease that has not penetrated the asphalt pavement by scraping or by scrubbing with a detergent, then wash thoroughly with clean water. After cleaning, treat these areas with the oil spot primer.
- To ensure adhesion to sound but oxidized pavements, mix and apply a prime coat of a type and at a rate recommended by the coal tar emulsion manufacturer, after all loose aggregate is removed.

631-4.5 Mixing. Blend the coal tar emulsion mixture in the equipment described in paragraph 631-4.2 using the ingredients described in Table 2. The mixing must produce a smooth homogeneous mixture of uniform consistency. (Consult coal tar emulsion supplier for its recommended order of addition of the ingredients.) During the entire mixing and application process, no breaking, segregating or hardening of the emulsion, nor balling or lumping of the sand is to be permitted. Continue to agitate the seal coating mixture in the mixing tank at all times prior to and during application so that a consistent mix is available for application.

Small additional increments of water may be needed to provide a workable consistency, but in no case is the water content to exceed the specified amount.

631-4.6 Application of Slurry Seal Coat. The aggregate filled slurry seal coat shall be applied at a uniform rate determined in paragraph 631-3.4

In order to provide maximum adhesion, the pavement shall be dampened with a fog spray of water if recommended by the supplier. No standing water shall remain on the surface.

If a prime coat is required, mix and apply the prime coat as specified in paragraph 631-4.3 for existing pavements or paragraph 631-4.4 for new pavements.

Apply the first coat uniformly to obtain the rate determined in paragraph 631-3.4

Each coat shall be allowed to dry and cure initially before applying any subsequent coats. The initial drying shall allow evaporation of water of the applied mixture, resulting in the coating being able to sustain light foot traffic. The initial curing shall enable the mixture to withstand vehicle traffic without damage to the seal coat.

Apply the second coat in the same manner as outlined for the first coat.

Additional coats shall be applied over the entire surface as directed by the engineer.

The finished surface shall present a uniform texture.

The final coat shall be allowed to dry a minimum of eight hours in dry daylight conditions before opening to traffic, and initially cure enough to support vehicular traffic without damage to the seal coat.

Where marginal weather conditions exist during the eight hour drying time, additional drying time shall be required. The length of time shall be as specified by the supplier. The surface shall be checked after the additional drying time for trafficability before opening the section to vehicle traffic.

Where striping is required, the striping paint utilized shall meet the requirements of P-620, shall be compatible with the seal coat and as recommended by the coal tar emulsion manufacturer.

QUALITY CONTROL

631-5.1 CONTRACTOR'S CERTIFICATION. The Contractor shall furnish the manufacturer's certification that each consignment of emulsion shipped to the project meets the requirements of Federal specification R-P-355, except that the water content shall not exceed 50 percent. The certification shall also indicate the solids and ash content of the emulsion and the date the tests were conducted. The certification shall be delivered to the Engineer prior to the beginning of work. The manufacturer's certification for the emulsion shall not be interpreted as a basis for final acceptance. Any certification received shall be subject to verification by testing samples received for project use.

The Contractor shall also furnish a certification demonstrating a minimum of three years experience in the application of coal-tar emulsion seal coats.

631-5.2 INSPECTION. The Owner shall have an independent technical consultant on the job site at the beginning of operations for application of coal-tar emulsion seal coats. The consultant shall have knowledge of the materials, procedures, and equipment described in this specification and shall assist the Contractor regarding proper mixing of the component materials and application of the seal coat. The consultant shall have a minimum of 3 years experience in the use of coal-tar seal coats. Documentation of this experience shall be furnished to the Engineer prior to the start of operations. The cost of the technical consultant shall be paid for by the Owner.

631-5.3 SAMPLING. A minimum of one sample per day shall be tested for the properties of Table 2. A random sample of approximately one-quart of the composite mix will be obtained daily by the contractor and stored in a glass container. The containers shall be sealed against contamination and retained in storage by the Owner for a period of six months. Samples shall be stored at room temperature and not be subjected to freezing temperatures.

A sample of undiluted coal-tar emulsion shall be obtained from each consignment shipped to the job.

631-5.4 ENGINEER'S RECORDS. The Engineer will keep an accurate record of each batch of materials used in the formulation of the seal coat.

METHOD OF MEASUREMENT

631-6.1 The refined coal tar emulsion with additives shall be measured by the **gallon (liter)** of liquid emulsion. Only the actual quantity of undiluted refined coal tar emulsion with additives will be measured for payment.

631-6.2 Aggregate shall be measured by the ton (kg) of dry aggregate.

BASIS OF PAYMENT

631-7.1 Payment shall be made at the contract unit price per **gallon (liter)** for the refined coal tar emulsion with additives and at the contract price per ton (kg) for aggregate.

These prices shall be full compensation for furnishing all materials, preparing, mixing, and applying these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-631-7.1	Refined Coal Tar Emulsion with Additives for Slurry Coat—per gallon (liter)
Item P-631-7.2	Aggregate—per ton (kg) of dry aggregate.

TESTING REQUIREMENTS

ASTM C 67	Sampling and Testing Brick and Structural Clay Tile
ASTM C 136	Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM D 160	Practice of Sampling Bituminous Materials
ASTM D 2939	Standard Test Methods for Emulsified Bitumens used as Protective Coatings.

MATERIAL REQUIREMENTS

ASTM D 490	Standard Specification for Road Tar
ASTM D 692	Standard Specification for Coarse Aggregate for Bituminous Paving Mixtures
ASTM C 3699	Kerosene
ASTM D 4866	Standard Performance Specification for Coal Tar Pitch Emulsion Pavement Sealer Mix Formations Containing Mineral Aggregates and Optional Polymeric Admixtures
FED SPEC R-P-355	Pitch, Coal-tar Emulsion (Coating for Bituminous Pavements) ASTM D 5727 Emulsified Refined Coal Tar (Mineral Colloid Type)

Appendix A

FUEL RESISTANCE TEST

ITEM P-631

FUEL RESISTANCE TEST ITEM P-631
TEST METHODS CRITERION

1. Scope

This method determines the resistance of the coal tar emulsion seal coat to kerosene.

2. Apparatus

2.1 2 6" X 6" square 16 gauge sheet metal masks with a 4" x 4" square center removed.
2.2 6" X 6" unglazed white ceramic tile with an absorption rate of 10-18 percent (determined in accordance with ASTM C 67.
2.3 Brass ring, 2" diameter and 2" high.
2.4 Kerosene meeting requirements of ASTM D 3699.
2.5 Silicone rubber sealant.

3. Procedure

3.1 Immerse the ceramic tile in distilled water for a minimum of ten minutes.
3.2 Remove excess water from the tile to produce a damp surface before applying the seal coat.
3.3 Using the mask described in 2.1 apply one layer of the coal tar emulsion mixture to the tile. Spread even with the top of the mask using a spatula or other straight edge.
3.4 Allow the sample to cure for 96 hours at 77 $\pm$ 2 degrees F. and 50 $\pm$ 10 percent relative humidity.
3.5 Position a second mask on top of the first mask.
3.6 Apply a second coat of coal tar emulsion mixture. Spread even with the top of the second mask.
3.7 Cure as in step 3.4.
3.8 After curing, affix the brass ring to the seal coat on the tile with silicone rubber sealant.
3.9 Fill the brass ring with kerosene.
3.10 After 24 hours, remove the kerosene from the brass ring, blot dry and immediately examine the film for softness and loss of adhesion. Immediately after the film is examined, break the tile in half, exposing that part of the tile whose film was subjected to the kerosene.
3.11 Evaluate for penetration of kerosene through the sealer and loss of adhesion.

4. Report

4.1 Report the results as pass or fail. Visible evidence of leakage or discoloration shall constitute failure of the fuel resistance test.

Criterion: A "pass" rating in the fuel resistance test is required prior to full production.

END OF ITEM P-631

ITEM T-904 SODDING is hereby amended with respect to the paragraphs and sections sited below.

Revise the following paragraph as noted:

904-2.1 SOD. Sod furnished by the Contractor shall have a good cover of living or growing grass. This shall be interpreted to include grass that is seasonally dormant during the cold or dry seasons and capable of renewing growth after the dormant period. All sod shall be obtained from areas where the soil is reasonably fertile and contains a high percentage of loamy topsoil. Sod shall be cut or stripped from living, thickly matted turf relatively free of weeds or other undesirable foreign plants, large stones, roots, or other materials that might be detrimental to the development of the sod or to future maintenance. At least 70% of the plants in the cut sod shall be composed of the species stated in the special provisions, and any vegetation more than 6 inches (150 mm) in height shall be mowed to a height of 3 inches (75 mm) or less before sod is lifted. Sod, including the soil containing the roots and the plant growth showing above, shall be cut uniformly to a thickness not less than that stated in the ***Texas Department of Transportation Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges, TxDOT Item 162*** ~~special provisions~~, and any vegetation more than 6 inches (150 mm) in height shall be mowed to a height of 3 inches (75 mm) or less before sod is lifted. Sod, including the soil containing the roots and the plant growth showing above, shall be cut uniformly to a thickness not less than that stated in ~~the special provisions.~~ ***4 inches. Type of sod shall be as specified in TxDOT Item 162.***

Delete the following paragraphs:

904-2.2 LIME.

END OF MOD T-904

ITEM T-904 SODDING

DESCRIPTION

904-1.1 This item shall consist of furnishing, hauling, and placing approved live sod on prepared areas in accordance with this specification at the locations shown on the plans or as directed by the Engineer.

MATERIALS

904-2.1 SOD. Sod furnished by the Contractor shall have a good cover of living or growing grass. This shall be interpreted to include grass that is seasonally dormant during the cold or dry seasons and capable of renewing growth after the dormant period. All sod shall be obtained from areas where the soil is reasonably fertile and contains a high percentage of loamy topsoil. Sod shall be cut or stripped from living, thickly matted turf relatively free of weeds or other undesirable foreign plants, large stones, roots, or other materials that might be detrimental to the development of the sod or to future maintenance. At least 70% of the plants in the cut sod shall be composed of the species stated in the special provisions, and any vegetation more than 6 inches (150 mm) in height shall be mowed to a height of 3 inches (75 mm) or less before sod is lifted. Sod, including the soil containing the roots and the plant growth showing above, shall be cut uniformly to a thickness not less than that stated in the special provisions.

904-2.2 LIME. Lime shall conform to the requirements of 901-2.2.

904-2.3 FERTILIZER. Fertilizer shall conform to the requirements of 901-2.3.

904-2.4 WATER. The water shall be sufficiently free from oil, acid, alkali, salt, or other harmful materials that would inhibit the growth of grass. It shall be subject to the approval of the Engineer prior to use.

904-2.5 SOIL FOR REPAIRS. The soil for fill and topsoiling of areas to be repaired shall conform to the requirements of 901-2.4.

CONSTRUCTION METHODS

904-3.1 GENERAL. Areas to be solid, strip, or spot sodded shall be shown on the plans. Areas requiring special ground surface preparation such as tilling and those areas in a satisfactory condition that are to remain undisturbed shall also be shown on the plans.

Suitable equipment necessary for proper preparation of the ground surface and for the handling and placing of all required materials shall be on hand, in good condition, and shall be approved by the Engineer before the various operations are started. The Contractor shall demonstrate to the Engineer before starting the various operations that the application of required materials will be made at the specified rates.

904-3.2 PREPARING THE GROUND SURFACE. After grading of areas has been completed and before applying fertilizer and limestone, areas to be sodded shall be raked or otherwise cleared of stones larger than 2 inches (50 mm) in any diameter, sticks, stumps, and other debris which might interfere with sodding, growth of grasses, or subsequent maintenance of grass-covered areas. If any damage by erosion or other causes occurs after grading of areas and before beginning the application of fertilizer and ground limestone, the Contractor shall repair such damage. This may include filling gullies, smoothing irregularities, and repairing other incidental damage.

904-3.3 APPLYING FERTILIZER AND GROUND LIMESTONE. Following ground surface preparation, fertilizer shall be uniformly spread at a rate which will provide not less than the minimum quantity of each fertilizer ingredient, as stated in the special provisions. If use of ground limestone is required, it shall then be spread at a rate that will provide not less than the minimum quantity stated in the special provisions.

These materials shall be incorporated into the soil to a depth of not less than 2 inches (50 mm) by discing, raking, or other methods acceptable to the Engineer. Any stones larger than 2 inches (50 mm) in any diameter, large clods, roots, and other litter brought to the surface by this operation shall be removed.

904-3.4 OBTAINING AND DELIVERING SOD. After inspection and approval of the source of sod by the Engineer, the sod shall be cut with approved sod cutters to such a thickness that after it has been transported and placed on the prepared bed, but before it has been compacted, it shall have a uniform thickness of not less than 2 inches (50 mm). Sod sections or strips shall be cut in uniform widths, not less than 10 inches (250 mm), and in lengths of not less than 18 inches (45 cm), but of such length as may be readily lifted without breaking, tearing, or loss of soil. Where strips are required, the sod must be rolled without damage with the grass folded inside. The Contractor may be required to mow high grass before cutting sod.

The sod shall be transplanted within 24 hours from the time it is stripped, unless circumstances beyond the Contractor's control make storing necessary. In such cases, sod shall be stacked, kept moist, and protected from exposure to the air and sun and shall be kept from freezing. Sod shall be cut and moved only when the soil moisture conditions are such that favorable results can be expected. Where the soil is too dry, permission to cut sod may be granted only after it has been watered sufficiently to moisten the soil to the depth the sod is to be cut.

904-3.5 LAYING SOD. Sodding shall be performed only during the seasons when satisfactory results can be expected. Frozen sod shall not be used and sod shall not be placed upon frozen soil. Sod may be transplanted during periods of drought with the approval of the Engineer, provided the sod bed is watered to moisten the soil to a depth of at least 4 inches (100 mm) immediately prior to laying the sod.

The sod shall be moist and shall be placed on a moist earth bed. Pitch forks shall not be used to handle sod, and dumping from vehicles shall not be permitted. The sod shall be carefully placed by hand, edge to edge and with staggered joints, in rows at right angles to the slopes, commencing at the base of the area to be sodded and working upward. The sod shall immediately be pressed firmly into contact with the sod bed by tamping or rolling with approved equipment to provide a true and even surface, and insure knitting without displacement of the sod or deformation of the surfaces of sodded areas. Where the sod may be displaced during sodding operations, the workmen when replacing it shall work from ladders or treaded planks to prevent further displacement. Screened soil of good quality shall be used to fill all cracks between sods. The quantity of the fill soil shall not cause smothering of the grass. Where the grades are such that the flow of water will be from paved surfaces across sodded areas, the surface of the soil in the sod after compaction shall be set approximately 1 inch (25 mm) below the pavement edge. Where the flow will be over the sodded areas and onto the paved surfaces around manholes and inlets, the surface of the soil in the sod after compaction shall be placed flush with pavement edges.

On slopes steeper than 1 vertical to 2-1/2 horizontal and in v-shaped or flat-bottom ditches or gutters, the sod shall be pegged with wooden pegs not less than 12 inches (300 mm) in length and have a cross-sectional area of not less than 3/4 square inch (18 square millimeter). The pegs shall be driven flush with the surface of the sod.

904-3.6 WATERING. Adequate water and watering equipment must be on hand before sodding begins, and sod shall be kept moist until it has become established and its continued growth assured. In all cases, watering shall be done in a manner that will avoid erosion from the application of excessive quantities and will avoid damage to the finished surface.

904-3.7 ESTABLISHING TURF.

a. General. The Contractor shall provide general care for the sodded areas as soon as the sod has been laid and shall continue until final inspection and acceptance of the work.

b. Protection. All sodded areas shall be protected against traffic or other use by warning signs or barricades approved by the Engineer.

c. Mowing. The Contractor shall mow the sodded areas with approved mowing equipment, depending upon climatic and growth conditions and the needs for mowing specific areas. In the event that weeds or other undesirable vegetation are permitted to grow to such an extent that, either cut or uncut, they threaten to smother the sodded species, they shall be mowed and the clippings raked and removed from the area.

904-3.8 REPAIRING. When the surface has become bullied or otherwise damaged during the period covered by this contract, the affected areas shall be repaired to re-establish the grade and the condition of the soil, as directed by the Engineer, and shall then be sodded as specified in 904-3.5.

METHOD OF MEASUREMENT

904-4.1 This item shall be measured on the basis of the area in square yards (square meters) of the surface covered with sod and accepted.

BASIS OF PAYMENT

904-5.1 This item will be paid for on the basis of the contract unit price per square yard (square meter) for sodding, which price shall be full compensation for all labor, equipment, material, staking, and incidentals necessary to satisfactorily complete the items as specified.

Payment will be made under:

Item T-904-5.1	Sodding—per square yard (square meter)

END OF ITEM T-904

JEFFERSON COUNTY PURCHASING DIVISION

Deborah L. Clark, County Purchasing Agent

1149 Pearl Street, Beaumont, TX 77701 409-835-8593 Fax 409-835-8456

MEMORANDUM

To: Patrick Swain
County Auditor

From: Deborah Clark
Purchasing Agent

Date: September 17, 2014

Re: Print Shop Budget Amendment/2014

I am requesting a transfer $10,000.00 from 12010184195077 to 12010184193078. This is to add funds for the 2013-2014 Budget Year to coverage additional paper cost.

Thank you for your attention to this matter.

MEMORANDUM

TO: COMMISSIONERS COURT

FROM: **FRAN LEE**

SUBJECT: BUDGET AMENDMENT

DATE: SEPTEMBER 16, 2014

The following budget amendment is necessary for 252nd District Court for additional cost for indigent defense. Please call if you have any questions.

120-2037-412-5072	Pauper Attorney Fees	$60,000	
120-1024-419-5077	Contractual Services		$60,000

JEFFERSON COUNTY CONSTABLE

PRECINCT-1

COLEY "NICK" SALEME

Memo

Date: September 3, 2014

To: Fran Lee, Financial Manager

From: Constable's Office Precinct 1 Fax #: (409) 839-2369

RE: Transfer Line Item

Priority: [Urgent]

Line-item Transfer Amendment

DATE: September 3, 2014

Honorable Commissioners Court of Jefferson County:

I submit to you for your consideration the following line-item transfers:

	FUND	DEPT.	FROM	TO
From:	Extra Help	120 3065 425-10-05	$7,000	
From:	Education Pay	120 3065 425-10-95	$10,000	
To:	Minor Equipment	120 3065 425-30-84	7,100	~~$17,000~~
Reason:	Amount to Cover Quote for Video Cameras		Transfer out	
~~From~~	~~Extra Help~~	~~120 3065 425 10 05~~	~~$9,000~~	
~~To:~~	~~Overtime~~ Allowance	120 3065 425 1098		~~$9,000~~
Reason:	Amount to Cover Overtime for remainder of budget year 2014			

C Meld II Saleme

Department Head /Chief Clerk-Administrative Assistant

Approved: County Judge for Commissioners Court

Attest: County Clerk

415 Century Parkway
Allen, TX 75013
(800) 605-6734
www.watchguardvideo.com

WATCH GUARD
DIGITAL IN-CAR VIDEO

4RE Price Estimate

Provided By: Dave Childress
Contract #: 281-782-2544

TOTAL PROJECT ESTIMATED AT: $24,100.00

Agency Name:	Jefferson County Constable Pct 1
Contact Person:	Deb Syphrett-Clark
Address:	
Address:	
Date:	September 11, 2014

4RE Base System and Options		Quantity	MSRP	Direct	Extended
4RE-200-GPS-ZSL	4RE In-Car Camera System. Includes GPS, High definition Zero Sightline (720P) forward facing camera, Infrared color cabin camera, DVR, integrated 200GB automotive grade hard drive, 16GB USB removable thumb drive, cabin microphone, 900 MHz HI Fidelity wireless microphone, hardware & cabling, 1 yr. warranty. Includes Evidence Library Express software.	1	$ 5,450.00	$ 4,700.00	$ 23,975.00

Total In-Car Hardware: $ 23,975.00

Evidence Library Server and Client Software		Quantity	MSRP	Direct	Extended
SFW-ELX-KIT-100	Evidence Library Express Standalone Software	1	$ -	$	$ -

Notes: *Applicable taxes may apply and are not necessarily accounted for on this estimate. Contact WatchGuard Video for a revised estimate.* ESTIMATE VALID FOR 30 DAYS

Subtotal: $ 23,975.00
UPS Ground Shipping: $ 125.00
Taxes: 0.0% $ -
ESTIMATE TOTAL: $ 24,100.00

Financing
Estimate Only
Call for Detailed Quote
Within Texas

- Includes applicable warranty coverage
- You take ownership immediately. Fully paid off at end of term
- For a detailed quote, call WatchGuard to determine final project price, approximate date of first payment, desired financing term, and basic agency information

Payments	3-Year	4-Year	5-Year
Monthly	$ 776	$ 630	$ 556
Quarterly	$ 2,318	$ 1,882	$ 1,661
Semi-Annual	$ 4,608	$ 3,742	$ 3,302
Annual	$ 9,110	$ 7,399	$ 6,528

Note: This is only an estimate for 4RE related hardware, software and WG technical services. Actual costs related to a turn-key operation requires more detailed discussion and analysis, which will define actual back-office costs and any costs associated with configuration, support and installation. Please contact your sales representative for more details.

(409) 839-2339 Phone
(409) 839-2390 Fax
Office email: jccp6@co.jefferson.tx.us
Personal email: dbaker@co.jefferson.tx.us

1225 Pearl Street, Suite 101A
Beaumont, Texas 77701-3261

Memo

Dana A. Baker, Sr.
Constable, Precinct Six

Date: 9/17/14

To: Fran Lee, Financial Manager

From: Constable's Office Precinct 6 **Fax Number:** (409) *839-2390*

RE: Transfer Line Item

Priority: [Urgent]

Line-item Transfer Amendment

DATE: **September 17, 2014**

Honorable Commissioners Court of Jefferson County:
I submit to you for your consideration the following line-item transfers:

	FUND	DEPT.	ACCT.	AMT.
From:	Extra Help	120 3070 425	10-05	$11,285..00
From:	Minor Equipment	120 3070 425	30-84	$ 3,175.00
To:	~~Capital Line-Communication Equipment~~	~~120 3070 425~~	~~6035~~ Transfer out	
Reason:	Amount to Cover Requisition for Automobile Video Camera System (3 vehicles)			

Dana A Baker
Department Head

Approved: County Judge for Commissioners Court

Attest: County Clerk

---

415 Century Parkway
Allen, TX 75013
(800) 605-6734
www.watchguardvideo.com

WATCHGUARD
DIGITAL IN-CAR VIDEO

4RE Price Estimate

Provided By: Dave Childress
Contract #: 281-782-2544

TOTAL PROJECT ESTIMATED AT
$14,460.00

Agency Name:	Jefferson County Constable PCT 6
Contact Person:	Constable Dana Baker
Address:	
Address:	
Date:	August 4, 2014

4RE Base System and Options		Quantity	MSRP	Direct	Extended
4RE-200-GPS-ZSL	4RE In-Car Camera System. Includes GPS, High definition Zero Sightline (720P) forward facing camera, Infrared color cabin camera, DVR, integrated 200GB automotive grade hard drive, 16GB USB removable thumb drive, cabin microphone, 900 MHz Hi Fidelity wireless microphone, hardware & cabling, 1 yr. warranty. Includes Evidence Library Express software.	3	$ 5,450.00	$ 4,795.00	$ 14,385.00

Total In-Car Hardware $ 14,385.00

Evidence Library Server and Client Software		Quantity	MSRP	Direct	Extended
SFW-ELX-KIT-100	Evidence Library Express Standalone Software	1	$ -	$ -	$ -

Notes: *Applicable taxes may apply and are not necessarily accounted for on this estimate. Contact WatchGuard Video for a revised estimate.*
ESTIMATE VALID FOR 30 DAYS

Subtotal:	$	14,385.00
UPS Ground Shipping:	$	75.00
Taxes: 0.0%	$	-
ESTIMATE TOTAL:	$	14,460.00

Financing
Estimate Only
Call for Detailed Quote

Within Texas

- Includes applicable warranty coverage
- You take ownership immediately. Fully paid off at end of term
- For a detailed quote, call WatchGuard to determine final project price, approximate date of first payment, desired financing term, and basic agency information

Payments	3-Year	4-Year	5-Year
Monthly	$ 529	$ 443	$ 401
Quarterly	Call Us	Call Us	Call Us
Semi-Annual	Call Us	Call Us	Call Us
Annual	Call Us	Call Us	Call Us

Note: **This is only an estimate for 4RE related hardware, software and WG Technical Services. Actual costs related to a turn-key operation requires more detailed discussion and analysis, which will define actual back-office costs and any costs associated with configuration, support and installation. Please contact your sales representative for more details.**

NAME	AMOUNT	CHECK NO.	TOTAL
JURY FUND			
TRI-CITY COFFEE SERVICE	242.80	398646	
			242.80**
ROAD & BRIDGE PCT.#1			
APAC, INC. - TROTTI & THOMSOM	3,665.22	398558	
CARQUEST AUTO PARTS # 96	77.80	398568	
COBURN'S, BEAUMONT BOWIE (1)	418.88	398574	
CRABTREE BARRICADE SYSTEMS, INC.	228.00	398578	
ENTERGY	941.15	398594	
HEAD & GUILD PARTS INC	276.00	398597	
ISI COMMERCIAL REFRIGERATION	311.25	398600	
M&D SUPPLY	528.04	398611	
MUNRO'S	66.00	398619	
OFFICE DEPOT	62.49	398621	
SAM'S WESTERN WEAR, INC.	913.63	398634	
SANITARY SUPPLY, INC.	339.40	398635	
SMART'S TRUCK & TRAILER, INC.	782.38	398637	
SOUTHEAST TEXAS WATER	16.16	398638	
TRI-CON, INC.	7,312.32	398645	
WASTE MGT. GOLDEN TRIANGLE, INC.	62.54	398649	
ZEE MEDICAL SERVICE	224.55	398661	
SOUTHERN TIRE MART, LLC	6,893.26	398666	
TRANTEX, INC.	772.50	398672	
MUNRO'S SAFETY APPAREL	800.00	398690	
PAUL TRUAX	10.50	398711	
MARTIN PRODUCT SALES LLC	6,773.02	398713	
SILSBEE FORD INC	73,251.75	398782	
			104,726.84**
ROAD & BRIDGE PCT.#2			
CURETON & SON	58.00	398579	
EASTEX RUBBER & GASKET	119.72	398582	
HARTMANN BLDG. SPECIALITIES	689.71	398596	
MUNRO'S	37.14	398619	
RITTER @ HOME	32.73	398632	
TRI-CON, INC.	3,195.20	398645	
VULCAN MATERIALS CO.	1,786.99	398647	
WASTE MGT. GOLDEN TRIANGLE, INC.	79.12	398649	
WAUKESHA-PEARCE IND., INC.	54.77	398653	
PATHMARK TRAFFICE PRODUCTS OF TEXAS	2,837.66	398691	
UNDERGROUND INC.	407.50	398694	
BUMPER TO BUMPER	14.95	398701	
CENTERPOINT ENERGY RESOURCES CORP	40.29	398703	
HIGHTECH SIGNS	123.42	398714	
NEW WAVE WELDING TECHNOLOGY	6.82	398725	
DOGGETT HEAVY MACHINERY LLC	105.33	398743	
RELADYNE	960.52	398778	
			10,549.87**
ROAD & BRIDGE PCT. # 3			
A&A EQUIPMENT	462.45	398543	
APAC, INC. - TROTTI & THOMSOM	2,904.28	398558	
CITY OF PORT ARTHUR - WATER DEPT.	21.91	398571	
CRABTREE BARRICADE SYSTEMS, INC.	405.00	398578	
FARM & HOME SUPPLY	79.01	398587	
GREATER PORT ARTHUR	125.00	398592	
GULF COAST AUTOMOTIVE, INC.	168.99	398593	
ENTERGY	26.58	398594	
MUNRO'S	52.36	398619	
TRI-CON, INC.	210.71	398645	
WAUKESHA-PEARCE IND., INC.	116.88	398653	
STRATTON INC.	27.62	398656	
VIN'S PAINT & BODY, INC.	6,570.15	398668	
HOWARD'S AUTO SUPPLY	33.71	398669	
FASTENAL	44.13	398670	
LOWE'S HOME CENTERS, INC.	36.67	398683	
CHALK'S TRUCK PARTS INC	2,988.99	398718	
BILL WILLIAMS	200.00	398719	
SPURLOCK ROAD VETERINARY CLINIC	127.76	398762	
			14,602.20**
ROAD & BRIDGE PCT.#4			

NAME	AMOUNT	CHECK NO.	TOTAL
ABLE FASTENER, INC.	23.85	398547	
COASTAL WELDING SUPPLY	46.50	398573	
HERNANDEZ OFFICE SUPPLY, INC.	48.95	398598	
3M	269.85	398610	
M&D SUPPLY	71.84	398611	
MUNRO'S	77.70	398619	
OIL CITY TRACTORS, INC.	10.34	398622	
AT&T	73.60	398641	
TRI-CON, INC.	7,424.83	398645	
4IMPRINT, INC.	517.76	398679	
EVERETT D ALFRED	302.71	398689	
SAM'S CLUB DIRECT	807.71	398767	
ASCO	65.68	398773	
SOUTHEAST TEXAS PARTS AND EQUIPMENT	19.99	398783	
			9,761.31**
ENGINEERING FUND			
VERIZON WIRELESS	249.42	398675	
			249.42**
PARKS & RECREATION			
HILO / O'REILLY AUTO PARTS	199.99	398548	
FRED MILLER STORES	419.95	398616	
SPRINT WASTE SERVICES LP	310.80	398784	
			930.74**
GENERAL FUND			
JEFFERSON CTY. CLERK	1,148.24	398549	
			1,148.24*
TAX OFFICE			
OFFICE DEPOT	657.26	398621	
PORT ARTHUR NEWS, INC.	1,794.00	398627	
			2,451.26*
COUNTY HUMAN RESOURCES			
MOORMAN & ASSOCIATES, INC.	150.00	398618	
			150.00*
AUDITOR'S OFFICE			
GOVERNMENT FINANCE OFFICERS ASSOC.	550.00	398554	
			550.00*
COUNTY CLERK			
OFFICE DEPOT	322.83	398621	
CONFIRMDELIVERY.COM INC	134.07	398733	
KOFILE INC	48,978.68	398759	
			49,435.58*
COUNTY JUDGE			
JAN GIROUARD & ASSOCIATES	200.00	398590	
CASH ADVANCE ACCOUNT	2,735.98	398605	
KIMBERLY PHELAN, P.C.	500.00	398706	
MICHELLE R BRISTER	500.00	398708	
GRACE NICHOLS	500.00	398732	
JEFFERSON COUNTY BAR ASSOCIATION	125.00	398769	
			4,560.98*
COUNTY TREASURER			
LEXISNEXIS- ACCURINT	120.00	398738	
			120.00*
PRINTING DEPARTMENT			
OLMSTED-KIRK PAPER	338.00	398623	
			338.00*
PURCHASING DEPARTMENT			
BEAUMONT ENTERPRISE	1,898.29	398583	
HERNANDEZ OFFICE SUPPLY, INC.	239.00	398598	
OFFICE DEPOT	234.10	398621	
			2,371.39*
GENERAL SERVICES			

NAME	AMOUNT	CHECK NO.	TOTAL
JEFFERSON CTY. TAX DEPARTMENT	20.00	398603	
CASH ADVANCE ACCOUNT	25.00	398605	
TIME WARNER COMMUNICATIONS	384.46	398643	
TOWER COMMUNICATIONS, INC.	2,435.00	398676	
LEXISNEXIS- ACCURINT	123.50	398738	
HONEYWELL INC	5,710.50	398760	
DYNAMEX INC	181.76	398781	
ANTHONY ICENOGLE	1,168.50	398786	
			10,048.72*
DATA PROCESSING			
GUARDIAN FORCE	36.00	398550	
OFFICE DEPOT	710.44	398621	
JOHN FERRARA	394.24	398696	
LEXISNEXIS- ACCURINT	240.00	398738	
			1,380.68*
VOTERS REGISTRATION DEPT			
THE EXAMINER	274.00	398586	
			274.00*
ELECTIONS DEPARTMENT			
CDW COMPUTER CENTERS, INC.	560.86	398671	
			560.86*
DISTRICT ATTORNEY			
HERNANDEZ OFFICE SUPPLY, INC.	1,199.00	398598	
CASH ADVANCE ACCOUNT	459.27	398605	
OFFICE DEPOT	362.37	398621	
LEXISNEXIS- ACCURINT	480.00	398738	
REALTIME REPORTING SERVICES INC.	114.00	398749	
FILE & SERVE XPRESS LLC	98.00	398771	
			2,712.64*
CRIMINAL DISTRICT COURT			
OFFICE DEPOT	39.59	398621	
			39.59*
58TH DISTRICT COURT			
SOUTHEAST TEXAS WATER	29.95	398638	
			29.95*
252ND DISTRICT COURT			
DAVID W BARLOW	750.00	398561	
THOMAS J. BURBANK, P.C.	2,750.00	398565	
LINDA C. CANSLER	800.00	398567	
JOHN E. MACEY	800.00	398612	
JAMES R. MAKIN, P.C.	2,259.90	398750	
			7,359.90*
279TH DISTRICT COURT			
GAYLYN COOPER	325.00	398552	
CATHERINE BRUNEY	300.00	398599	
MARVA PROVO	1,050.00	398629	
ANITA F. PROVO	1,050.00	398630	
KIMBERLY PHELAN, P.C.	150.00	398706	
REAUD MORGAN & QUINN LLP	500.00	398728	
JONATHAN L. STOVALL	150.00	398747	
STEFANIE L. ADAMS, ATTORNEY AT LAW	150.00	398748	
TARA SHELANDER	3,850.00	398789	
			7,525.00*
JUSTICE COURT-PCT 1 PL 1			
TEXAS STATE UNIVERTY/SAN MARCOS	300.00	398639	
LEXISNEXIS- ACCURINT	120.00	398738	
			420.00*
JUSTICE COURT-PCT 1 PL 2			
OFFICE DEPOT	72.04	398621	
TEXAS STATE UNIVERTY/SAN MARCOS	300.00	398639	
LEXISNEXIS- ACCURINT	120.00	398738	
			492.04*
JUSTICE COURT-PCT 2			

NAME	AMOUNT	CHECK NO.	TOTAL
TEXAS STATE UNIVERTY/SAN MARCOS	150.00	398640	
LEXISNEXIS- ACCURINT	120.00	398738	
			270.00*
JUSTICE COURT-PCT 4			
AT&T	73.60	398641	
LEXISNEXIS- ACCURINT	120.00	398738	
			193.60*
JUSTICE COURT-PCT 6			
LEXISNEXIS- ACCURINT	120.00	398738	
			120.00*
JUSTICE COURT-PCT 7			
LEXISNEXIS- ACCURINT	120.00	398738	
			120.00*
JUSTICE OF PEACE PCT. 8			
OFFICE DEPOT	17.40	398621	
TEXAS STATE UNIVERTY/SAN MARCOS	450.00	398639	
LEXISNEXIS- ACCURINT	120.00	398738	
			587.40*
COUNTY COURT AT LAW NO.1			
GERALD EDDINS	796.02	398772	
			796.02*
COUNTY COURT AT LAW NO. 2			
DAVID W BARLOW	250.00	398561	
CASH ADVANCE ACCOUNT	1,825.77	398605	
JOEL WEBB VAZQUEZ	500.00	398699	
LEXISNEXIS- ACCURINT	60.00	398738	
			2,635.77*
COUNTY COURT AT LAW NO. 3			
GAYLYN COOPER	250.00	398552	
TRAVIS EVANS	300.00	398585	
LEXISNEXIS- ACCURINT	60.00	398738	
DUSTIN R. GALMOR	1,300.00	398746	
			1,910.00*
COURT MASTER			
AMERICAN LAWYER	360.00	398556	
JUDGE LARRY GIST	852.42	398589	
OFFICE DEPOT	300.79	398621	
			1,513.21*
SHERIFF'S DEPARTMENT			
OFFICE DEPOT	28.79	398621	
FORWARD EDGE, INC.	47.65	398673	
BEAUMONT OCCUPATIONAL SERVICE, INC.	65.90	398680	
FIVE STAR FEED	1,219.23	398693	
CODE BLUE	114.00	398697	
INTERSTATE ALL BATTERY CENTER - BMT	1,499.50	398734	
			2,975.07*
JAIL - NO. 2			
AAA LOCK & SAFE	104.20	398542	
MARK'S PLUMBING PARTS	97.47	398545	
BEAUMONT TRACTOR COMPANY	188.88	398563	
ECOLAB	399.90	398581	
W.W. GRAINGER, INC.	1,732.92	398591	
HERNANDEZ OFFICE SUPPLY, INC.	140.15	398598	
JACK BROOKS REGIONAL AIRPORT	2,024.64	398604	
CASH ADVANCE ACCOUNT	3,793.20	398605	
KOMMERCIAL KITCHENS	37.98	398609	
M&D SUPPLY	169.87	398611	
MOORE SUPPLY, INC.	448.57	398617	
SANITARY SUPPLY, INC.	2,822.84	398635	
AT&T	1,387.22	398641	
WESCO DISTRIBUTION, INC.	68.10	398654	
WILLBANKS & ASSOCIATES	336.68	398658	
LONE STAR UNIFORMS, INC.	1,322.00	398684	

NAME	AMOUNT	CHECK NO.	TOTAL
PETROLEUM SOLUTIONS, INC.	1,343.00	398698	
INTERCONTINENTAL JET CORP	230.70	398702	
PORTER-STRAIT INSTRUMENT CO., INC.	285.65	398705	
BELT SOURCE	75.44	398710	
TABB TEXTILE COMPANY, INC.	2,585.00	398724	
ACT PIPE AND SUPPLY	166.62	398729	
WORLD FUEL SERVICES	1,784.18	398736	
FIVE STAR CORRECTIONAL SERVICE	19,909.79	398740	
			41,455.00*
JUVENILE PROBATION DEPT.			
OFFICE DEPOT	743.23	398621	
SHANNA CITIZEN	89.60	398685	
JENNIFER SOLANO	336.00	398686	
LYNN BIERHALTER	18.48	398709	
JOHN ANDERSON	317.52	398741	
WILBERT PIERRE	58.80	398764	
			1,563.63*
JUVENILE DETENTION HOME			
LABATT FOOD SERVICE	1,361.87	398559	
CASH ADVANCE ACCOUNT	420.00	398605	
RADIOLOGY ASSOCIATES	28.00	398631	
WARREN EQUIPMENT CO.	293.21	398648	
DENNIS COPELAND	204.96	398664	
OAK FARM DAIRY	295.65	398667	
FLOWERS FOODS	143.13	398695	
CENTERPOINT ENERGY RESOURCES CORP	372.50	398703	
BROTHERS PRODUCE	92.74	398757	
			3,212.06*
CONSTABLE PCT 1			
FED EX	156.20	398588	
OFFICE DEPOT	154.16	398621	
SAM'S WESTERN WEAR, INC.	312.50	398634	
CODE BLUE	8.00	398697	
LEXISNEXIS- ACCURINT	120.00	398738	
			750.86*
CONSTABLE-PCT 2			
BARNES & NOBLE	393.02	398688	
LEXISNEXIS- ACCURINT	120.00	398738	
			513.02*
CONSTABLE-PCT 4			
OFFICE DEPOT	297.48	398621	
AT&T	36.80	398641	
HERRERA'S EMERGENCY LIGHTING	584.00	398692	
LEXISNEXIS- ACCURINT	120.00	398738	
			1,038.28*
CONSTABLE-PCT 6			
COCOMO JOE'S	65.00	398575	
LEXISNEXIS- ACCURINT	120.00	398738	
			185.00*
CONSTABLE PCT. 7			
COCOMO JOE'S	45.00	398575	
LEXISNEXIS- ACCURINT	120.00	398738	
			165.00*
CONSTABLE PCT. 8			
LEXISNEXIS- ACCURINT	120.00	398738	
			120.00*
COUNTY MORGUE			
A1 FILTER SERVICE COMPANY	23.60	398758	
			23.60*
AGRICULTURE EXTENSION SVC			
TERRIE S. LOONEY	123.20	398544	
STARLA B. GARLICK	427.03	398551	
EPSILON SIGMA PHI	65.00	398584	

NAME	AMOUNT	CHECK NO.	TOTAL
BARBARA EVANS	151.53	398726	
EMILEE BEAN	158.79	398779	
			925.55*
HEALTH AND WELFARE NO. 1			
BROUSSARD'S MORTUARY	1,500.00	398564	
CALVARY MORTUARY	1,500.00	398566	
CLAYBAR FUNERAL HOME, INC.	984.00	398572	
OFFICE DEPOT	135.00	398621	
PHYSICIAN SALES & SERVICE, INC.	55.73	398626	
MUNRO'S SAFETY APPAREL	20.56	398690	
LEXISNEXIS- ACCURINT	120.00	398738	
NOVARTIS VACCINES AND DIAGNOSTICS	1,098.18	398768	
			5,413.47*
HEALTH AND WELFARE NO. 2			
O.W. COLLINS APARTMENTS	39.21	398576	
ENTERGY	214.00	398595	
OFFICE DEPOT	155.53	398621	
PHYSICIAN SALES & SERVICE, INC.	107.61	398626	
HEB - PORT ARTHUR	57.67	398723	
LEXISNEXIS- ACCURINT	120.00	398738	
PDR NETWORK LLC	59.95	398755	
JOHNNY R COOPER	400.00	398792	
			1,153.97*
CHILD WELFARE UNIT			
BEAUMONT OCCUPATIONAL SERVICE, INC.	247.70	398680	
SEARS COMMERICAL CREDIT	100.00	398681	
SIDNEY SCYPION	20.00	398739	
			367.70*
INDIGENT MEDICAL SERVICES			
LOCAL GOVERNMENT SOLUTIONS LP	3,773.00	398722	
CARDINAL HEALTH 110 INC	34,441.23	398777	
LAGNIAPPE PHARMACY SERVICES LLC	10.00	398788	
			38,224.23*
MAINTENANCE-BEAUMONT			
CERTIFIED LABORATORIES	628.03	398569	
CINTAS, INC.	233.48	398570	
W.W. GRAINGER, INC.	65.76	398591	
M&D SUPPLY	171.31	398611	
MOORE SUPPLY, INC.	109.80	398617	
RITTER @ HOME	192.77	398632	
WORTH HYDROCHEM	250.00	398659	
			1,651.15*
MAINTENANCE-PORT ARTHUR			
A&B OUTDOOR EQUIPMENT	70.65	398546	
METAL-MART	1,108.35	398615	
SANITARY SUPPLY, INC.	133.78	398635	
TIME WARNER COMMUNICATIONS	68.10	398644	
LOWE'S HOME CENTERS, INC.	328.30	398683	
PARKER LUMBER	202.80	398742	
			1,911.98*
MAINTENANCE-MID COUNTY			
ALL-PHASE ELECTRIC SUPPLY	70.00	398577	
RITTER @ HOME	209.26	398632	
ACE IMAGEWEAR	55.82	398636	
WASTE MGT. GOLDEN TRIANGLE, INC.	72.50	398649	
W. JEFFERSON COUNTY M.W.D.	25.13	398655	
CENTERPOINT ENERGY RESOURCES CORP	63.46	398703	
EMERGENCY POWER SERVICE	291.50	398763	
			787.67*
SERVICE CENTER			
JTB RECYCLING	350.00	398553	
CARQUEST AUTO PARTS # 96	653.63	398568	
J.K. CHEVROLET CO.	28.18	398601	
JERRY'S AUTOMOTIVE	59.50	398606	
KINSEL FORD, INC.	1,081.91	398608	

NAME	AMOUNT	CHECK NO.	TOTAL
M&D SUPPLY	603.62	398611	
PHILPOTT MOTORS, INC.	142.64	398625	
TRI-CON, INC.	4,862.08	398645	
HERRERA'S EMERGENCY LIGHTING	600.00	398692	
BUMPER TO BUMPER	500.42	398701	
AIRPORT GULF TOWING LLC	95.00	398707	
AMERICAN TIRE DISTRIBUTORS	187.20	398727	
INTERSTATE ALL BATTERY CENTER - BMT	805.65	398734	
UNIFIRST HOLDINGS INC	22.23	398735	
MIGHTY OF SOUTHEAST TEXAS	46.95	398752	
CHASE ELECTRONICS	12.50	398756	
EASTEX PRESSURE WASHERS	363.00	398761	
WASTEWATER TRANSPORT SERVICES LLC	388.00	398787	
			10,802.51*
VETERANS SERVICE			
CASH ADVANCE ACCOUNT	773.63	398605	
			773.63*
			214,128.21**
MOSQUITO CONTROL FUND			
GREYHOUND PACKAGE EXPRESS	72.10	398555	
SUPERIOR TIRE & SERVICE	22.65	398557	
APPLIED INDUSTRIAL TECH	791.07	398562	
JACK BROOKS REGIONAL AIRPORT	1,979.69	398604	
MUNRO'S	98.95	398619	
OFFICE DEPOT	52.66	398621	
OVERHEAD DOOR CO.	1,980.00	398624	
PHILPOTT MOTORS, INC.	275.89	398625	
WYLIE MANUFACTURING CO.	600.93	398660	
FASTENAL	121.26	398670	
CENTERPOINT ENERGY RESOURCES CORP	26.47	398703	
THE DINGO GROUP-PETE JORGENSON MARI	227.96	398721	
TARGET SPECIALTY PRODUCTS	272.97	398751	
			6,522.60**
LAW LIBRARY FUND			
THOMSON REUTERS-WEST	405.00	398774	
			405.00**
EMPG GRANT			
SOUTHEAST TEXAS WATER	9.95	398638	
			9.95**
JUVENILE TJPC-A-2014-123			
HAYS COUNTY	7,595.00	398663	
YOUTH ADVOCATE PROGRAM	16,137.72	398720	
			23,732.72**
JUVENILE PROB & DET. FUND			
AZLEWAY, INC.	3,110.31	398560	
HAYS COUNTY	12,110.00	398663	
HARRISON COUNTY JUVENILE SERVICES	5,580.00	398682	
			20,800.31**
COMMUNITY SUPERVISION FND			
LOCAL GOVERNMENT SOLUTIONS LP	6,965.00	398722	
LEXISNEXIS- ACCURINT	120.00	398738	
JCCSC	250.00	398744	
JCCSC	231.00	398745	
			7,566.00**
JEFF. CO. WOMEN'S CENTER			
GUARDIAN FORCE	112.00	398550	
ECOLAB	82.95	398581	
W.W. GRAINGER, INC.	2,503.22	398591	
JEFFERSON CTY. WOMEN'S CENTER	10.00	398602	
MARKET BASKET	486.79	398613	
KIM MCKINNEY, LPC, LMFT	150.00	398614	
PRIORITY MANAGEMENT, INC.	43.00	398628	
SANITARY SUPPLY, INC.	2,499.94	398635	
WASTE MGT. GOLDEN TRIANGLE, INC.	86.04	398651	
OAK FARM DAIRY	341.52	398667	

NAME	AMOUNT	CHECK NO.	TOTAL
TOWER COMMUNICATIONS, INC.	60.00	398676	
SAM'S CLUB DIRECT	139.98	398767	
PRO-SEAL REFINISHING	450.00	398791	
			6,965.44**
VAWA FUND			
KIMBERLY PHELAN, P.C.	500.00	398706	
			500.00**
J.P. COURTROOM TECH. FUND			
DELL MARKETING L.P.	5,864.65	398580	
			5,864.65**
HOTEL OCCUPANCY TAX FUND			
ENTERGY	1,410.48	398594	
M&D SUPPLY	420.81	398611	
MUNRO'S	108.25	398619	
TRI-CITY COFFEE SERVICE	78.05	398646	
WASTE MGT. GOLDEN TRIANGLE, INC.	79.12	398652	
GT BASEBALL	2,400.00	398766	
ZIA BERTRAND	50.40	398793	
			4,547.11**
1957 ROAD BOND FUND			
TIM RICHARDSON	10,500.00	398780	
			10,500.00**
CAPITAL PROJECTS FUND			
STAR GRAPHICS COPIERS, INC.	50.00	398642	
E. SULLIVAN ADVERTISING & DESIGN	6,220.57	398674	
BAILEY'S ARCHITECTS INC	12,625.44	398715	
WILLIAM EDWARD KESTLER	6,000.00	398795	
			24,896.01**
AIRPORT FUND			
W.W. GRAINGER, INC.	67.50	398591	
RITTER @ HOME	43.99	398632	
RALPH'S INDUSTRIAL ELECTRONICS	23.47	398633	
SANITARY SUPPLY, INC.	456.78	398635	
WASTE MGT. GOLDEN TRIANGLE, INC.	237.36	398650	
NEDERLAND HARDWARE SUPPLY	4.89	398657	
BUBBA'S AIR CONDITIONING	150.00	398662	
E. SULLIVAN ADVERTISING & DESIGN	5,350.00	398674	
GARNER ENVIRONMENTAL SERVICES, INC.	235.00	398677	
CLEAR CHANNEL RADIO BEAUMONT	9,018.50	398678	
CENTERPOINT ENERGY RESOURCES CORP	470.04	398703	
KBMT	800.00	398712	
DISH NETWORK	78.62	398716	
FIRETROL PROTECTION SYSTEMS, INC.	356.00	398730	
COUNTY HOME AND RANCH LP	23.74	398753	
NORTHERN TOOL AND EQUIPMENT	410.98	398754	
INDUSTRIAL & COMMERCIAL MECHANICAL	1,433.06	398765	
CRAWFORD ELECTRIC SUPPLY COMPANY	74.60	398770	
EASTERN AVIATION FUELS INC	50,235.75	398790	
MEGAN LANDRY	12.88	398794	
			69,483.16**
SETEC FUND			
ALLIANCE MECHANICAL SERVICES	2,000.00	398700	
			2,000.00**
WORKER'S COMPENSATION FD			
TRISTAR RISK MANAGEMENT	11,966.38	398704	
			11,966.38**
SHERIFF'S FORFEITURE FUND			
KINSEL FORD MAZDA	299.27	398607	
RALPH'S INDUSTRIAL ELECTRONICS	43.50	398633	
SILSBEE FORD INC	1,030.86	398782	
			1,373.63**
GUARDIANSHIP FEE			
DUSTIN R. GALMOR	500.00	398746	
			500.00**
MARINE DIVISION			

NAME	AMOUNT	CHECK NO.	TOTAL
W.W. GRAINGER, INC.	1,210.50	398591	
JACK BROOKS REGIONAL AIRPORT	377.20	398604	
RITTER @ HOME	154.66	398632	
NEDERLAND HARDWARE SUPPLY	88.74	398657	
EDWARD MARTIN	20.00	398687	
TEXAS PARKS & WILDIFE	100.00	398717	
THE DINGO GROUP-PETE JORGENSON MARI	3,092.05	398721	
MARK BRYANT SR	95.00	398731	
PALMER POWER	495.55	398775	
JAMES UNDERHILL	20.00	398785	
			5,653.70**
ASAP - CONSTABLE PCT 8			
ORANGE COUNTY ASSOCIATION FOR	300.00	398665	
			300.00**
			558,778.05***

PROCLAMATION

STATE OF TEXAS	§	COMMISSIONERS' COURT
	§	
COUNTY OF JEFFERSON	§	OF JEFFERSON COUNTY, TEXAS

BE IT REMEMBERED at a meeting of Commissioners' Court of Jefferson County, Texas, held on the _____ day of _____, 2014, on motion made by _____, Commissioner of Precinct No. ____, and seconded by _____, Commissioner of Precinct No. ____, the following Proclamation was adopted:

Judge Larry Gist

WHEREAS, Judge Larry Gist has been awarded the Lifetime Achievement Award, by his peers, for having a reputation for and commitment to judicial excellence and he is the first trial judge to ever receive this honor; and

WHEREAS, Judge Larry Gist began his legal career after graduating from the University of Notre Dame and the University of Texas Law School to serve 9 years as an Assistant Criminal District Attorney of Jefferson County; 1 year as Assistant State's Attorney before the Court of Criminal Appeals; 20 years as Criminal District Judge of Jefferson County and to serve as a full-time Senior Criminal District Judge for the past 20 years in the Jefferson County Drug Impact Court; and

WHEREAS, Judge Larry Gist is a Certified Specialist in both Criminal Law and Criminal Appellate Law by the State Bar of Texas Board of Legal Specialization; he has also served for the last 19 years as Chairman of the Judicial Advisory Council of the Texas Department of Criminal Justice and was recently was appointed by the Texas Governor as a Member of the Texas Board of Criminal Justice and serves as Chairman of the Community Corrections Committee and he is also a Founding Fellow of the Texas Prosecutors Society; and

WHEREAS, this Lifetime Achievement Award is only the latest of numerous awards, honors, recognitions that demonstrate the life commitment Judge Larry Gist has made to contribute to the betterment of the judiciary, improvement of criminal law and access to justice in Texas; and

WHEREAS, Judge Larry Gist has, during the past two decades, distinguished himself by officiating over the Drug Impact Court that has helped rehabilitate countless drug offenders who now live productive lives drug free.

NOW, THEREFORE, the Commissioners' Court of Jefferson County, Texas, does hereby proclaim September 22, 2014 as ***Judge Larry Gist Day*** in Jefferson County, Texas and we call upon the people of Jefferson County to observe this day and take every opportunity to thank Judge Larry Gist for his unselfish service.

Signed this _____day of _____, 2014.

JUDGE JEFF R. BRANICK
County Judge

COMMISSIONER EDDIE ARNOLD
Precinct No. 1

COMMISSIONER MICHAEL S. SINEGAL
Precinct No. 3

COMMISSIONER BRENT A. WEAVER
Precinct No. 2

COMMISSIONER EVERETTE D. ALFRED
Precinct No. 4

CSJ # 0028-06-079
District # 20 - Beaumont
Code Chart 64 # 50124
Project: Relocate Crossover on US 90 at Green Pond Gully Road

STATE OF TEXAS §

COUNTY OF TRAVIS §

LOCAL PROJECT ADVANCE FUNDING AGREEMENT FOR VOLUNTARY LOCAL GOVERNMENT CONTRIBUTIONS TO TRANSPORTATION IMPROVEMENT PROJECTS WITH NO REQUIRED MATCH

THIS AGREEMENT is made by and between the State of Texas, acting through the Texas Department of Transportation, called the "State", and Jefferson County, acting by and through its duly authorized officials, called the "Local Government."

WITNESSETH

WHEREAS, Texas Transportation Code, Chapter 201 and 222 authorizes the State to lay out, construct, maintain, and operate a system of streets, roads, and highways that comprise the State Highway System; and,

WHEREAS, Texas Government Code Chapter 791 and Texas Transportation Code §201.209 and Chapter 221, authorizes the State to contract with municipalities and political subdivisions; and,

WHEREAS, Texas Transportation Commission Minute Order Number 114027 authorizes the State to undertake and complete a highway improvement generally described as the relocation of an existing crossover on US 90 at Green Pond Gully Road in Jefferson County; and,

WHEREAS, the Local Government has requested that the State allow the Local Government to participate in said improvement by funding that portion of the improvement described as the relocation of an existing crossover on US 90 at Green Pond Gully Road in Jefferson County, called the "Project"; and,

WHEREAS, the State has determined that such participation is in the best interest of the citizens of the State;

NOW, THEREFORE, in consideration of the premises and of the mutual covenants and agreements of the parties hereto, to be by them respectively kept and performed as hereinafter set forth, the State and the Local Government do agree as follows:

AGREEMENT

1. **Time Period Covered**
   The period of this Local Project Advance Funding Agreement (LPAFA) is as stated in the Master Agreement Governing Local Transportation Project Advance Funding Agreements (MAFA), without exception.

CSJ # 0028-06-079
District # 20 - Beaumont
Code Chart 64 # 50124
Project: Relocate Crossover on US 90 at Green Pond Gully Road

2. **Project Funding and Work Responsibilities**
The State will authorize the performance of only those Project items of work which the Local Government has requested and has agreed to pay for as described in Attachment A, Payment Provision and Work Responsibilities which is attached to and made a part of this contract. In addition to identifying those items of work paid for by payments to the State, Attachment A, Payment Provision and Work Responsibilities, also specifies those Project items of work that are the responsibility of the Local Government and will be carried out and completed by the Local Government, at no cost to the State.

3. **Payment of Funds**
Whenever funds are paid by the Local Government to the State under this agreement, the Local Government shall remit a check or warrant made payable to the "Texas Department of Transportation Trust Fund." The check or warrant shall be deposited by the State in an escrow account to be managed by the State. Funds in the escrow account may only be applied by the State to the Project. If, after final Project accounting, excess funds remain in the escrow account, those funds may be applied by the State to the Local Government's contractual obligations to the State under another advance funding agreement with approval by appropriate personnel of the Local Government.

4. **Right of Access**
If the Local Government is the owner of any part of the Project site, the Local Government shall permit the State or its authorized representative access to the site to perform any activities required to execute the work.

5. **Adjustments Outside the Project Site**
The Local Government will provide for all necessary right of way and utility adjustments needed for performance of the work on sites not owned or to be acquired by the State.

6. **Responsibilities of the Parties**
Responsibilities of the Parties will be under the conditions as provided for in the MAFA, without exception.

7. **Document and Information Exchange**
The Local Government agrees to electronically deliver to the State all general notes, specifications, contract provision requirements and related documentation in a Microsoft® Word or similar document. If requested by the State, the Local Government will use the State's document template. The Local Government shall also provide a detailed construction time estimate including types of activities and month in the format required by the State. This requirement applies whether the local entity creates the documents with its own forces or by hiring a consultant or professional provider. At the request of the State, the Local Government shall submit any information required by the State in the format directed by the State.

8. **Inspection and Conduct of Work**
Unless otherwise specifically stated in Attachment A, Payment Provision and Work Responsibilities, to this contract, the State will supervise and inspect all work performed

CSJ # 0028-06-079
District # 20 - Beaumont
Code Chart 64 # 50124
Project: Relocate Crossover on US 90 at Green Pond Gully Road

hereunder and provide such engineering inspection and testing services as may be required to ensure that the Project is accomplished in accordance with the approved plans and specifications. All correspondence and instructions to the contractor performing the work will be the sole responsibility of the State. Unless otherwise specifically stated in Attachment A to this contract, all work will be performed in accordance with the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges adopted by the State and incorporated in this agreement by reference, or special specifications approved by the State.

9. **Increased Cost**
Increased cost will be under the conditions as provided for in the MAFA, without exception.

10. **Maintenance**
Project maintenance will be under the conditions as provided for in the MAFA, without exception.

11. **Termination**
Termination of this LPAFA shall be under the conditions as stated in the MAFA, without exception.

12. **Notices**
Notices of this LPAFA shall be under the conditions as stated in the MAFA, without exception.

Local Government:	**State:**
Jefferson County	Director of Contract Services Office
Attention: County Judge	Texas Department of Transportation
P.O. Box 4025	125 E. 11th Street
Beaumont, Texas 77704	Austin, Texas 78701

13. **Successors and Assigns**
The State and the Local Government each binds itself, its successors, executors, assigns, and administrators to the other party to this agreement and to the successors, executors, assigns, and administrators of such other party in respect to all covenants of this agreement.

14. **Amendments**
Amendments to this LPAFA shall be made as described in the MAFA, without exception.

CSJ # 0028-06-079
District # 20 - Beaumont
Code Chart 64 # 50124
Project: Relocate Crossover on US 90 at Green Pond Gully Road

15. Incorporation of Master Agreement Provisions

This LPAFA incorporates all relevant provisions of the MAFA in effect on the date of final execution of this LPAFA, unless such MAFA provision is specifically excepted in this agreement. Any conflict between the terms of the MAFA and this LPAFA shall be governed and controlled by this LPAFA.

16. State Auditor

The state auditor may conduct an audit or investigation of any entity receiving funds from the State directly under the contract or indirectly through a subcontract under the contract. Acceptance of funds directly under the contract or indirectly through a subcontract under this contract acts as acceptance of the authority of the state auditor, under the direction of the legislative audit committee, to conduct an audit or investigation in connection with those funds. An entity that is the subject of an audit or investigation must provide the state auditor with access to any information the state auditor considers relevant to the investigation or audit.

17. Insurance

If this agreement authorizes the Local Government or its contractor to perform any work on State right of way, before beginning work the entity performing the work shall provide the State with a fully executed copy of the State's Form 1560 Certificate of Insurance verifying the existence of coverage in the amounts and types specified on the Certificate of Insurance for all persons and entities working on State right of way. This coverage shall be maintained until all work on the State right of way is complete. If coverage is not maintained, all work on State right of way shall cease immediately, and the State may recover damages and all costs of completing the work.

18. Signatory Warranty

Each signatory warrants that the signatory has necessary authority to execute this agreement on behalf of the entity represented.

CSJ # 0028-06-079
District # 20 - Beaumont
Code Chart 64 # 50124
Project: Relocate Crossover on US 90 at Green Pond Gully Road

THIS AGREEMENT IS EXECUTED by the State and the Local Government in duplicate.

THE LOCAL GOVERNMENT

_____
Signature

_____
Typed or Printed Name

_____
Title

_____
Date

THE STATE OF TEXAS

_____
District Engineer

_____
Date

CSJ # 0028-06-079
District # 20 - Beaumont
Code Chart 64 # 50124
Project: Relocate Crossover on
US 90 at Green Pond Road
Not Research and Development

Attachment A
PAYMENT PROVISION AND WORK RESPONSIBILITIES

The Local Government shall fund the design, development, award, and construction to relocate an existing crossover on US 90 at Green Pond Gully Road. This is an on-system project.

Utilities

The Local Government shall be responsible for the adjustment, removal, or relocation of utility facilities in accordance with applicable State laws, regulations, rules, policies, and procedures, including any cost to the State of a delay resulting from the Local Government's failure to ensure that utility facilities are adjusted, removed, or relocated before the scheduled beginning of construction. The Local Government will not be reimbursed with federal or state funds for the cost of required utility work. The Local Government must obtain advance approval for any variance from established procedures. Before a construction contract is let, the Local Government shall provide, at the State's request, a certification stating that the Local Government has completed the adjustment of all utilities that must be adjusted before construction is completed.

Environmental Assessment and Mitigation

Development of a transportation project must comply with the National Environmental Policy Act and the National Historic Preservation Act of 1966, which require environmental clearance of federal-aid projects.

A. The Local Government is responsible for the identification and assessment of any environmental problems associated with the development of a local project governed by this agreement.

B. The Local Government is responsible for the cost of any environmental problem's mitigation and remediation.

C. The Local Government is responsible for providing any public meetings or public hearings required for development of the environmental assessment. Public hearings will not be held prior to the approval of project schematic.

D. The Local Government is responsible for the preparation of the NEPA documents required for the environmental clearance of this Project.

E. Before the advertisement for bids, the Local Government shall provide to the State written documentation from the appropriate regulatory agency or agencies that all environmental clearances have been obtained.

Compliance with Texas Accessibility Standards and ADA

All parties to this agreement shall ensure that the plans for and the construction of all projects subject to this agreement are in compliance with the Texas Accessibility Standards (TAS) issued by the Texas Department of Licensing and Regulation, under the Architectural Barriers Act, Article 9102, Texas Civil Statutes. The TAS establishes minimum accessibility requirements to be consistent with minimum accessibility requirements of the Americans with Disabilities Act (P.L. 101-336) (ADA).

CSJ # 0028-06-079
District # 20 - Beaumont
Code Chart 64 # 50124
Project: Relocate Crossover on
US 90 at Green Pond Road
Not Research and Development

Architectural and Engineering Services

The Local Government has responsibility for the performance of architectural and engineering services. The engineering plans shall be developed in accordance with the applicable *State's Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges* and the special specifications and special provisions related to it. For projects on the state highway system, the design shall, at a minimum conform to applicable State manuals. For projects not on the state highway system, the design shall, at a minimum, conform to applicable *American Association of State Highway and Transportation Officials* design standards. In procuring professional services, the parties to this agreement must comply with federal requirements cited in 23 CFR Part 172 if the project is federally funded and with Texas Government Code 2254, Subchapter A, in all cases. Professional contracts for federally funded projects must conform to federal requirements, specifically including the provision for participation by Disadvantaged Business Enterprises (DBEs), ADA, and environmental matters.

Construction Responsibilities

A. The Local Government shall advertise for construction bids, issue bid proposals, receive and tabulate the bids, and award and administer the contract for construction of the Project. Administration of the contract includes the responsibility for construction engineering and for issuance of any change orders, supplemental agreements, amendments, or additional work orders that may become necessary subsequent to the award of the construction contract. In order to ensure federal funding eligibility, projects must be authorized by the State prior to advertising for construction.

B. The Local Government will use its approved contract letting and award procedures to let and award the construction contract.

C. Prior to their execution, the State will be given the opportunity to review contract change orders that will result in an increase in cost to the Local Government.

D. Upon completion of the Project, the party constructing the Project will issue and sign a "Notification of Completion" acknowledging the Project's construction completion.

E. For federally funded contracts, the parties to this agreement will comply with federal construction requirements cited in 23 CFR Part 635 and with requirements cited in 23 CFR Part 633, and shall include the latest version of Form "FHWA-1273" in the contract bidding documents. If force account work will be performed, a finding of cost effectiveness shall be made in compliance with 23 CFR 635, Subpart B.

CSJ # 0028-06-079
District # 20 - Beaumont
Code Chart 64 # 50124
Project: Relocate Crossover on
US 90 at Green Pond Road
Not Research and Development

The Local Government is responsible for 100% of the costs of environmental, engineering, utilities and construction as well as any overruns. The State and Local Government have estimated the cost of these items of work as follows:

Description	Total Estimated Cost	Federal Participation		State Participation		Local Participation	
		%	Cost	%	Cost	%	Cost
Environmental (by Local Government)	$500	0%	$0	0%	$0	100%	$500
Engineering (by Local Government)	$8,820	0%	$0	0%	$0	100%	$8,820
Utilities (by Local Government)	$100	0%	$0	0%	$0	100%	$100
Construction (by Local Government)	$180,000	0%	$0	0%	$0	100%	$180,000
Subtotal	$189,420	0%	$0	0%	$0	100%	$189,420
Environmental Direct State Costs	$90	0%	$0	0%	$0	100%	$90
Engineering Direct State Costs	$900	0%	$0	0%	$0	100%	$900
Utility Direct State Costs	$10	0%	$0	0%	$0	100%	$10
Construction Direct State Costs	$6,000	0%	$0	0%	$0	100%	$6,000
Indirect State Costs	$100	0%	$0	100%	$100	0%	$0
TOTAL	$196,520		$0		$100		$196,420

Initial payment by the Local Government to the State: $1,000
Payment by the Local Government to the State before construction: $6,000
Estimated total payment by the Local Government to the State $7,000
This is an estimate. The final amount of Local Government participation will be based on actual costs.

CSJ # 0028-06-079
District # 20 - Beaumont
Code Chart 64 # 50124
Project: Relocate Crossover on US 90 at Green Pond Gully Road

STATE OF TEXAS §

COUNTY OF TRAVIS §

LOCAL PROJECT ADVANCE FUNDING AGREEMENT FOR VOLUNTARY LOCAL GOVERNMENT CONTRIBUTIONS TO TRANSPORTATION IMPROVEMENT PROJECTS WITH NO REQUIRED MATCH

THIS AGREEMENT is made by and between the State of Texas, acting through the Texas Department of Transportation, called the "State", and Jefferson County, acting by and through its duly authorized officials, called the "Local Government."

WITNESSETH

WHEREAS, Texas Transportation Code, Chapter 201 and 222 authorizes the State to lay out, construct, maintain, and operate a system of streets, roads, and highways that comprise the State Highway System; and,

WHEREAS, Texas Government Code Chapter 791 and Texas Transportation Code §201.209 and Chapter 221, authorizes the State to contract with municipalities and political subdivisions; and,

WHEREAS, Texas Transportation Commission Minute Order Number 114027 authorizes the State to undertake and complete a highway improvement generally described as the relocation of an existing crossover on US 90 at Green Pond Gully Road in Jefferson County; and,

WHEREAS, the Local Government has requested that the State allow the Local Government to participate in said improvement by funding that portion of the improvement described as the relocation of an existing crossover on US 90 at Green Pond Gully Road in Jefferson County, called the "Project"; and,

WHEREAS, the State has determined that such participation is in the best interest of the citizens of the State;

NOW, THEREFORE, in consideration of the premises and of the mutual covenants and agreements of the parties hereto, to be by them respectively kept and performed as hereinafter set forth, the State and the Local Government do agree as follows:

AGREEMENT

1. **Time Period Covered**
   The period of this Local Project Advance Funding Agreement (LPAFA) is as stated in the Master Agreement Governing Local Transportation Project Advance Funding Agreements (MAFA), without exception.

CSJ # 0028-06-079
District # 20 - Beaumont
Code Chart 64 # 50124
Project: Relocate Crossover on US 90 at Green Pond Gully Road

2. **Project Funding and Work Responsibilities**
The State will authorize the performance of only those Project items of work which the Local Government has requested and has agreed to pay for as described in Attachment A, Payment Provision and Work Responsibilities which is attached to and made a part of this contract. In addition to identifying those items of work paid for by payments to the State, Attachment A, Payment Provision and Work Responsibilities, also specifies those Project items of work that are the responsibility of the Local Government and will be carried out and completed by the Local Government, at no cost to the State.

3. **Payment of Funds**
Whenever funds are paid by the Local Government to the State under this agreement, the Local Government shall remit a check or warrant made payable to the "Texas Department of Transportation Trust Fund." The check or warrant shall be deposited by the State in an escrow account to be managed by the State. Funds in the escrow account may only be applied by the State to the Project. If, after final Project accounting, excess funds remain in the escrow account, those funds may be applied by the State to the Local Government's contractual obligations to the State under another advance funding agreement with approval by appropriate personnel of the Local Government.

4. **Right of Access**
If the Local Government is the owner of any part of the Project site, the Local Government shall permit the State or its authorized representative access to the site to perform any activities required to execute the work.

5. **Adjustments Outside the Project Site**
The Local Government will provide for all necessary right of way and utility adjustments needed for performance of the work on sites not owned or to be acquired by the State.

6. **Responsibilities of the Parties**
Responsibilities of the Parties will be under the conditions as provided for in the MAFA, without exception.

7. **Document and Information Exchange**
The Local Government agrees to electronically deliver to the State all general notes, specifications, contract provision requirements and related documentation in a Microsoft® Word or similar document. If requested by the State, the Local Government will use the State's document template. The Local Government shall also provide a detailed construction time estimate including types of activities and month in the format required by the State. This requirement applies whether the local entity creates the documents with its own forces or by hiring a consultant or professional provider. At the request of the State, the Local Government shall submit any information required by the State in the format directed by the State.

8. **Inspection and Conduct of Work**
Unless otherwise specifically stated in Attachment A, Payment Provision and Work Responsibilities, to this contract, the State will supervise and inspect all work performed

CSJ # 0028-06-079
District # 20 - Beaumont
Code Chart 64 # 50124
Project: Relocate Crossover on US 90 at Green Pond Gully Road

hereunder and provide such engineering inspection and testing services as may be required to ensure that the Project is accomplished in accordance with the approved plans and specifications. All correspondence and instructions to the contractor performing the work will be the sole responsibility of the State. Unless otherwise specifically stated in Attachment A to this contract, all work will be performed in accordance with the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges adopted by the State and incorporated in this agreement by reference, or special specifications approved by the State.

9. **Increased Cost**
Increased cost will be under the conditions as provided for in the MAFA, without exception.

10. **Maintenance**
Project maintenance will be under the conditions as provided for in the MAFA, without exception.

11. **Termination**
Termination of this LPAFA shall be under the conditions as stated in the MAFA, without exception.

12. **Notices**
Notices of this LPAFA shall be under the conditions as stated in the MAFA, without exception.

Local Government:	State:
Jefferson County	Director of Contract Services Office
Attention: County Judge	Texas Department of Transportation
P.O. Box 4025	125 E. 11th Street
Beaumont, Texas 77704	Austin, Texas 78701

13. **Successors and Assigns**
The State and the Local Government each binds itself, its successors, executors, assigns, and administrators to the other party to this agreement and to the successors, executors, assigns, and administrators of such other party in respect to all covenants of this agreement.

14. **Amendments**
Amendments to this LPAFA shall be made as described in the MAFA, without exception.

CSJ # 0028-06-079
District # 20 - Beaumont
Code Chart 64 # 50124
Project: Relocate Crossover on US 90 at Green Pond Gully Road

15. Incorporation of Master Agreement Provisions

This LPAFA incorporates all relevant provisions of the MAFA in effect on the date of final execution of this LPAFA, unless such MAFA provision is specifically excepted in this agreement. Any conflict between the terms of the MAFA and this LPAFA shall be governed and controlled by this LPAFA.

16. State Auditor

The state auditor may conduct an audit or investigation of any entity receiving funds from the State directly under the contract or indirectly through a subcontract under the contract. Acceptance of funds directly under the contract or indirectly through a subcontract under this contract acts as acceptance of the authority of the state auditor, under the direction of the legislative audit committee, to conduct an audit or investigation in connection with those funds. An entity that is the subject of an audit or investigation must provide the state auditor with access to any information the state auditor considers relevant to the investigation or audit.

17. Insurance

If this agreement authorizes the Local Government or its contractor to perform any work on State right of way, before beginning work the entity performing the work shall provide the State with a fully executed copy of the State's Form 1560 Certificate of Insurance verifying the existence of coverage in the amounts and types specified on the Certificate of Insurance for all persons and entities working on State right of way. This coverage shall be maintained until all work on the State right of way is complete. If coverage is not maintained, all work on State right of way shall cease immediately, and the State may recover damages and all costs of completing the work.

18. Signatory Warranty

Each signatory warrants that the signatory has necessary authority to execute this agreement on behalf of the entity represented.

CSJ # 0028-06-079
District # 20 - Beaumont
Code Chart 64 # 50124
Project: Relocate Crossover on US 90 at Green Pond Gully Road

THIS AGREEMENT IS EXECUTED by the State and the Local Government in duplicate.

THE LOCAL GOVERNMENT

_____
Signature

_____
Typed or Printed Name

_____
Title

_____
Date

THE STATE OF TEXAS

_____
District Engineer

_____
Date

CSJ # 0028-06-079
District # 20 - Beaumont
Code Chart 64 # 50124
Project: Relocate Crossover on
US 90 at Green Pond Road
Not Research and Development

Attachment A
PAYMENT PROVISION AND WORK RESPONSIBILITIES

The Local Government shall fund the design, development, award, and construction to relocate an existing crossover on US 90 at Green Pond Gully Road. This is an on-system project.

Utilities

The Local Government shall be responsible for the adjustment, removal, or relocation of utility facilities in accordance with applicable State laws, regulations, rules, policies, and procedures, including any cost to the State of a delay resulting from the Local Government's failure to ensure that utility facilities are adjusted, removed, or relocated before the scheduled beginning of construction. The Local Government will not be reimbursed with federal or state funds for the cost of required utility work. The Local Government must obtain advance approval for any variance from established procedures. Before a construction contract is let, the Local Government shall provide, at the State's request, a certification stating that the Local Government has completed the adjustment of all utilities that must be adjusted before construction is completed.

Environmental Assessment and Mitigation

Development of a transportation project must comply with the National Environmental Policy Act and the National Historic Preservation Act of 1966, which require environmental clearance of federal-aid projects.

A. The Local Government is responsible for the identification and assessment of any environmental problems associated with the development of a local project governed by this agreement.

B. The Local Government is responsible for the cost of any environmental problem's mitigation and remediation.

C. The Local Government is responsible for providing any public meetings or public hearings required for development of the environmental assessment. Public hearings will not be held prior to the approval of project schematic.

D. The Local Government is responsible for the preparation of the NEPA documents required for the environmental clearance of this Project.

E. Before the advertisement for bids, the Local Government shall provide to the State written documentation from the appropriate regulatory agency or agencies that all environmental clearances have been obtained.

Compliance with Texas Accessibility Standards and ADA

All parties to this agreement shall ensure that the plans for and the construction of all projects subject to this agreement are in compliance with the Texas Accessibility Standards (TAS) issued by the Texas Department of Licensing and Regulation, under the Architectural Barriers Act, Article 9102, Texas Civil Statutes. The TAS establishes minimum accessibility requirements to be consistent with minimum accessibility requirements of the Americans with Disabilities Act (P.L. 101-336) (ADA).

CSJ # 0028-06-079
District # 20 - Beaumont
Code Chart 64 # 50124
Project: Relocate Crossover on
US 90 at Green Pond Road
Not Research and Development

Architectural and Engineering Services

The Local Government has responsibility for the performance of architectural and engineering services. The engineering plans shall be developed in accordance with the applicable *State's Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges* and the special specifications and special provisions related to it. For projects on the state highway system, the design shall, at a minimum conform to applicable State manuals. For projects not on the state highway system, the design shall, at a minimum, conform to applicable *American Association of State Highway and Transportation Officials* design standards. In procuring professional services, the parties to this agreement must comply with federal requirements cited in 23 CFR Part 172 if the project is federally funded and with Texas Government Code 2254, Subchapter A, in all cases. Professional contracts for federally funded projects must conform to federal requirements, specifically including the provision for participation by Disadvantaged Business Enterprises (DBEs), ADA, and environmental matters.

Construction Responsibilities

A. The Local Government shall advertise for construction bids, issue bid proposals, receive and tabulate the bids, and award and administer the contract for construction of the Project. Administration of the contract includes the responsibility for construction engineering and for issuance of any change orders, supplemental agreements, amendments, or additional work orders that may become necessary subsequent to the award of the construction contract. In order to ensure federal funding eligibility, projects must be authorized by the State prior to advertising for construction.

B. The Local Government will use its approved contract letting and award procedures to let and award the construction contract.

C. Prior to their execution, the State will be given the opportunity to review contract change orders that will result in an increase in cost to the Local Government.

D. Upon completion of the Project, the party constructing the Project will issue and sign a "Notification of Completion" acknowledging the Project's construction completion.

E. For federally funded contracts, the parties to this agreement will comply with federal construction requirements cited in 23 CFR Part 635 and with requirements cited in 23 CFR Part 633, and shall include the latest version of Form "FHWA-1273" in the contract bidding documents. If force account work will be performed, a finding of cost effectiveness shall be made in compliance with 23 CFR 635, Subpart B.

CSJ # 0028-06-079
District # 20 - Beaumont
Code Chart 64 # 50124
Project: Relocate Crossover on
US 90 at Green Pond Road
Not Research and Development

The Local Government is responsible for 100% of the costs of environmental, engineering, utilities and construction as well as any overruns. The State and Local Government have estimated the cost of these items of work as follows:

Description	Total Estimated Cost	Federal Participation		State Participation		Local Participation	
		%	Cost	%	Cost	%	Cost
Environmental (by Local Government)	$500	0%	$0	0%	$0	100%	$500
Engineering (by Local Government)	$8,820	0%	$0	0%	$0	100%	$8,820
Utilities (by Local Government)	$100	0%	$0	0%	$0	100%	$100
Construction (by Local Government)	$180,000	0%	$0	0%	$0	100%	$180,000
Subtotal	$189,420	0%	$0	0%	$0	100%	$189,420
Environmental Direct State Costs	$90	0%	$0	0%	$0	100%	$90
Engineering Direct State Costs	$900	0%	$0	0%	$0	100%	$900
Utility Direct State Costs	$10	0%	$0	0%	$0	100%	$10
Construction Direct State Costs	$6,000	0%	$0	0%	$0	100%	$6,000
Indirect State Costs	$100	0%	$0	100%	$100	0%	$0
TOTAL	$196,520		$0		$100		$196,420

Initial payment by the Local Government to the State: $1,000
Payment by the Local Government to the State before construction: $6,000
Estimated total payment by the Local Government to the State $7,000
This is an estimate. The final amount of Local Government participation will be based on actual costs.

ARTICLES OF AGREEMENT

Between

Jefferson County, Texas

and

The Jefferson County Deputy Constables Association

October 1, 2014 – September 30, 2017

TABLE OF CONTENTS

ARTICLE NUMBER	PROVISION
ARTICLE 1	Preamble
ARTICLE 2	Definitions
ARTICLE 3	Duration
ARTICLE 4	Recognition
ARTICLE 5	Payroll Deductions
ARTICLE 6	Conduct of Association Business
ARTICLE 7	Bulletin Boards
ARTICLE 8	Management Rights
ARTICLE 9	Disallowed Practices
ARTICLE 10	No Strike Clause
ARTICLE 11	Maintenance of Standards
ARTICLE 12	Uniforms, Safety, and Equipment
ARTICLE 13	Seniority
ARTICLE 14	Retirement
ARTICLE 15.	Contract Dispute Resolution
ARTICLE 16	Wages
ARTICLE 17	Hours of Work, Overtime, and Staffing
ARTICLE 18	Vacations
ARTICLE 19	Holidays
ARTICLE 20	Sick Leave
ARTICLE 21	Injury Leave
ARTICLE 22	Leave of Absence
ARTICLE 23	Military Leave
ARTICLE 24	Jury Duty
ARTICLE 25	Disciplinary Actions
ARTICLE 26	Insurance
ARTICLE 27	Miscellaneous Provisions
ARTICLE 28	Reserve Deputy Constables
ARTICLE 29	Closing Statements
ATTACHMENT 1	Arbitration
ATTACHMENT 2	Non-Binding Arbitration

ARTICLE 1
Preamble

SECTION I

This Agreement is made and entered into by and between the County of Jefferson and the Precincts 1, 2, 4, 6, 7, and 8 Constables of said County, in the State of Texas, and the Jefferson County Deputy Constables Association, hereinafter referred to as the "Association," in accordance with all applicable state and federal statutes, including the Fire and Police Employee Relations Act of Texas (Chapter 174 of the Texas Local Government Code).

SECTION II

The general purpose of this Agreement is to promote the mutual interests of the County and the deputy constables; to provide for equitable and peaceful adjustments of differences that may arise; to establish proper standards of wages, hours and other terms and conditions of employment for "policemen" as defined in the Fire and Police Employee Relations Act of Texas, with the objective of providing a sound basis for the efficient and effective delivery of services to the public. The parties to this Agreement will cooperate fully to advance and achieve these purposes.

SECTION III

The County and the Constable, and the Association, acknowledge and agree to their mutual obligation to bargain in good faith as set forth in the Fire and Police Employee Relations Act of Texas and all other applicable statutes.

ARTICLE 2
Definitions

A. "Agreement" means the Collective Bargaining Agreement negotiated by and between the County and the Constable, and the Jefferson County Deputy Constables Association.

B. "Association" means the Jefferson County Deputy Constables Association.

C. "Bargaining Unit" means all full time, paid sworn and certified deputy constables appointed by the Constable.

D. "Base Pay" means the salary or wages paid to the deputy, exclusive of any longevity pay or any other supplemental pay or benefits that may be provided in this Agreement.

E. "Board of Directors" means those members of the Association who are elected or appointed and serve as members of the Board of Directors of that organization pursuant to the Constitution and By-Laws of the Association.

F. "Constable" means the duly elected or appointed Constable.

G. "County" means the governmental body of Jefferson County, Texas; and/or Commissioner's Court.

H. "County Commissioner" means the duly elected or appointed commissioner for each of the four (4) precincts of Jefferson County.

I. "County Judge" means the duly elected or appointed county judge who is charged primarily with the administration of Jefferson County.

J. "Office" means the Precinct 1,2,4,6,7, and 8 Constable's Office of Jefferson County, Texas.

K. "Deputy" means any sworn, full time, paid employee of the Precinct 1,2,4,6,7, and 8 Constable's Office, who is certified by the Texas Commission on Law Enforcement Standards and Education, except for the Constable.

L. "Discipline" means a suspension without pay or termination.

M. "Dispute" means any and all disputes arising under the Contract Dispute Resolution Procedure in Article 15.

N. "Emergency" means an unexpected happening or event, or an unforeseen situation or crises that calls for immediate action.

P. "Promotion" means advancement from a lower rank to a higher rank within the Constable's Office.

Q. "Regular Pay" means the total salary or wages paid to a deputy, exclusive of overtime pay, but including any types of pay supplements that may be included in this Agreement relating to longevity pay, education, specialized training or certification that are provided to a deputy on a recurring basis.

R. "Standby" means that an off-duty deputy has received an order from a superior officer to remain at home or other specific, known location awaiting a call to be immediately available for duty when called. The order must substantially interfere with the deputy's freedom to use his/her time off as desired. It does not include any requirement to wear a pager or other such device and does not include any rule or regulation requiring response to a pager; unless that rule or regulation requires response to pages so frequently or readiness conditions so restrictive that the deputy is not free to use the off-duty time effectively for his/her own benefit.

S. "Strike" means, whether done in concert or individually, a failure to report for duty, the willful absence from one's position, the stoppage of work, or the abstinence in whole or in part from the full, faithful, and proper performance of the duties of employment (including, but not limited to, "slowdowns", "sickouts", and the intentional failure to make arrests), for the purpose of inducing, influencing, or coercing a change in the conditions, compensation, rights, privileges, or obligations of employment.

T. "Suspension" means when a deputy is temporarily relieved from duty by the Constable pursuant to Article 25. A deputy who is suspended remains an employee of the Constable's Office, but may not perform an official act unless so directed by the Constable. The Constable may suspend a deputy with or without pay.

U. "Termination" means when a deputy is permanently relieved from duty by the Constable pursuant to Article 25; and shall include an action by the Constable to not re-deputize any deputy at the beginning of a new term of office.

V. "Uniform" means any clothing which is required by the County or the Constable to have identifying paraphernalia attached to it.

ARTICLE 3
Duration

SECTION I

This Agreement shall be effective as of the 1st day of October, 2014, and shall remain in full force and effect until the 30th day of September, 2017 unless the parties mutually agree on an extension to some other date after September 30, 2017. In the event that the parties reach an impasse in collective bargaining negotiations as defined in Fire and Police Employee Relations Act of Texas prior to September 30, 2017 then this contract shall remain in effect thereafter until the impasse is resolved, but in no event later than September 30, 2019.

SECTION II

In the event that a Constable other than the signatory to this Agreement takes office any time during the term of this Agreement, said new Constable may, no later than thirty (30) calendar days after taking office, give the Association written notice of his intention to re-open negotiations with respect to those parts of this Agreement applicable to his rights and authority. The failure by the new Constable to give written notice within thirty (30) calendar days of taking office shall give implied consent that the terms and conditions of this Agreement shall continue in full force and effect. In the event that negotiations are reopened between the new Constable and the Association, and the parties reach an impasse in collective bargaining negotiations as defined in the Fire and Police Employee Relations Act of Texas, then all parts of this contract applicable to the Constable's rights and authority shall remain in effect thereafter until the impasse is resolved, but in no event later than September 30, 2019.

SECTION III

Nothing in this Article shall preclude the parties, upon mutual agreement and in writing, from reopening negotiations at any time during this agreement to negotiate and amend, modify or otherwise change any provisions set forth in this agreement.

ARTICLE 4
Recognition

SECTION I

The County and the Constable hereby recognize the Association as the sole and exclusive collective bargaining agent for the unit consisting of all deputies as defined herein. This right of recognition includes the sole and exclusive right to negotiate on behalf of all members of the bargaining unit over wages, hours and terms and conditions of employment.

SECTION II

The County, the Constable and the Association recognize their joint responsibility to a reasonable, fair and consistent interpretation and application of this Agreement, Constable's Office Rules and Regulations, and Special Directives and Administrative Orders which may govern the conduct of members in the Bargaining Unit.

ARTICLE 5
Payroll Deductions

SECTION I

The Association shall have the sole and exclusive right to payroll deductions of all matters set forth in this Section.

SECTION II

The County agrees to deduct each payday on a prorated basis the monthly Association dues from the pay of members of the bargaining unit who submit written individual requests for such deductions to be made. Dues shall be paid to the legally designated representative of the Association.

SECTION III

The authorization form shall provide that the deduction shall remain in full force and effect until the receipt by the County of a written termination request from the member of the bargaining unit. The authorization form shall also authorize the County, without further notice from the member of the bargaining unit, to change the amount of the deduction for Association dues to the amount specified in a written notice for Association dues change provided to the County by the Association. The County shall begin making deductions in that amount within thirty (30) calendar days of receipt of written notice. Only one change in the amount of the deduction shall be authorized in a twelve (12) month period.

SECTION IV

The deduction authorization is completely voluntary, and may be terminated by any member of the bargaining unit in writing at any time. The County shall provide a list of those

members of the bargaining unit from whom dues were deducted each payday when payment is made to the Association.

SECTION V

The County shall deduct special, one-time assessments upon written request of the Association signed by the President for social, benevolent or fraternal purposes of the Association; except that no more than one special assessment shall be deducted by the County per Fiscal Year.

SECTION VI

The Association shall indemnify the County, and hold it harmless against any and all claims, demands, suits or other forms of liability that may arise out of, or by reason of, any action taken by the County for the purpose of complying with the provisions of this Article.

ARTICLE 6
Conduct of Association Business

SECTION I

The Association shall have the sole and exclusive right to all time off rights set forth in this Article.

SECTION II

Any member of the Board of Directors shall have the right to visit the premises of a Constable's Office for the purpose of administering this Agreement. Such visits shall be conducted in a manner so as not to interfere with the functions of a Constable's Office. A member of the Board of Directors shall provide a written request to the Constable about any visitation of the premises. The Constable shall not unreasonably deny any request to visit the premises.

SECTION III

Consistent with the Association leave pool provisions in Section 4 herein, the Association's negotiating team, not to exceed four (4) members, shall be permitted time off to attend negotiating sessions with County representatives, where such sessions or meetings are scheduled during working hours; or shall be given time off for the scheduled night shift immediately preceding or succeeding such negotiating sessions. In the event of an emergency, lack of manpower or other operational contingency, time off for negotiations shall not be permitted.

SECTION IV

Association business shall not be conducted at the expense of the County or on County time. All Association business conducted by any member of the Board of Directors shall be done on the following basis:

A. All Association business conducted by a member of the Board of Directors in lieu of work time shall be on the Board member's own leave time or paid for by the Association leave pool as provided herein; except that any attendance by a Board member that is required by the County or Constable shall not be construed as Association business. All Association business paid for by the Association leave pool must be accounted for in the leave pool records maintained as required herein.

B. Each deputy in the Bargaining Unit shall donate two (2) hours per year at the beginning of each new Calendar Year from vacation to an Association leave pool. Any accumulated Association leave time remaining as of December 31, shall be carried forward into the next year until March 15. Any time that is carried forward that is not used by March 15 shall expire on that date.

C. Any pool days taken by a member of the Board of Directors shall be recorded on a form containing the following information: (1) the deputy's name; (2) the deputy's job assignment; (3) the nature of the Association business being taken; (4) how much time is being taken; and (5) the signature of the Association President or his designee authorizing such leave. A record of such leave accrued and taken will be maintained by the County Auditor.

D. Association business leave may be suspended by the Constable in times of emergency, for lack of manpower, or for an operational contingency.

ARTICLE 7
Bulletin Boards

The Association shall have the sole and exclusive right to maintain a bulletin board at a Constable's Office in an area not exposed to public view. The board may be used for posting notices of (1) recreational and social events, (2) Association elections, (3) Association meetings, (4) reports of Association committees, (5) rulings or policies of the State or National Association, (6) legislative enactments and judicial decisions affecting public employee labor relations, and (7) notices or announcements pertaining to the political activities of the Association, except that specific endorsement letters for any political candidate shall not be posted. All postings shall be in compliance with the Texas Election Code and other applicable laws.

ARTICLE 8
MANAGEMENT RIGHTS

Except as otherwise specifically provided herein, the direction of the work force and the management of a Constable's Office, including, but not limited to, the right to hire, the right to discipline or discharge for just cause, the right to decide job qualifications for hiring, the right to lay off for lack of work or funds, the right to abolish positions, the right to make rules and regulations governing conduct and safety, the right to determine the methods, processes and manner of performing work to deputies, the determination of policy affecting the selection of new deputies, the right to establish work performance measurements and standards and to implement programs to increase the cost effectiveness of departmental operations if research dictates the need for such programs, are vested exclusively in the Constable and/or County as applicable.

ARTICLE 9
Disallowed Practices

SECTION I

The County, Constable or the Association, as applicable, shall not engage in the following practices:

A. Interfere with, restrain, or coerce deputies in the exercise of rights granted in this Agreement.

B. Dominate, interfere, or assist in the formation, existence or administration of any employee organization; or contribute financial support to any such organization. This practice shall include any assistance, either direct or indirect, which interferes with any of the Association's sole and exclusive rights as described in this Agreement to another labor organization that can possibly be certified under the Fire and Police Employee Relations Act of Texas as an exclusive bargaining representative.

C. Encourage or discourage membership in any employee organization by discrimination in hiring, tenure, training or other terms or conditions of employment.

D. Discharge or discriminate against any deputy because he/she has filed any good faith affidavit, petition, grievance, or complaint; or given any information or testimony alleging violations of this Agreement; or because he/she has formed, joined, or chosen to be represented by the Association.

E. Make or permit any agreement, understanding, or contract with any person, including a member of the bargaining unit, which in any manner circumvents, alters, amends, modifies, or contradicts any provision of this Agreement.

F. Coerce or intimidate deputies in the enjoyment of any legal rights guaranteed under the Fire and Police Employee Relations Act of Texas.

G. Coerce or intimidate deputies in the enjoyment of any legal rights guaranteed under this Agreement.

H. Coerce, intimidate or induce any elected official or agent of the County to interfere with any deputies in the enjoyment of their legal rights guaranteed under the Fire and Police Employee Relations Act of Texas or under this Agreement.

ARTICLE 10
No Strike Clause

SECTION I

The Association agrees that during the term of this Agreement, it will not authorize, ratify, encourage, or otherwise support any strikes, slow-downs or any other form of work stoppage or interference with business of the County or Constable's Office, and will cooperate with the County and Constable in preventing and/or halting any such actions.

SECTION II

Subject to Article 25, "Disciplinary Actions," the Constable may discipline and/or discharge any deputy who instigates, participates, or gives leadership to any act or conduct prohibited by Section 1 of this Article. The Constable may also invoke any and all remedies at law in the event of any strike, work stoppage or slow-down.

ARTICLE 11
Maintenance of Standards

All standards, economic benefits, or other conditions of employment enjoyed by members of the Bargaining Unit at the effective date of this Agreement, which are not specifically included as a part of this Agreement, shall remain unchanged for the duration of the Agreement.

ARTICLE 12
Uniforms and Equipment

SECTION I

Uniforms.

The County shall issue to each deputy, who is required by the Constable to wear a uniform, five shirts and three pairs of pants. Uniforms will be replaced by the County on an as needed basis as determined by the Constable subject to budget appropriations sufficient for replacement. Uniforms that have been damaged or excessively worn due to abuse, misuse or neglect shall be replaced at the expense of the deputy.

The County shall issue to each deputy one windbreaker and one set of rain gear.

SECTION II
Uniform Equipment.

The County shall issue to each deputy who is required to wear a uniform the following equipment:

a. one full Sam Browne including keepers, holster, clip holders, bullet holders, flashlight holder, stick holder, handcuffs, handcuff case and portable radio holder.
b. bullet proof vest.
c. current penal code and traffic code.

The County shall issue to each deputy who is not required to wear a uniform the following equipment:

a. holster, clip holders, bullet holders, handcuffs, handcuff case and portable radio holder.
b. bullet proof vest.

All equipment will be replaced on an as needed basis. Any item that has been damaged or excessively worn due to abuse, misuse or neglect shall be replaced at the expense of the deputy.

SECTION III
Radios.

The County shall provide each deputy with a portable radio for use while on-duty. Said radios shall be maintained in good operating condition and shall be replaced or repaired if not in working condition.

SECTION IV
Bullet-Proof Vests.

When required to be provided by this agreement, bullet-proof vests shall be replaced when:

a. The vest has sustained job related damage that renders the vest unsafe for continued use.
b. The age of the vest exceeds the time for use recommended by the manufacturer one.

SECTION V
Vehicle Maintenance and Replacement.

Vehicles shall be maintained by the County and kept in good and safe operating condition. Deputies shall be responsible to deliver the vehicles to an appropriate County service center for regular maintenance when required. Vehicles will be replaced when necessary as determined by this article.

The County shall furnish every Constable Office vehicle with the following equipment: two-way radio; cage; pump shotgun; flashlight/charger; first aid kit; jumper cables; fire extinguisher; and one case (24) of flares. This equipment shall be maintained in good working condition, and shall be replaced on an as needed basis. Any item that has been damaged due to abuse, misuse, or neglect shall be replaced at the expense of the Deputy causing the damage.

A Vehicle Assessment Committee consisting of a Constable or his/her designee, the President of the Association or his/her designee, and the County Service Center Supervisor, shall be created for the purpose of assessing the condition of each vehicle in use and determining whether or not each vehicle is safe for continued use. These determinations shall be made prior to the time that each Constable submits his office budget each year. In arriving at a decision, the Committee shall take into account the type of service to which the vehicle is suited or used, the anticipated mileage which the vehicle will have attained during the next budget year, the type of maintenance to be administered to the vehicle, and the overall condition of the vehicle, including age, mileage and type of prior usage.

If two (2) out of three (3) members of the Committee determine that a vehicle should be replaced, the Committee shall prepare a written report detailing the condition of the vehicle to the appropriate Constable and County Auditor. The report will be a component of a request for allocation of funds in the forthcoming budget for replacement of the vehicle.

At the request of any one (1) of the three (3) Committee members at any time during the year, the Committee shall evaluate the condition of a particular vehicle to determine whether or not the vehicle is safe for continued use. If two (2) out of three (3) members agree that the vehicle is unsafe, the vehicle shall immediately be taken out of service, and; (1) the vehicle shall either be restored to safe condition, or, (2) the County's procedure for acquisition of a replacement vehicle shall immediately be initiated by the Constable if funds for that purpose are available at that time, or , (3) the Committee shall prepare a condition report and a request for a replacement in the next budget.

This procedure shall apply only to those vehicles that were purchased by the County through its usual vehicle acquisition procedure, and shall not apply to vehicles that were acquired by seizure or by other means.

SECTION VI
Reference Materials.

The County shall provide each Constable's office with a current Family Code, Rules of Civil Procedure, Civil Practice and Remedies Code and Property Code. The County shall provide each deputy with a current Penal Code and Traffic Code.

ARTICLE 13
Seniority

SECTION I

Definition.

Seniority shall be defined as the length of service by a deputy ~~an officer with~~ in his/her ~~the~~ Constable's Office ~~Department~~.

SECTION II

Applicability.

Consistent with the Sections of this Article, seniority shall apply in the selection of days off, vacation days, and layoff/recall for a deputy in his/her Constable's Office.

SECTION III

Days Off/Vacations.

Seniority shall be the sole factor in the selection of vacations, and based upon overall time of employment as a deputy in his/her Constable's Office. Seniority shall be the sole factor in the selection of days off, and shall be based upon time of employment as a deputy constable in his/her Constable's Office.

SECTION IV

Lay-off/recall.

Seniority shall be the sole factor in layoff and recall, with layoff being accomplished beginning with the least senior deputy in the affected Constable's Office; and recall beginning with the most senior deputy in the highest job classification in the affected Constable's Office. It is the responsibility of the County to notify a deputy in writing if he/ she is being laid off due to the elimination of the position in the budget. It is the responsibility of the affected Constable to notify in writing a laid off deputy of a recall to fill a vacancy in that Constable's Office within thirty (30) calendar days of the vacancy. If the laid off deputy does not accept the recall job offer by the Constable within fifteen (15) calendar days, the position may be filled by the Constable with any other eligible candidate.

ARTICLE 14
Retirement

Members of the bargaining unit shall continue to participate in the Texas County and District Retirement System in accordance with the statutes of the State of Texas now applicable, or as they may hereafter be amended, in the same manner as other County employees not subject to a collective bargaining agreement.

ARTICLE 15
Contract Dispute Resolution

SECTION I

Scope.

All disputes concerning the proper interpretation and application of this Agreement, or alleged violations of this Agreement, except matters involving discipline which are subject to the procedure as set forth in Article 25, and except matters covered in Article 16, shall be resolved by the provisions in this article.

SECTION II

Time Limits.

The parties shall adhere to the time limits as set forth in this Article. In the event that an officer or the Association fails to meet the time limits at Step One (1) or Step Two (2) of the procedure, the grievance shall be considered satisfied and no further action shall be taken. Failure by a deputy, the Association, the Constable or the County to meet the time limits at any other Step shall be considered an unsatisfactory response and shall automatically allow the grievance to proceed to the next step. Any time restrictions in this Article may be waived by written, mutual agreement of the parties.

SECTION III

Process.

A dispute as defined in Section 1 above shall be handled as follows:

Step 1. Each deputy who alleges that a dispute exists shall, within fourteen (14) calendar days of the date the deputy knew or should have known of the existence of the alleged dispute, along with the Association President or his/her designee, first discuss the dispute with an immediate or intermediate supervisor, or the Constable, as applicable. The Deputy ~~Officer~~ and the Association President or his/her designee is encouraged to attempt an informal solution to impending disputes by verbally advising the supervisor or Constable of such dispute as soon as possible.

Step 2. If the dispute is not resolved at Step One (1), then the grievant shall submit the issue in writing to the Constable within thirty (30) calendar days of the Deputy's actual or constructive knowledge of the occurrence causing the problem. The Constable shall determine whether the complaint should be answered by the Constable, the County Judge, or both. The Constable or his designee, and/or the County Judge, as applicable, shall provide a written response within twenty (20) calendar days after receipt of the complaint. Only grievances involving economic issues shall be filed with the County Judge.

The President of the Association, or his/her designee, may file a class action complaint with the Association on behalf of any Bargaining Unit member(s) similarly situated within thirty (30) calendar days of the Association President's actual or constructive knowledge of the occurrence or event causing the problem.

The complaint by an individual deputy or by the President of the Association shall include: (1) a statement of the complaint and all facts on which it is based; (2) any and all sections of the Agreement which have allegedly been violated; (3) the remedy or adjustment, if any, sought; and (4) the signature of the deputy or Association President, as applicable.

Step 3. If the dispute is not resolved at Step 2, the grievant shall submit a copy of the written grievance filed at Step 2, and a copy of the response received, to the Association within ten (10) calendar days of the grievant's receipt of the Step 2 response.

A determination as to the validity of the complaint shall be made by an Association Grievance Committee created for that purpose. The Association Grievance Committee shall meet and render its decision within twenty (20) calendar days after receipt of the complaint.

In the event that the Association Grievance Committee decides that a valid grievance exists, the Association (and Deputy, if applicable) shall proceed to Step 4. In the event the Association Grievance Committee decides that no dispute exists, there shall be no further action under this procedure.

Step 4. If the complaint has not been settled at Step 3, the Association President, the Constable or the County Judge may request within thirty (30) calendar days after receipt of the Association's decision, that the matter be submitted to negotiation.

If a request for negotiation is made, the parties shall meet and confer concerning the complaint for a period not to exceed thirty (30) calendar days from the date of the request in an effort to resolve the matter.

If the parties cannot resolve the dispute within thirty (30) calendar days, they shall certify in writing that no resolution has been made.

Step 5. If the complaint has not been settled at Step 3, or no request is made by any party pursuant to Step 4 to submit the dispute for negotiation, then the Association shall have thirty (30) calendar days from the date that the grievant submitted the grievance at Step 3 to the Association, to give notice of its intention to submit the dispute to final, binding arbitration as

hereinafter provided. If the complaint is submitted for resolution at Step 4, the Association shall have twenty (20) calendar days from the date the parties certify that they cannot resolve the matter to give notice of its intention to submit the dispute to final, binding arbitration as hereinafter provided.

The parties shall arbitrate consistent with the provisions set forth in Attachment 3, which is incorporated by reference into this Article.

Failure to adhere to any time limits in this Article may be pled in bar to either arbitration or any legal action.

ARTICLE 16
Wages

SECTION I*

Wage Rates. Deputies shall be compensated on the basis of working 2,080 hours annually; and shall be compensated on a bi-weekly basis. The base salaries for the term of this Agreement shall be in accordance with the following schedule:

MONTHLY RATES/EFFECTIVE DATES

Monthly Ranges	October 1, 2014
Deputy Constable – 1 (0 – 12)	$4,105.46
Deputy Constable – 2 (12-24)	$4,339.88
Deputy Constable – 3 (24-48)	$4,526.17
Deputy Constable – 4 (48-72)	$4,712.43
Deputy Constable - 5 (72-96)	$4,879.18
Deputy Constable – 6 (96-120)	$5,047.41
Deputy Constable – 7 (120 – 180)	$5,197.59
Deputy Constable – 8 (180+)	$5,350.87
Chief Deputy Constable	$6,328.80

Monthly Ranges	October 1, 2015
Deputy Constable – 1 (0 – 12)	$4,187.57
Deputy Constable – 2 (12-24)	$4,426.68
Deputy Constable – 3 (24-48)	$4,616.69
Deputy Constable – 4 (48-72)	$4,806.68
Deputy Constable - 5 (72-96)	$4,976.76
Deputy Constable – 6 (96-120)	$5,148.36
Deputy Constable – 7 (120 – 180)	$5,301.54
Deputy Constable – 8 (180+)	$5,457.89
Chief Deputy Constable	$6,455.38

Monthly Ranges	October 1, 2016
Deputy Constable – 1 (0 – 12)	$4,271.32
Deputy Constable – 2 (12-24)	$4,515.21
Deputy Constable – 3 (24-48)	$4,709.02
Deputy Constable – 4 (48-72)	$4,902.81
Deputy Constable - 5 (72-96)	$5,076.30
Deputy Constable – 6 (96-120)	$5,251.33
Deputy Constable – 7 (120 – 180)	$5,407.57
Deputy Constable – 8 (180+)	$5,567.05
Chief Deputy Constable	$6,584.49

Effective October 1, 2014, all members of the bargaining unit shall receive a two percent (2%) across-the-board wage increase.

Effective October 1, 2015, all members of the bargaining unit shall receive a two percent (2%) across-the-board wage increase.

Effective October 1, 2016, all members of the bargaining unit shall receive a two percent (2%) across-the-board wage increase.

In the event that non-bargaining unit County employees receive a wage increase of more than two percent (2%) in Fiscal Years 2014 to 2016, then all members of the bargaining unit shall receive the same increase.

Whenever there is an official emergency closure of all County operations, all approved essential employees (exempt or non-exempt) required to remain at work/report to work will be compensated at their regular rate of pay. In addition, they will receive premium/extraordinary pay at 1 / 2 times their hourly salary for the duration of the emergency closure for all documented time during which work is performed. All hours worked in excess of 40 hours per designated work week will be paid in accordance with FLSA guidelines. The maximum number of work hours which may be recorded for any work day is limited to 24 hours per day during the first 72 hours of the emergency closure and 18 hours per day thereafter. All hours must be documented in a format approved by the County Auditor.

SECTION II

Certification Pay.

A. A deputy will be provided $75.00 monthly, in addition to the base rate, whenever the officer attains an Intermediate Certification through TCLEOSE.

A deputy, who attains an Advanced Certification through TCLEOSE, shall be provided $100.00 per month in addition to the base rate, and in addition to the $75.00 that is being provided for the Intermediate Certification or Associate Degree.

A deputy who attains a Masters Certification through TCLEOSE shall be provided $125.00 per month in addition to the base rate, and in addition to the $100.00 that is being provided for the Advanced Certification and the $75.00 that is being provided for the Intermediate Certification.

A deputy will be provided $100.00 monthly, in addition to the base rate and Certification Pay, whenever the officer attains a Civil Process Proficiency Certification through TCLEOSE.

B. No deputy in a Constable's Office compensated pursuant to Section A of this Article shall receive more than a total of $400.00 monthly for the Certification pay.

SECTION III

Longevity Pay.

In addition to the base wage rates, deputies shall be compensated longevity pay at the rate of $6.26 per month per year of service, to a maximum of twenty-five (25) years of service $156.50 monthly maximum) by the County.

SECTION IV

Miscellaneous Pay Issues.

All Deputy Constable's hired after June 16, 1997 will be credited for any verifiable Texas State Law Enforcement experience for purposes of determining at which Deputy Constable rate they will be paid. However, no new hire can enter employment at a rate greater than that specified as the Deputy Constable-5 step.

Deputy Constables may transfer within the same rank to other Constable precincts without a loss in pay.

ARTICLE 17
Hours of Work, Overtime, and Staffing

SECTION I

Work Day/Work Week.

Deputies shall ordinarily work eight (8) hours or ten (10) hours per shift, as applicable; and forty (40) hours per week. The work day for all deputies shall include any shift briefings and training required by the Constable's Office.

SECTION II

Overtime.

All work performed by a deputy in excess of his/her regularly scheduled forty (40) hour work week shall be deemed overtime and shall be compensated on the basis of time-and-one-half the deputy's regular rate of pay. Excused absences with pay (specifically vacation, holiday, compensatory time and funeral leave) shall be deemed time worked for the purpose of computing hours worked.

SECTION III

Court time.

Deputies attending court during off-duty time shall be paid at the rate of time and one-half, with a two (2) hour minimum. On duty time spent in court will be paid at straight time. This provision applies to any hearing a deputy is required to attend as a result of his employment.

SECTION IV

Call Back.

Any deputy called back to duty from off-duty or on a regularly-scheduled day off shall be compensated at a minimum of two (2) hours pay.

SECTION V

Standby.

In the event that a deputy is ordered to standby prior to or after completion of a regular shift, the deputy shall receive one (1) hours pay for each four hours of standby. Except in the event of an emergency declared by the County Judge, no deputy will be required to Standby for more than eight hours in any 24 hour period.

SECTION VI

Election.

A deputy may elect to receive payment of any overtime accumulated pursuant to this Article in cash or compensatory time provided, however, that overtime will be paid only as compensatory time unless sufficient budgeted funds remain for any cash payment.

SECTION VII

Training time.

Any training time required by a Constable's Office or by any State of Texas agency that takes place outside of regular work hours shall be treated as time worked as defined in this Article.

ARTICLE 18
Vacations

SECTION I

Vacation time shall not be taken until the member of the bargaining unit has been employed at least twelve (12) consecutive months. Upon completion of twelve (12) consecutive months, a Deputy shall be entitled to accrue vacation based on the following schedule during the remainder of the calendar year:

MONTH OF EMPLOYMENT	HOURS OF VACATION
January	80
February	72
March	64
April	60
May	56
June	48
July	40
August	32
September	24
October	20
November	16
December	8

SECTION II

All members of the Bargaining Unit shall be provided vacation time based on the schedule below. "Completed Years of Service" shall be measured from January 1 of the calendar year in which the deputy was first employed. Vacation hours are credited as of January 1 of each calendar year.

COMPLETED YEARS OF SERVICE	HOURS OF VACATION
1 through 4	80
5 through 9	120
10 through 14	160
15 and over	200

SECTION III

Members of the bargaining unit who separate from service with the County after having completed twelve consecutive months of service shall be paid upon separation for any accrued, unused vacation to which they are entitled.

SECTION IV

Members of the bargaining unit who have at least twenty (20) years of continuous service may receive pay-in-lieu of no more than eighty (80) hours vacation annually. Any such pay for vacation shall be at the straight time rate; and shall be uniformly applied in any calendar year to all deputies making the request for the benefit. Provided, however, that to receive such pay, the request therefore must be made in writing to the Constable on or before May 31st of the calendar year prior to the year the benefit is to be paid and included in the budgetary request to the Commissioners' Court and approved and budgeted.

SECTION V

In compliance with the Family Medical Leave Act of 1993, in documented cases of hospitalization, serious illness or other unexpected emergency, a member of the bargaining unit who has commenced his/her vacation may submit a request to the Constable for the rescheduling of the affected vacation time. The granting of such request shall not be unreasonably withheld.

SECTION VI

The Constable shall be responsible for scheduling vacations.

SECTION VII

Any unused vacation shall be carried forward in whole or in part to the following calendar year; except that any vacation carried over must be taken by March 15 of the following year. Reasonable accommodation must be given to Deputies so that such vacation carried over may be used prior to March 15th. Members of the bargaining unit who carry vacation forward, but who terminate employment with the County prior to March 15 shall not receive payment for any unused vacation time carried forward that remains at the time of termination.

ARTICLE 19
Holidays

SECTION I

For purposes of this article one holiday is equal to eight (8) hours. Deputies shall receive the same holidays that all other County employees are provided by the County.

Based on the current holiday schedule provided the County and depending on the particular day of the week upon which Christmas occurs, the day after Christmas may sometimes be designated as the holiday in lieu of Christmas Eve.

SECTION II

If a holiday falls on a Deputy's regular day off, the County shall pay the Deputy eight (8) hours at straight time, in addition to the Deputy's regular pay. If a Deputy works a holiday, the Deputy shall be paid for eight (8) hours at time and one-half, in addition to the Deputy's regular pay.

SECTION III

In order to receive pay for a holiday, a bargaining unit member must work (if scheduled) the working day before and after the holiday. In the event of illness on either the day before or after the holiday, the bargaining unit member must provide a doctor's excuse for the day(s) absent in order to receive pay for the holiday.

ARTICLE 20
Sick Leave

Members of the bargaining unit shall be allowed sick leave with full pay in accordance with the following provisions:

SECTION I

Four (4) hours of sick leave shall be accumulated per pay period. Maximum hours that may be accumulated is fourteen-hundred forty (1440). Sick leave pay shall be at the regular rate of pay.

SECTION II

Sick leave accrual starts with the date of employment, but sick leave may not be used until the member of the bargaining unit completes ninety (90) calendar days service with the County. Sick leave does not accrue while using sick leave, and only that sick leave that has been accrued prior to the time of illness may be used.

SECTION III

Sick leave may be used for absence from duty because of personal illness, pregnancy, legal quarantine or illness in the immediate family or for any reason covered under the Family and Medical Leave Act. Immediate family for the purpose of this subsection shall include spouse, parent, guardian or dependent child.

SECTION IV

The Constable may request and obtain verification of the circumstances surrounding any use of sick leave, and documentation of all sick leave shall be provided to the Auditor's office by the Constable. Failure to provide appropriate documentation for the use of sick leave may result in disciplinary action. While out on sick leave, a deputy must maintain regular contact with the appropriate supervisor. Sick leave benefits are contingent upon maintenance of regular contact.

SECTION V

Sick leave may be used for elective surgery only when the procedure is recognized as an allowable, reimbursable expense under the County's Health Insurance Plan.

SECTION VI

Members of the bargaining unit hired prior to October 1, 2002, with at least eight (8) years of continuous service who terminates employment may receive payment for one-half of their unused, accrued sick leave up to a maximum of seven-hundred twenty (720) hours. Members of the bargaining unit hired after October 1, 2002, may receive payment for 10% of their unused sick leave hours. However, any member of the bargaining unit who is re-employed by the County and who was previously paid for terminal sick leave shall not be entitled to any pay for sick leave upon his/her subsequent termination of employment.

SECTION VII

Funeral Leave.

In the event that a Deputy suffers a death in the family, the Deputy may take up to three (3) work days off with pay. The word "family" shall include spouse, child, parent, guardian, brother, sister, grandfather, grandmother or grandchild of the deputy, or of the deputy's spouse.

SECTION VIII

Deputies who complete one (1) calendar year of service without using any sick leave during such year shall be granted one (1) day of vacation time in addition to the amount of vacation time that the Deputy is entitled to under ARTICLE 18 of this Agreement.

SECTION IX

Personal Leave.

Subject to the approval of the Supervisor, deputies may be granted personal time off with pay for a period not to exceed two (2) days (16 hours). These sixteen (16) hours are to be used for non-medical appointments, such as, parent-teacher conferences, personal business that deputies are unable to conduct during normal working hours because of work schedules or events such as school plays, etc., and time off to vote. Deputies must schedule personal time off at least

twenty-four (24) hours in advance. Personal leave will not be counted as hours worked for the purposes of calculating overtime. Personal leave may not be used until the employee successfully completes ninety (90) calendar days of employment.

A. Upon effective date of this agreement or upon employment, each officer will be credited with sixteen (16) hours of Personal Leave.

B. Thereafter, each officer shall be credited with sixteen (16) hours of Personal Leave each January 1 or upon employment.

ARTICLE 21
Injury Leave

SECTION I

A Deputy who is injured on the job shall receive temporary income benefits as prescribed by the Texas Worker's Compensation Act and the Texas Constitution Article 3, Section 52e.

SECTION II

Injury leave may be charged to FMLA leave if applicable. Deputies off on injury leave will not receive holiday pay.

SECTION III

The Commissioner's Court will review each Worker's Compensation case at the time the County supplement ends, and may extend supplemental benefits if desired.

ARTICLE 22
Leave of Absence

SECTION I

After a deputy's sick leave and all other available accrued leave have been exhausted and the deputy has been absent for eighty (80) hours without pay, the Constable shall recommend to the Commissioner's Court for approval to:

A. Dismiss the deputy; or

B. Place the deputy upon leave of absence without pay or benefits for a period of time not to exceed three (3) calendar months.

SECTION II

A leave of absence without pay may be granted at the discretion of the Constable, but not to exceed ten (10) calendar days per year. Additional days may be granted at the discretion of the Commissioner's Court.

SECTION III

No vacation, sick leave or credit for retirement service shall accrue while a deputy is on leave of absence without pay, for any reason.

SECTION IV

A deputy shall exhaust all other available forms of accrued leave before any unpaid leave can be granted.

ARTICLE 23
Military Leave

1. Leave with full pay shall be granted for Reserve Training or National Guard duty for a period of up to one hundred and twenty (120) hours per year. The deputy should notify the Auditor's Office in writing of such dates of service. Where the necessity for military leave is foreseeable, a deputy must provide at least thirty (30) calendar days' notice of intention to take military leave. When need for military leave is unforeseeable, notice as soon as practicable is required.

2. A Department Head/Elected Official must reschedule an affected deputy's work schedule, if at all possible, to avoid conflicts between work and Reserve or National Guard duty to ensure that the employee works a full week.

3. Deputies having a minimum of one (1) year of service, ordered to: 1) active military conflict duty during a conflict; 2) state active military service; 3) service supporting the Department of Emergency Management operations; 4) service supporting the Department of Homeland Security or 5) any other official activity as required by State or Federal Government, shall be entitled to the following:

A. Compensation

If the military pay is less than their base salary, the County pays the difference for a period not to exceed five (5) years. Military pay consists of base pay, plus allowance for longevity, subsistence, quarters, and dependents, plus pay for sea, flight, foreign, and hazardous pay. Military pay does not include reimbursement for travel expense. When military pay exceeds the employee's County pay, there will be no additional pay from the County.

To receive supplemental pay from the County, the deputy must furnish a certified statement of the military pay and allowances for the time off. The deputy must either: 1) endorse and forward his/her military paycheck to the County Auditor or 2) through any other method approved by the County Auditor. If the deputy fails to turn in the military pay or fails to adhere to the agreed upon method, he/she will not receive payments from the County.

B. Benefits

During the military leave, there is no accrual of sick leave, injury leave, or vacation. While vacation, injury leave and sick leave do not accrue for deputies on military leave, military leave does count towards longevity of employment for purposes of vacation and sick leave entitlement.

Time while on military leave is also counted as service credit in determining the eligibility for those benefits that are dependent upon length of service such as retirement, days off (Sheriff's Department), and shift assignments.

During the period of military leave, deputies shall be extended the option of continuing dependent insurance coverage under the County Health and Life Insurance Programs, with the employer contribution paid by the County and the employee contribution paid by the deputy. The County Health and Life Insurance Programs contain exclusions for acts of war. Deputies who are called to: 1) active military duty during a conflict; 2) state active military service; 3) service supporting the Department of Emergency Management operations; 4) service supporting the Department of Homeland Security or 5) any other official activity as required by State or Federal Government should consult with the Insurance and Risk Management Department if they have questions about the advantages of continuing the County Health and Life Insurance coverage during periods of military leave. If the deputy-discontinues coverage for dependents, he/she may re-enroll dependents consistent with the guidelines and benefits for the existing medical plan document.

The deputy must also contact the Payroll Department to continue or discontinue other deductions he/she might have.

4. Upon their return, such deputy will be restored to their former position, or to a position of like seniority, status and pay in accordance with the Uniformed Services Employment and Re-employment Rights Act of 1994.

ARTICLE 24
Jury Duty

Deputies may be granted leave with pay when required by court order to attend a court either as a prospective juror, juror or witness. Deputies shall return to work during the time not retained by the court.

ARTICLE 25
Disciplinary Actions

SECTION I

The purpose of this Article is to establish a procedure for the fair, expeditious and orderly adjustment of disciplinary actions taken by the Constable.

SECTION II

Upon notification of a complaint filed by any person, or initiated by the Constable due to job performance, the Constable shall thoroughly investigate within a reasonable period of time consistent with the nature of the complaint being investigated.

SECTION III

Upon completion of any investigation, the Constable shall determine the disciplinary action to be taken against the affected deputy. The decision of the Constable shall be based upon whether or not just cause exists for the discipline. For the purposes of this Section, the term "just cause" means that the disciplinary action of the Constable's Office was reasonable in light of all circumstances; or was done for good and sufficient reasons.

SECTION IV

Within two (2) weeks of the Constable's decision to discipline a Deputy, the Deputy may invoke his right to binding arbitration pursuant to the rules of the American Arbitration Association.

ARTICLE 26
Insurance

SECTION I

The County agrees to provide health, dental and term life insurance under the County's Group Insurance Plan at the same specifications provided to all other County employees. The premium for bargaining unit members shall be paid entirely by the Employer.

SECTION II

At the option of a bargaining unit member, qualified dependents may also be insured under the Group Plan. A member of the bargaining unit shall pay one-half of the additional premium for the claims portion of dependent coverage. However, in the event that the dependent matching ratio for non-bargaining unit employees is changed to some ratio other than a half-match the dependent matching ratio for bargaining unit employees shall automatically be set at

the same ratio as is applicable to non-bargaining unit employees, unless otherwise agreed upon by the parties.

ARTICLE 27
Miscellaneous Provisions

SECTION I

The County shall reimburse any deputy for personal items stolen or damaged as a result of a work-related incident up to a maximum amount of $500.00 per occurrence; provided that the Constable has approved the personal item as necessary and work related; provided the deputy files a written report of the incident within twenty-four (24) hours of the occurrence; provided that the subject property of the loss was not of the type provided by the County for the deputy's work; provided that the loss or damage was not due to the negligence of the deputy; and provided further that the deputy provides documentation acceptable to the County of the value of the item or cost of repair, if repairable, within thirty (30) calendar days of the occurrence. The County may, at its option, replace the item with an item of comparable worth and quality.

Excluded from this provision are any items that are prohibited by the Constable for use on the job, or any non-essential item that is used exclusively for the comfort or enjoyment of the Deputy that does not aid in the furtherance of the job duties.

SECTION II

Deputies may at any time review their personnel files consistent with the provisions of VTCS Article 6252-17, Section 3.Said review of personnel files shall take place during the regular business hours of the custodian of personnel records in the Department; and shall be under the supervision of the custodian of personnel records.

SECTION III

Deputies shall only perform bargaining unit work; specifically, that work which is normally and customarily related to the performance of duties. The County shall not request or order any deputy to perform non-bargaining unit work.

SECTION IV

Members of the bargaining unit shall have the following political rights:

A. Members of the bargaining unit shall be permitted to take an active part in any political campaign so long as they are (1) not in uniform; (2) not displaying any badge, insignia or equipment of the Constable's Office; or (3) not on duty.

B. Members of the bargaining unit shall not be required to contribute to any political fund or render any political service to any person or political party. No member shall be terminated, reduced in classification or salary, or otherwise adversely affected solely for making

a political contribution or rendering political service to any person or political party; or by refusing to do so.

C. Members of the bargaining unit retain their constitutional right to support any candidate or measure of their choice. No member shall be terminated, reduced in classification or salary, or otherwise adversely affected solely for supporting or refusing to support any candidate or measure.

D. Members of the bargaining unit retain their constitutional right to demonstrate in public so long as they are (1) not in uniform; (2) not displaying any badge, insignia or equipment of the Constable's Office; or (3) not on duty.

SECTION V

The Constable and/or County shall provide the following materials to every deputy:

A. A copy of all county personnel policies, Constable's Office operations manual and rules and regulations.

B. A copy of this Agreement.

SECTION VI

Any bargaining unit member may be required to live within a fifty (50) mile radius of the Jefferson County Courthouse; however, residency within Jefferson County shall not be mandatory.

ARTICLE 28
RESERVE DEPUTY CONSTABLES

This article is to explain the extent of the reserve constables program for the mutual understanding of the parties.

The parties desire to express in written terms the extent to which the reserve constable's program will not affect members of the bargaining unit of the Constable's office or their rights under the collective bargaining agreement.

A. The Constable's Reserve Deputy Program is not designed to perform or replace the duties of a deputy constable. No reserve deputy constable will ever replace a deputy constable.

B. The Precincts Reserve Deputy Constables will be used only in emergency situations.

C. The Constable will hold no more than two (2) Reserve Deputy Constable positions (licenses).

D. The Reserve Deputies are required to keep up the continuing education credits to maintain their licenses under TCLEOSE rules and under the Rules and Regulations of the Constable's office. All future reserve deputy constables will have to abide by the same rules and regulations.

ARTICLE 29
Closing Statements

SECTION I

Savings Clause.

Should any provision of this Agreement be found to be inoperative, void or invalid by a court of competent jurisdiction, all other provisions of this Agreement shall remain in full force and effect for the duration of this Agreement, it being the intention of the parties that no portion of this Agreement or provision herein shall become inoperative or fail by reason of the invalidity of any other portion or provision.

SECTION II

Full and Final Scope of the Agreement.

The parties agree that each has had the full and unrestricted right and opportunity to make, advance, and discuss all matters properly within the province of collective bargaining. Subject to the Maintenance of Standards clause (Article 12), the above and foregoing Agreement constitutes the full and complete Agreement of the parties and there are no others, oral or written, except as herein contained. Subject to the Maintenance of Standards clause (Article 12), each party for the term of this Agreement specifically waives the right to demand or petition for changes herein, whether or not the subjects were known to the parties at the time of execution hereof as proper subjects for collective bargaining.

SECTION III

Approval.

This Agreement was approved by the Jefferson County Commissioner's Court at a regular meeting held on the ____day of_____, 2014 and has been approved by the Constable by his signature being affixed hereto, and has been ratified by the Jefferson County Deputy Constable's Association on the 8TH day of AUGUST, 2014.

FOR THE COMMISSIONER'S COURT:

Jeff Branick, County Judge

FOR THE CONSTABLE:

Coley Saleme, Constable Pct. 1

Christopher Bates, Constable Pct. 2

James Trahan, Constable Pct. 4

Dana A. Baker Sr., Constable Pct. 6

Jeffrey Greenway, Constable Pct. 7

Eddie Collins, Constable Pct. 8

FOR THE ASSOCIATION:

Karl Holmes, President

ATTACHMENT 1
Arbitration

A. If a grievance is submitted to final, binding arbitration by the parties, the Constable and/or County and the Association shall attempt to agree within five (5) calendar days upon an arbitrator. For this purpose, the parties may agree in writing to utilize one or more arbitrators for a specified period of time. In the event that an arbitrator is not selected by the parties within five (5) calendar days, a list of seven (7) qualified neutrals shall be requested jointly by the parties from the American Arbitration Association (AAA); or may be requested by one of the parties. Within five (5) working days from receipt of the list, the parties shall alternately strike names on the list and remaining name shall be the arbitrator.

B. The conduct of the hearing shall be governed by the standard rules of the American Arbitration Association. The parties, by mutual agreement, may request that the hearing be held in accordance with the AAA Expedited Labor Arbitration Rules.

C. The Arbitrator shall not have the power to add to, amend, modify, or subtract from the provisions of this Agreement in arriving at his decision on the issue or issues presented and shall confine his decision to the interpretation of this Agreement. The Arbitrator shall be final and binding upon the County, the Constable and the Association.

D. The Constable and/or County shall bear the expense of any witnesses called by the County. The Association shall bear the expense of any witnesses called by the Association, except that employees of the County who are called as witnesses for either side shall not be penalized for attendance at a hearing while on duty. The Constable and/or County and the Association shall share equally the fees and expenses of the arbitrator.

E. Notwithstanding any other provision in this agreement, a determination by the County that results in a reduction in the number of authorized, full-time paid deputy constable positions is not subject to arbitration and an arbitrator shall have no jurisdiction to render a decision increasing the number of authorized and budgeted deputy constable positions.

ATTACHMENT 2
Non- Binding Arbitration

A. If a grievance is submitted to non-binding arbitration by the parties, the Constable and/or County and the Association shall attempt to agree within five (5) calendar days upon an arbitrator. For this purpose, the parties may agree in writing to utilize one or more arbitrators for a specified period of time. In the event that an arbitrator is not selected by the parties within five (5) calendar days, a list of seven (7) qualified neutrals shall be requested jointly by the parties from the American Arbitration Association (AAA); or may be requested by one of the parties. Within five (5) working days from receipt of the list, the parties shall alternately strike names on the list and the remaining name shall be the arbitrator.

B. The conduct of the hearing shall be governed by the standard rules of the American Arbitration Association. The parties, by mutual agreement, may request that the hearing be held in accordance with the AAA Expedited Labor Arbitration Rules.

C. The Arbitrator shall not have the power to add to, amend, modify, or subtract from the provisions of this Agreement in arriving at his decision on the issue or issues presented and shall confine his decision to the interpretation of this Agreement. The Arbitrator shall be confined to the precise issue submitted for arbitration and shall have no authority to determine any other issues not so submitted to him. The decision of the Arbitrator shall be advisory only, however, the County and/or Constable, and the Association may voluntarily agree to accept the arbitrator's decision as a resolution to the grievance within thirty (30) calendar days of the party's receipt of the decision; and if the parties do agree to accept the decision, it is final and binding.

D. The Constable and/or County shall bear the expense of any witnesses called by the County. The Association shall bear the expense of any witnesses called by the Association, except that employees of the County who are called as witnesses for either side shall not be penalized for attendance at a hearing while on duty. The Constable and/or County and the Association shall share equally the fees and expenses of the arbitrator if the parties agree to accept the award as the resolution of the grievance. In the event that any party to the grievance refuses to accept the award of the arbitrator, that party shall pay the entire fee and expenses of arbitrator.

NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OR ALL OF THE FOLLOWING INFORMATION FROM ANY INSTRUMENT THAT TRANSFERS AN INTEREST IN REAL PROPERTY BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER

GENERAL WARRANTY DEED

DATE: _____, 2014

GRANTOR AND GRANTOR'S MAILING ADDRESS: WILLIAM EDWARD KESTLER
1803 N. 31ST STREET
NEDERLAND, TX 77626

GRANTEE AND GRANTEE'S MAILING ADDRESS JEFFERSON COUNTY COURTHOUSE
JEFFERSON COUNTY
1149 Pearl Street
BEAUMONT, TX 77701

CONSIDERATION: The sum of TEN AND NO/100 DOLLARS ($10.00) and other good and valuable Consideration.

PROPERTY (including any improvements)

The one hundred forty (140') feet by thirty-five (35') feet of land that abuts the east edge of Lot Number Eighteen (18) in Block Number One Hundred Fifty-One (151) of the City of Port Arthur, Jefferson County, Texas abandoned by Ordinance no. 69-58 recorded in Vol. 1626 page 186, Deed Records of Jefferson County, Texas as the same appears upon the amended map or plat thereof, on file and recorded in Vol. 2, page2, Map Records of Jefferson County; and

The North Twenty-foot (20') of the Shreveport Avenue right-of-way adjacent to the of the southerly side of Fourth Street right-of-way abandoned by the City of Port Arthur, Texas by Ordinance No. 14-24, to Jefferson County, Texas be

recorded in the Deed Records of Jefferson County, Texas and as appears on Exhibit "A" attached hereto.

By reference Grantor is intending to and does hereby grant to Grantee any and all ownership rights of Grantee to that strip of land beneath the abandoned Shreveport Ave. and which property is currently owned by Grantor.

RESERVATIONS FROM AND EXCEPTIONS TO CONVEYANCE AND WARRANTY

This conveyance and the following warranty are made expressly SUBJECT TO any and all conditions, covenants, easements, rights-of-way, leases and mineral and/or royalty reservations and restrictions of record, if any, affecting this Property and restrictions relating to the hereinabove described property shown of record in the office of the County Clerk of Jefferson County, Texas.

Grantor, for the consideration and subject to the reservations from and exceptions to conveyance and warrant, grants, sells and conveys to Grantee the Property, together with all and singular the rights and appurtenances thereto in wise belonging, to have and to hold unto Grantee, Grantee's heirs, successors and assigns forever. Grantor binds Grantor and Grantor's heirs, successors and assigns to warrant and forever defend all and singular the said premises unto the said Grantee, his heirs and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

This instrument contains the entire agreement of Grantors and Grantee and there are no representations, understandings or agreements, oral or written, which are not included herein.

EXECUTED this ___day of _____, 2014

Mailing Address of Grantee:

Jefferson County Courthouse
Jefferson County
1149 Pearl Street
Beaumont, Texas 77704

_____
Jeff R. Branick
County Judge

Attest: County Clerk

_____

Mailing Addresses of Grantor:
1803 N. 31st Street
Nederland, Texas 77627

Willliam Edward Kestler

This instrument was acknowledged before me on this the 12th day of September, 2014.

NOTARY PUBLIC, STATE OF TEXAS

LOMA C. GEORGE
Notary Public State of Texas
Commission Expires
FEBRUARY 7, 2015

LOMA C GEORGE
Typed or Printed Name of Notary

My Commission Expires: Feb. 07, 2015

RECEIVED
SEP 0 8 2014

TEXAS DEPARTMENT OF PUBLIC SAFETY

5805 N LAMAR BLVD • BOX 4087 • AUSTIN, TEXAS 78773-0001
512/424-2000
www.dps.texas.gov

STEVEN C. McCRAW
DIRECTOR
DAVID G. BAKER
ROBERT J. BODISCH, SR.
DEPUTY DIRECTORS

COMMISSION
A. CYNTHIA LEON, CHAIR
MANNY FLORES
FAITH JOHNSON
STEVEN P. MACH
RANDY WATSON

September 4, 2014

The Honorable Jeff R. Branick
Jefferson County Judge
1149 Pearl Street, 4th Floor
Beaumont, TX 77701-3638

Dear Judge Branick:

This letter is to advise you that your application to participate in the Emergency Management Performance Grant (EMPG) Program during Fiscal Year 2014 (FY 14) has been approved.

The enclosed "Notice of Sub-recipient Grant Award" specifies the federal EMPG Program funding that will be provided to your jurisdiction during FY 14. This document must be signed by the "Authorized Official" indicated on the "Designation of EMPG Grant Officials" form (TDEM-17B) submitted in your original application. The signed "Notice of Sub-recipient Grant Award" must be returned to the Texas Division of Emergency Management (TDEM) within 45 days of the date of this letter. Failure to return documentation to TDEM within 45 days may result in redistribution of award funds to another jurisdiction.

Participation in the EMPG Program requires adherence to all tasks outlined in the ***2014 Local Emergency Management Performance Grant (EMPG) Guide*** located online at: ***http://www.txdps.state.tx.us/dem/CouncilsCommittees/EMPG/empgGuide.pdf.*** The 2014 Terms and Conditions are also enclosed for your review.

Of these tasks, there are three reports (financial, metrics, and progress reports) that must be submitted throughout the grant year. Due dates are outlined in the "Report Due Dates" enclosure.

If your jurisdiction does not wish to participate in the FY 14 EMPG Program, please submit a letter from your authorized official requesting termination of participation.

If you have any questions, please contact the EMPG Grant Coordinator (Lisa Resendez at Lisa.Resendez@dps.texas.gov or 512-424-7511/512-574-1473) or your district coordinator.

Respectfully,

W. Nim Kidd, CEM®, TEM®
Chief
Texas Division of Emergency Management
Assistant Director
Texas Homeland Security
Texas Department of Public Safety

SOUTH EAST TEXAS REGIONAL PLANNING COMMISSION REGION MUTUAL AID AGREEMENT

State of Texas §
§
County of Jefferson§

This Mutual Aid Agreement (the "Agreement") is entered into by, between, and among local government entities wholly or partially within the South East Texas Regional Planning Commission Region ("SETRPC"), as defined in the By-Laws of the SETRPC which include all jurisdictions within Hardin, Jefferson and Orange counties, that by their signatures on duplicate original copies of this Agreement have consented to the terms of this Agreement (individually, a "Party", and collectively, the "Parties").

WHEREAS, the Parties recognize the vulnerability of the people and communities located in the Region to damage, injury, and loss of life and property resulting from Emergencies and recognize that Emergencies may present equipment and manpower requirements beyond the capacity of each individual Party; and,

WHEREAS, the Parties to this Agreement recognize that in the past Mutual Aid has been provided between or among the Parties in the form of personnel, equipment, and other resources during Emergencies and to help with recovery; and,

WHEREAS, the governing officials of the Parties desire to secure for each Party the benefits of Mutual Aid and protection of life and property in the event of an Emergency; and,

WHEREAS, the Parties wish to make suitable arrangements for furnishing Mutual Aid in coping with Emergencies and are so authorized and make this Agreement pursuant to Chapter 791 of the Texas Government Code (Interlocal Cooperation Act), Chapter 418 of the Texas Government Code (Texas Disaster Act of 1975), Chapter 421 of the Texas Government Code (Homeland Security), and Chapter 362 of the Local Government Code; and,

WHEREAS, the Parties recognize that a formal agreement for Mutual Aid would allow for better coordination of effort, provide that adequate equipment is available, and help ensure that Mutual Aid is accomplished in the minimum time possible and desire to enter into this Agreement to provide Mutual Aid consistent with the mutual aid plans developed by the respective jurisdictions and approved by the governing bodies of the jurisdictions.

NOW, THEREFORE, the Parties agree as follows:

Terms

1. **RECITALS**
The recitals set forth above are true and correct.

2. **DEFINITIONS**
For purposes of this Agreement, the terms listed below shall have the following meanings:

   a. Agreement – this South East Texas Regional Planning Commission facilitated Mutual Aid Agreement.

   b. Emergency – Any incident, whether natural or human-caused, that requires responsive action to protect life and property.

   c. Mutual Aid – cooperative emergency response assistance in connection with a homeland security activity, such as an activity related to the prevention or discovery of, response to, or recovery from a terrorist attack, natural or man-made disaster, hostile military or paramilitary action, or extraordinary law enforcement emergency including the provision of personnel, equipment, and other resources.

   d. NIMS – the National Incident Management System.

   e. Point of Contact – the individual or individuals authorized by the governing body of each Party to request or respond to a request for Mutual Aid on behalf of the Party. A Party's Emergency Management Director or Chief Executive Officer is always a Point of Contact, in addition to those designated as the Point of Contact.

   f. Requesting Party – the Party requesting Mutual Aid under this Agreement.

   g. Responding Party – the Party providing Mutual Aid assistance under this Agreement.

3. **ADMINISTRATIVE AGENCY**
The Parties hereby designate the South East Texas Regional Planning Commission, (hereinafter, "SETRPC") to be the Administrative Agency under this Agreement. SETRPC shall be responsible for maintaining and distributing current Point of Contact information to all Parties. SETRPC is also responsible for maintaining duplicate or certified copies of the original signature pages of the Parties to this Agreement. SETRPC is not a signatory to the Agreement, and is not bound by any provision contained herein that is not directly related to the duties of the Administrative Agency.

4. **POINT OF CONTACT DESIGNATION**
Each party shall provide the Administrative Agency with written protocol by which its' designated Point of Contact may be contacted twenty-four hours a day,

seven days a week. This protocol shall designate, by name or position, the person or persons authorized to request or respond to a request for Mutual Aid on behalf of a Party under this Agreement. Each Party must notify the Administrative Agency in writing of any change in its Point of Contact protocol as soon as practicable.

5. ACTIVATION OF AGREEMENT

This Agreement is activated when a request is made for mutual aid assistance. The request shall be documented by the Requesting Party and forwarded to each Party from whom assistance is sought.

6. INITIATION OF REQUEST

A request under this Agreement may be made by a Point of Contact after one of the following occurs:

a. After a declaration of a local state of Disaster pursuant to Chapter 418 of the Texas Government Code, as amended; or,

b. After a finding of an Emergency as defined in this Agreement.

7. PROCEDURES FOR REQUESTS

Subject to the conditions in this Section, a Point of Contact may request Mutual Aid assistance by: (1) submitting a written request for assistance to a Point of Contact of a Responding Party, or (2) orally communicating a request for Mutual Aid assistance to a Point of Contact of a Responding Party, which shall be followed up by written documentation.

a. The written request shall state that the request is made pursuant to this Agreement.

b. Mutual aid shall not be requested by a Party unless it is directly related to the Emergency and resources available from the normal responding agencies to the stricken area are deemed to be inadequate, or are predicted to be expended prior to the resolution of the Emergency.

c. All requests for Mutual Aid shall be transmitted by a Point of Contact of the Requesting Party to a Point of Contact of the Responding Party.

d. Each request for assistance shall be accompanied by the following information, to the extent known:

   i. A general description of the Emergency and the damage or injury sustained or threatened;

   ii. Identification of the general emergency service function or functions for which assistance is needed (e.g. fire, law enforcement, emergency medical, search and rescue, transportation, communications, public works and engineering, building, inspection, planning and information assistance, mass

care, resource support, health and other medical services, etc.) and the particular type of assistance needed;

iii. The amount and type of personnel, equipment, and other resources needed and a reasonable estimate of the length of time that each will be needed;

iv. The location(s) to which the resources are to be dispatched and the specific time by which the resources are needed; and,

v. The name and contact information of a representative of the Requesting Party, if available, to meet the personnel and equipment of any Responding Party at each location to which resources are dispatched.

8. THE PROVISION OF MUTUAL AID

Subject to the conditions of this Section, upon request of the Requesting Party, each Party hereto shall furnish Mutual Aid in coping with an Emergency.

a. Assessment of Availability of Resources and Ability to Render Assistance.
When contacted by a Requesting Party, a Point of Contact of the Party from which aid is requested agrees to assess local resources to determine availability of personnel, equipment and other assistance to respond to the request. A Responding Party is not required to provide Mutual Aid assistance unless the Responding Party determines that the Responding Party has sufficient resources to provide assistance, based on current or anticipated events in its jurisdiction.

b. Information Required of the Responding Party.
A Point of Contact who determines that the Responding Party has available personnel, equipment, and other resources, shall so notify the Requesting Party and provide the following information, to the extent known:

i. A complete description of the personnel and their expertise and capabilities, equipment, and other resources to be furnished to the Requesting Party;

ii. The estimated length of time that the personnel, equipment, and other resources will be available;

iii. The name of the person or persons to be designated as supervisory personnel; and,

iv. The estimated time of arrival for provided assistance to arrive at the designated location(s).

c. Supervision and Control.
When providing assistance under the terms of this Agreement, the response effort must be organized and function in accordance with NIMS guidelines. The personnel, equipment, and resources of a Responding

Party being used in the response effort will be under the operational control of the Requesting Party. Direct supervision and control of personnel, equipment and resources, as well as personnel accountability, shall remain the responsibility of the designated supervisory personnel of the Responding Party. Emergency Medical Services organizations providing assistance under this Agreement will utilize medical protocols authorized by their medical director. The designated supervisory personnel of the Responding Party shall: maintain daily personnel time records, material records and a log of equipment hours; be responsible for the operation and maintenance of the equipment and other resources furnished by the Responding Party; and, report work progress to the Requesting Party.

d. Food, Housing, and Self-Sufficiency.
The Requesting Party shall have the responsibility of providing food and housing for the personnel of the Responding Party from the time of their arrival at the designated location(s) to the time of their departure. However, Responding Party personnel and equipment should be, to the greatest extent possible, self-sufficient while working in the Emergency area. The Requesting Party may limit its request for assistance to only self-sufficient personnel and resources in its request for assistance.

e. Rights and Privileges.
Personnel who are assigned, designated or ordered by their Party's governing body to perform duties pursuant to this Agreement shall continue to receive the same wages, salary, pension and other compensation including injury or death benefits, disability payments, and workers' compensation benefits, for the performance of those duties as though the services had been rendered for the Party employing the personnel. The Responding Party employing the person is responsible for the payment of wages, salary, pension, and other compensation and benefits associated with the performance of duties under this Agreement.

f. License Portability.
If the assistance of a person who holds a license, certificate, permit, or other document evidencing qualification in a professional, mechanical, or other skill is requested by a Party under this Agreement, the person is considered licensed, certified, permitted, or otherwise documented in the Requesting Party's jurisdiction in which the service is provided as long as the service is required, subject to any limitations imposed by the chief executive officer or governing body of the Requesting Party.

g. The Duration of Aid.
The provision of Mutual Aid under this Agreement may continue until the services of the Responding Party are no longer required, or the Responding Party determines that further Mutual Aid should not be provided. Resources of the Responding Party shall remain subject to recall

by the Responding Party at any time, subject to reasonable notice to the Requesting Party.

9. COSTS

All costs associated with the provision of Mutual Aid exceeding twelve consecutive hours shall be paid by the Responding Party and reimbursed by the Requesting Party at actual cost, to the extent permitted by law. Such costs include but are not limited to: compensation for personnel; operation and maintenance of equipment; damage to equipment; and food, lodging and transportation expenses.

a. Requests for reimbursement must be submitted as soon as practicable but no later than sixty days after the return of all personnel deployed under this Agreement. Submission will follow the standard billing practices as pre-established by each jurisdiction. Failure to submit a request for reimbursement within the specified time frame will result in the Responding Party not being reimbursed for the Mutual Aid provided unless the Requesting Party extends the deadline for filing requests for reimbursement or the Federal or State Government extends the deadline for filing request for reimbursement. Such requests shall specifically identify all personnel, equipment, and resources provided; dates of issuance or duration of deployment, and the unit cost and total costs associated with each.

b. The Responding Party shall be responsible for creating and maintaining a record of all costs incurred, both reimbursed and unreimbursed costs, in providing Mutual Aid under this Agreement. The record shall be kept for a period of three years from the date the incident is closed.

c. In the event federal funds are available for costs associated with the provision of Mutual Aid, the Parties agree that the Requesting Party may make the claim for the eligible costs of the Responding Party on its subgrantee application and will disburse the federal share of funds to the Responding Party.

d. Reimbursement under this Section will be made by the Requesting Party no later than: (1) one-hundred eighty days after receipt of the request for reimbursement; or (2) ninety days after the Requesting Party receives reimbursement from the federal or state government, whichever is sooner.

e. The provision of Mutual Aid will be considered non-reimbursable if the Responding Party does not request reimbursement within the time specified in this Section.

10. INSURANCE

a. Workers' Compensation Coverage. Each Party shall be responsible for complying with the Texas Workers' Compensation Act.

b. Automobile Liability Coverage. Each Party shall be responsible for complying with the Texas motor vehicle financial responsibility laws.

c. General Liability, Public Officials Liability and Law Enforcement Liability. Each Party agrees to obtain or continue its general liability, public official's liability and law enforcement liability insurance, if applicable, or maintain a comparable self-insurance program.

d. Other Coverage: The Responding Party shall provide and maintain its standard packages of medical and death benefit insurance coverage while its personnel are assisting the Requesting Party.

11. EXPENDING FUNDS

a. Each Responding Party which performs services or furnishes aid pursuant to this Agreement shall do so with appropriated funds from current revenues available to the Responding Party, to the extent permitted by law. No Party shall have any liability for the failure to expend funds to provide aid hereunder.

b. Each Requesting Party which reimburses costs of a Responding Party shall do so with appropriated funds from current revenues available to the Requesting Party, to the extent permitted by law.

12. EMERGENCY ASSISTANCE AND LAW ENFORCEMENT ASSISTANCE

Notwithstanding any other provisions herein, any Party hereto may provide emergency assistance or law enforcement assistance to another Party as provided in Section 791.027 of the Texas Government Code or Section 362.002 of the Texas Local Government Code.

13. TERM

This Agreement shall become effective as to each Party when approved and executed by that Party and shall be binding on each and every Party through December 31 of the year signed. This Agreement shall automatically renew for a period of one year upon the completion of the initial term and each subsequent term unless and until such time as the governing body of a Party terminates its participation in this Agreement pursuant to Section 25 of this Agreement. Termination of participation in this Agreement by a Party(ies) shall not affect the continued operation of this Agreement between and among the remaining Parties and this Agreement shall continue in force and remain binding on the remaining Parties.

14. LIABILITY IN FIRE PROTECTION CONTRACT OR PROVISION OF LAW ENFORCEMENT SERVICES.

To the extent that this Agreement is considered an Agreement under Section 791.006 of the Texas Government Code, the Responding Party under this

Agreement is not responsible for any civil liability that arises from the furnishing of services described in Section 791.006.

15. LIABILITY UNDER INTERLOCAL CONTRACT

A Party that furnishes a service related to a homeland security activity, as defined in Chapter 421 of the Texas Government Code, under this Agreement is immune from civil liability for any act or omission resulting in death, damage, or injury while acting under this Agreement if the act or omission was in good faith and in the course and scope of its functions to provide a service related to a homeland security activity. To the extent that any service is not considered to be a homeland security activity, as defined in Chapter 421 of the Texas Government Code, the Requesting Party assumes all risk of and responsibility for any claims against the Responding Party that arise out of the Responding Party's furnishing of Mutual Aid under this Agreement, so long as, the act or omission was in good faith and in the course and scope of its functions to provide Mutual Aid under this Agreement.

16. ENTIRETY

This Agreement contains all commitments and agreements of the Parties regarding Mutual Aid to be rendered during or in connection with an Emergency. All previously entered into Regional Mutual Aid Agreements are superseded by this Agreement. No other oral or written commitments of the parties shall have any force or effect if not contained herein. Notwithstanding the preceding sentence, it is understood and agreed that certain signatory Parties may have heretofore contracted or hereafter contract with each other for Mutual Aid in Emergencies or the provision of other government services and functions, and it is agreed that this Agreement shall be subordinate to any such individual agreement.

17. OTHER MUTUAL AID AGREEMENTS

To assist each other in the process of Mutual Aid response planning, each Party shall inform the Administrative Agency of all mutual aid agreements, memorandums of agreement or understanding, or contracts that each Party has with other municipalities, entities, counties, and state or federal agencies and furnish copies of said mutual aid agreements, memorandums of agreement or understanding, or contracts to the Administrative Agency, preferably in electronic format, if and when feasible and/or permissible.

18. RATIFICATION

Each Party hereby ratifies the rendering and/or receiving of Mutual Aid taken prior to the date of this Agreement.

19. INTERLOCAL COOPERATION ACT

The Parties agree that Mutual Aid in the context contemplated herein is a "governmental function and service" and that the Parties are "local governments" as those terms are defined in the Interlocal Cooperation Act.

20. CONFIDENTIALITY

The Parties recognize that the provision of Mutual Aid under this Agreement may result in the transfer of confidential medical information between them. The Parties shall guard the confidentiality of such information as required by the federal Health Insurance Portability and Accountability Act of 1996 (HIPAA), the Texas Medical Practice Act, and other state privacy laws pertaining to the confidentiality of medical records.

21. SEVERABILITY

If a provision contained in this Agreement is held invalid for any reason, the invalidity does not affect other provisions of this Agreement that can be given effect without the invalid provision, and to this end the provisions of this Agreement are severable.

22. VALIDITY AND ENFORCEABILITY

If any current or future legal limitations affect the validity or enforceability of a provision of this Agreement, then the legal limitations are made a part of this Agreement and shall operate to amend this Agreement to the minimum extent necessary to bring this Agreement into conformity with the requirements of the limitations, and so modified, this Agreement shall continue in full force and effect.

23. AMENDMENT

The Parties agree that this Agreement may be reviewed annually by a regional ad-hoc committee composed of the agency Emergency Management Coordinators or Emergency Management Directors where no coordinator has been appointed. At least sixty calendar days (60 days) before any meeting at which an amendment or amendments to this Agreement will be considered and voted upon, the Administrative Agency shall send out notice to each Party to this Agreement informing them of the proposed amendment(s). This notice shall include the language of the amendment(s), and a list of current ad-hoc committee members and the jurisdictions they represent. Each Party may direct any comments or concerns about said amendment(s) to their respective Emergency Management representative(s) prior to said meeting. The adhoc committee may recommend amendment to the agreement which will then be submitted to the respective parties' governing bodies for authorization.

24. TERMINATION

The governing body of a Party which is a signatory hereto, shall, by order, ordinance, or resolution, give notice of termination of participation in this Agreement and submit a certified copy of such order, ordinance, or resolution to the Administrative Agency. Such termination shall become effective not earlier than 30 days after the filing of such notice. The termination by one or more of the Parties of its participation in this Agreement shall not affect the operation of this Agreement as between the other Parties hereto. Upon receipt of said notice to terminate participation in the Agreement, the Administrative Agency shall notify the remaining Parties to the Agreement in writing within ten days.

25. THIRD PARTIES

This Agreement is intended to inure only to the benefit of the Parties hereto. This Agreement is not intended to create, nor shall be deemed or construed to create, any rights in third parties.

26. NOTICES

Any notice required or permitted between the Parties must be in writing, addressed to the attention of each respective Point of Contact, and shall be delivered in person, or mailed certified mail, return receipt requested, or may be transmitted by facsimile transmission or email.

27. AUTHORIZATION

The Agreement has been officially authorized by the governing or controlling body of each Party hereto by order, ordinance or resolution and each signatory to this Agreement represents that the signatory has full authority to execute this Agreement on behalf of and to legally bind the respective Party to this Agreement.

28. IMMUNITY RETAINED

The Parties to this Agreement do not waive or relinquish any immunity or defense on behalf of itself, officers, employers, agents, and volunteers as a result of its execution of this Agreement and the performance of the covenants contained herein.

29. GOVERNING LAW AND VENUE

The laws of the State of Texas shall govern this Agreement. In the event of an Emergency physically occurring within the geographical limits of only one county that is a Party hereto, venue shall lie in the county in which the Emergency occurred. In the event of an Emergency physically occurring in more than one county that is a Party hereto, venue shall be determined in accordance with the Texas Rules of Civil Procedure.

30. PARTY ELIGIBILITY

Any local government as that term is defined in Chapter 791 of the Texas Government Code may be a Party to this Agreement, provided that no Party is an agency, department or entity of the same town, county or State government.

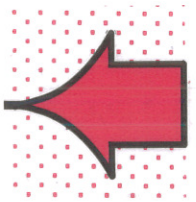
31. FORMS

The Administrative Agency may prepare and provide forms designated for the purposes of this Agreement to be used by the Parties.

32. HEADINGS

The headings at the beginning of the various provisions of this Agreement have been included only to more quickly locate the subject covered by each provision and are not to be used in construing this Agreement.

EXECUTED by the Parties hereto, each respective entity acting by and through its duly authorized official as required by law, on multiple counterparts each of which shall be deemed to be an original, effective among the parties who sign it at the time of their signature, on the date specified on the multiple counterpart executed by such entity.



_____

Agency

ATTEST/SEAL:

CITY/County OF _____, TEXAS
Signed by:

_____
City or County Clerk

_____
Mayor or Judge

APPROVED:

COUNTERSIGNED BY:

_____
Agency Administrator

_____
Emergency Management Coordinator

APPROVED AS TO FORM:

DATE COUNTERSIGNED:

_____
City or County Attorney
L.D. File No. _____

_____

STATE OF TEXAS

COUNTY OF JEFFERSON **LEASE AGREEMENT**

On this date the Commissioners Court of the County of Jefferson, State of Texas (Lessee) and Herb and Sherry Schwarznau, (Landlords), entered into this lease agreement for use of a certain parcel of land owned by Landlords which is to be leased upon an annual basis to Lessee.

Landlords:
Herb and Sherry Schwarznau

Landlord's Address:
3897 MLK Drive
Port Arthur, TX 77640

Tenant:
Jefferson County, Texas

Tenant's Address:
1149 Pearl Street
Beaumont, Texas 77701

Premises:

Approximate square feet: 1.152 Acres

Street address/suite: 3897 MLK Drive

City, state, zip: Port Arthur, TX 77640
Property description: Existing parking lot and boat ramp

Term (months): 12 months with option to renew annually

Commencement Date: October 1, 2014

Termination Date: September 30, 2015

Base Rent (monthly): $300 per year

Permitted Use:
As a parking area and boat ramp access for park patrons.

Tenant's Rebuilding Obligations: If the Premises are damaged by fire or other elements, Tenant will be only responsible for repairing the property subject to this lease.

A. Definitions

A.1. "Agent" means agents, contractors, employees, licensees, and, to the extent under the control of the principal, invitees.

A.2. "Essential Services" means utility connections reasonably necessary for occupancy of the Premises for the Permitted Use.

A.3. "Injury" means (1) harm to or impairment or loss of property or its use, (2) harm to or death of a person, or (3) "personal and advertising injury" as defined in the form of liability insurance Tenant is required to maintain.

A.4. "Lienholder" means the holder of a deed of trust covering the Premises.

A.5. "Rent" means Base Rent plus any other amounts of money payable by Tenant to Landlord.

Clauses and Covenants

B. Tenant's Obligations

B1. **Tenant agrees to -**

B.1.a. Lease the Premises for the entire Term beginning on the Commencement Date and ending on the Termination Date.

B.1.b. Accept the Premises in their present condition "AS IS," the Premises being currently suitable for the Permitted Use.

B.1.c. Obey (a) all laws relating to Tenant's use, maintenance of the condition, and occupancy of the Premises and Tenant's use of any common areas and (b) any requirements imposed by utility companies serving or insurance companies covering the Premises.

B.1.d. Pay Three Hundred ($300.00) Dollars annually, in advance, on the first day of each lease period, the Base Rent, to Landlord at Landlord's Address.

B.1.e. Pay a late charge of 5 percent of any Rent not received by Landlord by the tenth day after it is due.

B.1.f. Obtain and pay for all utility services used by Tenant and not provided by Landlord.

B.1.g. Pay Tenant's Pro Rata Share of any utility services provided by Landlord.

B.1.h. Allow Landlord to enter the Premises to perform Landlord's obligations, inspect the Premises, and show the Premises to prospective purchasers or tenants.

B.1.i. Repair, replace, and maintain any part of the Premises that Landlord is not obligated to repair, replace, or maintain, normal wear excepted.

B.1.j. Submit in writing to Landlord any request for repairs, replacement, and maintenance that are the obligations of Landlord.

B.1.k. Allow Landlord to file a financing statement perfecting the security interest created by this lease.

B.1.l. Vacate the Premises on the last day of the Term.

B2. **Tenant agrees not to -**

B.2.a. Use the Premises for any purpose other than the Permitted Use.

B.2.b. Create a nuisance.

B.2.c. Permit any waste.

B.2.d. Use the Premises in any way that would increase insurance premiums or void insurance on the Premises.

B.2.e. Change Landlord's lock system.

B.2.f. Alter the Premises without Landlord's written consent.

B.2.g. Allow a lien to be placed on the Premises.

B.2.h. Assign this lease or sublease any portion of the Premises without Landlord's written consent.

C. Landlord's Obligations

C.1. **Landlord agrees to -**

C.1.a. Lease to Tenant the Premises for the entire Term beginning on the Commencement Date and ending on the Termination Date.

C.1.b. Obey all laws relating to Landlord's operation of the Premises.

C.1.c. Provide the Essential Services.

C.2. **Landlord agrees not to -**

C.2.a. Interfere with Tenant's possession of the Premises as long as Tenant is not in default.

C.2.b. Unreasonably withhold consent to a proposed assignment or sublease.

D. General Provisions

Landlord and Tenant agree to the following:

D.1. Alterations. Any physical additions or improvements to the Premises made by Tenant will become the property of Landlord. Landlord may require that Tenant, at the end of the Term and at Tenant's expense, remove any physical additions and improvements, repair any alterations, and restore the Premises to the condition existing at the Commencement Date, normal wear excepted.

D.2. Abatement. Tenant's covenant to pay Rent and Landlord's covenants are independent. Except as otherwise provided, Tenant will not be entitled to abate Rent for any reason.

D.3. Insurance. Tenant and Landlord are individually responsible for maintaining any respective insurance coverage they may desire to cover their individual property.

D.4. Release of Claims/Subrogation. LANDLORD AND TENANT RELEASE EACH OTHER AND LIENHOLDER, AND THEIR RESPECTIVE AGENTS, FROM ALL CLAIMS OR LIABILITIES FOR DAMAGE TO THE PREMISES, DAMAGE TO OR LOSS OF PERSONAL PROPERTY WITHIN THE PREMISES, AND LOSS OF BUSINESS OR REVENUES THAT ARE COVERED BY THE RELEASING PARTY'S PROPERTY INSURANCE OR THAT WOULD HAVE BEEN COVERED BY THE REQUIRED INSURANCE IF THE PARTY FAILS TO MAINTAIN THE PROPERTY COVERAGES REQUIRED BY THIS LEASE. THE PARTY INCURRING THE DAMAGE OR LOSS WILL BE RESPONSIBLE FOR ANY DEDUCTIBLE OR SELF-INSURED RETENTION UNDER ITS PROPERTY INSURANCE. LANDLORD AND TENANT WILL NOTIFY THE ISSUING PROPERTY INSURANCE COMPANIES OF THE RELEASE SET FORTH IN THIS PARAGRAPH AND WILL HAVE THE PROPERTY INSURANCE POLICIES ENDORSED, IF NECESSARY, TO PREVENT INVALIDATION OF COVERAGE. THIS RELEASE WILL NOT APPLY IF IT INVALIDATES THE PROPERTY INSURANCE COVERAGE OF THE RELEASING PARTY. **THE RELEASE IN THIS PARAGRAPH WILL APPLY EVEN IF THE DAMAGE OR LOSS IS CAUSED IN WHOLE OR IN PART BY THE ORDINARY**

NEGLIGENCE OR STRICT LIABILITY OF THE RELEASED PARTY OR ITS AGENTS BUT WILL NOT APPLY TO THE EXTENT THE DAMAGE OR LOSS IS CAUSED BY THE GROSS NEGLIGENCE OR WILLFUL MISCONDUCT OF THE RELEASED PARTY OR ITS AGENTS.

D.5. Casualty/Total or Partial Destruction

D.5.a. If the Premises are damaged by casualty and can be restored within ninety days, Landlord will, at its expense, restore the parking lot and boat ramp.

D5.b. If Landlord cannot complete the portion of the restoration for which Landlord is responsible within ninety days, Landlord has an option to restore the Premises. If Landlord chooses not to restore, this lease will terminate. If Landlord chooses to restore, Landlord will notify Tenant in writing of the estimated time to restore and give Tenant an option to terminate this lease by notifying Landlord in writing within ten days from receipt of Landlord's estimate. If Tenant does not notify Landlord timely of Tenant's election to terminate this lease, the lease will continue and Landlord will restore the Premises as provided in D.5.a. above.

D.5.c. To the extent the Premises are unuseable after the casualty, the Rent will be adjusted as may be fair and reasonable.

D.6. Condemnation/Substantial or Partial Taking

D6.a. If the Premises cannot be used for the purposes contemplated by this lease because of condemnation or purchase in lieu of condemnation, this lease will terminate.

D.6.b. If there is a condemnation or purchase in lieu of condemnation and this lease is not terminated, Landlord will, at Landlord's expense, restore the Premises, and the Rent payable during the unexpired portion of the Term will be adjusted as may be fair and reasonable.

D6.c. Tenant will have no claim to the condemnation award or proceeds in lieu of condemnation.

D.7. Uniform Commercial Code. Tenant grants Landlord a security interest in Tenant's personal property now or subsequently located on the Premises. This lease is a security agreement under the Uniform Commercial Code. Landlord may file financing statements or continuation statements to perfect or continue the perfection of the security interest.

D.8. Default by Landlord/Events. Defaults by Landlord are failing to comply with any provision of this lease within thirty days after written notice and failing to provide Essential Services to Tenant within ten days after written notice.

D.9. Default by Landlord/Tenant's Remedies. Tenant's remedies for Landlord's default are to sue for damages and, if Landlord does not provide an Essential Service for thirty days after default, terminate this lease.

D.10. Default by Tenant/Events. Defaults by Tenant are (a) failing to pay timely Rent, (b) abandoning or vacating a substantial portion of the Premises, and (c) failing to comply within ten days after written notice with any provision of this lease other than the defaults set forth in (a) and (b).

D.11. Default by Tenant/Landlord's Remedies. Landlord's remedies for Tenant's default are to (a) enter and take possession of the Premises, after which Landlord may relet the Premises on behalf of Tenant and receive the rent directly by reason of the reletting, and Tenant agrees to reimburse Landlord for any expenditures made in order to relet; (b) enter the Premises and perform Tenant's obligations; and (c) terminate this lease by written notice and sue for damages. Landlord may enter and take possession of the Premises by self-help.

D.12. Default/Waiver/Mitigation. It is not a waiver of default if the nondefaulting party fails to declare immediately a default or delays in taking any action. Pursuit of any remedies set forth in this lease does not preclude pursuit of other remedies in this lease or provided by applicable law. Landlord and Tenant have a duty to mitigate damages.

D.13. Holdover. If Tenant does not vacate the Premises following termination of this lease, Tenant will become a tenant at will and must vacate the Premises on receipt of notice from Landlord. No holding over by Tenant, whether with or without the consent of Landlord, will extend the Term.

D.14. Alternative Dispute Resolution. Landlord and Tenant agree to mediate in good faith before filing a suit for damages.

D.15. Attorney's Fees. If either party retains an attorney to enforce this lease, the party prevailing in litigation is entitled to recover reasonable attorney's fees and other fees and court and other costs.

D.16. Venue. Exclusive venue is in Jefferson County, Texas.

D.17. Entire Agreement. This lease, embodies the entire agreement of the parties concerning the lease of the Premises by Landlord to Tenant. There are no representations, warranties, agreements, or promises pertaining to the Premises or the lease of the Premises by Landlord to Tenant, and Tenant is not relying on any statements or representations of any agent of Landlord, that are not in this lease.

D.18. Amendment of Lease. This lease may be amended only by an instrument in writing signed by Landlord and Tenant.

D.19. Limitation of Warranties. THERE ARE NO IMPLIED WARRANTIES OF MERCHANTABILITY, OF FITNESS FOR A PARTICULAR PURPOSE, OR OF ANY OTHER KIND ARISING OUT OF THIS LEASE, AND THERE ARE NO WARRANTIES THAT EXTEND BEYOND THOSE EXPRESSLY STATED IN THIS LEASE.

D.20. Notices. Any notice required or permitted under this lease must be in writing. Any notice required by this lease will be deemed to be delivered (whether actually received or not) when deposited with the United States Postal Service, postage prepaid, certified mail, return receipt requested, and addressed to the intended recipient at the address shown in this lease. Notice may also be given by regular mail, personal delivery, courier delivery, facsimile transmission, or other commercially reasonable means and will be effective when actually received. Any address for notice may be changed by written notice delivered as provided herein.

D.21. Abandoned Property. Landlord may retain, destroy, or dispose of any property left on the Premises at the end of the Term.

D.22. Subordination. Landlord subordinates its security interest and liens to purchase-money security interests in Tenant's personal property.

D23. Extension Option. Tenant has the option to extend the Lease on an annual basis.

Landlords:

_____
Herb Schwarznau

_____
Sherry Schwarznau

Tenant:

HERE

_____
Jeff R. Branick
County Judge

Attest:

_____
County Clerk, Jefferson County, Texas

IN THE COMMISSIONERS COURT
OF
JEFFERSON COUNTY, TEXAS

GENERAL ORDER REGARDING DISBURSEMENTS FROM
COUNTY ENERGY TRANSPORTATION REINVESTMENT ZONE INCREMENT FUND

BE IT REMEMBERED, that on the 3rd day of 2014, this Commissioners Court created a County Energy Transportation Reinvestment Zone pursuant to §222.1071 of the Texas Transportation Code.

Prior to the distribution of any funds from the increment fund of the County Energy Transportation Reinvestment Zone, the Commissioners Court of Jefferson County, Texas, makes the following findings:

(1) Funds available within said increment fund will be distributed and will be utilized for transportation infrastructure projects located throughout the political boundaries of Jefferson County, Texas, and

(2) The support and funding of transportation infrastructure projects is a general governmental function delegated to the Commissioners Court of Jefferson County, Texas and authorized by the Texas Constitution and statutes.

(3) All disbursements from such fund shall be specifically authorized by separate order in conformity with these general provisions.

Signed this _____day of _____, 2014.

_____
JUDGE JEFF R. BRANICK
County Judge

_____
COMMISSIONER EDDIE ARNOLD
Precinct No. 1

_____
COMMISSIONER MICHAEL S. SINEGAL
Precinct No. 3

_____
COMMISSIONER BRENT A. WEAVER
Precinct No. 2

_____
COMMISSIONER EVERETTE D. ALFRED
Precinct No. 4

Attest:

_____
Carolyn Guidry, County Clerk

ALLISON, BASS & Magee, L.L.P.

Attorneys at Law

A. O. WATSON HOUSE
402 WEST 12TH STREET
AUSTIN, TEXAS 78701
(512) 482-0701
FAX (512) 480-0902

JAMES P. ALLISON
j.allison@allison-bass.com

ROBERT T. BASS
r.bass@allison-bass.com

J. ERIC MAGEE
e.magee@allison-bass.com

PHILLIP L. LEDBETTER
p.ledbetter@allison-bass.com

ERIKA D. HIME
e.hime@allison-bass.com

CARAH-BETH BASS
c.bass@allison-bass.com

September 5, 2014

Dear Commissioners Court Members:

We have received several inquiries concerning the effect of AG Opinion GA-1076 concerning constitutional questions related to funding of County Energy Transportation Reinvestment Zones (CETRZ). This memo will address the effect of the Opinion and some options available to counties.

It is important to understand the general effect of an opinion of the Attorney General. Such opinions are advisory and do not have the effect of a court decision. An opinion of the Attorney General does not nullify an act of the legislature. While the courts will give considerable weight to an AG opinion, the courts are not bound by its reasoning or conclusion. No court has rendered any decision on the constitutionality of Section 222.1071, Transportation Code, as added by Senate Bill 1747. If the courts are presented with the question, they must attempt to apply an interpretation and construction of the statute that does not offend the Constitution.

Attorney General Opinion GA-1076 utilizes the principle that legislation that compels the use of general tax revenue in a particular geographic area of a taxing entity violates the "equal and uniform" taxation provisions of Article VIII, Section 1-g(b), Texas Constitution. The Opinion concludes that "a county's use of tax increment financing to fund transportation projects in a county energy transportation reinvestment zone could be subject to challenge under the equal and uniform taxation requirement in Article VIII, section 1(a) of the Texas Constitution (emphasis supplied). The Attorney General reached this conclusion by construing Section 222.1071 as requiring that all CERTZ increment funds be utilized solely on transportation project within the CERTZ: "Tax increment funds may be used…for zone infrastructure projects."(citing Section 222.1071(i)). The Opinion did not discuss the broader language in Section 222.1071(c) which states: "A commissioners court must:…dedicate or pledge all of the captured appraised value of real property located in the county energy transportation reinvestment zone to transportation infrastructure projects…." The sponsors of SB 1747 have asserted that since damages to county roads will not be confined to the CERTZ, the increment fund is available for projects throughout the county. Although the language in the bill may be ambiguous and confusing, any constitutional issue can be avoided by utilizing the CERTZ increment fund for transportation projects throughout the county.

There have been some suggestions that counties should rescind the creation of the CERTZ in response to this Opinion. Such action could have unanticipated results. First, it is not clear that a CERTZ can be rescinded or abolished within the first 10 years of its creation. Second, since creation of a CERTZ is a statutory requirement to receive a transportation infrastructure grant from TxDoT, rescinding the CERTZ could jeopardize the grant to the county.

Since no court has adopted the construction utilized by the Attorney General, we advise that counties continue to utilize the CERTZ and create the Tax Increment Fund as provided in Section 222.1071. Before expending any funds from the CERTZ increment fund, the Commissioners Court should adopt an Order determining that 1) the funds are available and will be utilized for transportation infrastructure projects throughout the county and 2) the support and funding of transportation infrastructure projects are within the general governmental powers and responsibilities of Texas counties under the statutes and state constitution. Attached is a sample Order that will assure a constitutional utilization of the increment fund. Upon adoption of this Order, the increment fund may be utilized for any transportation infrastructure project in the county.

The Attorney General Opinion did not involve the TxDoT County Infrastructure Grant program. The TxDot Grant application did require the formation of a CETRZ as a condition of eligibility, but the Attorney General opinion has no relation to the TxDot Grant Funds. Those funds are available for immediate distribution. Counties should begin invoicing for the TxDot grant funds for reimbursement as soon as you receive authorization to proceed with construction. You may invoice for the TxDot Grant funds between the 15th and 25th of each month for expenses incurred and paid on projects listed on the prioritized project list.

If you have questions regarding these matters, please contact us.

Sincerely,

Robert T. Bass

RTB/afb
Enclosure

1015

JEFFERSON COUNTY CONSTABLE

PRECINCT-1

COLEY "NICK" SALEME
☆1085 Pearl Street, Suite 103 ☆ Beaumont, TX 77701-3544 ☆
☆Telephone: (409) 835-8450 ☆ Facsimile: (409) 839-2390 ☆
nsaleme@co.jefferson.tx.us

August 14, 2014

Patrick Swain
County Auditor
1149 Pearl St., 7th Floor
Beaumont, TX 77701

Re: Sheriff and Constable's Fees

After consulting with all the Constables, we are in agreement of the enclosed fee schedule. We reviewed the comparable counties and some fees were omitted. We made adjustments on the fees not listed and agreed with the fee changes. Any questions or concerns, please contact each of us.

Coley "Nick" Saleme, Jr.
Constable, Precinct 1

Christopher L. Bates
Constable, Precinct 2

James E. Trahan
Constable, Precinct 4

Dana A. Baker, Sr.
Constable, Precinct 6

Jeff Greenway
Constable, Precinct 7

Eddie J. Collins
Constable, Precinct 8

☆☆☆☆☆☆☆☆

NOTICE OF FEES CHARGED BY THE SHERIFF AND CONSTABLES OF JEFFERSON COUNTY, TEXAS EFFECTIVE January 1, 2015

On the 22nd day of September 2014, the Commissioners' Court of Jefferson County, Texas, pursuant to the provisions of Section 118.131, Local Government Code, hereby set the following fees to be charged by the offices of the Sheriff and Constables of Jefferson County, TX to become effective Januan 2015

County and District Courts	**Service Fee**	
Bill of Review	$ 65.00	
Citation Scire Facias	$ 70.00	
Citation with Notice of Hearing	$ 70.00	
Citations	$ 70.00	
Citations by Certified Mail	$ 70.00	
Citations by Publication	$ 70.00	
Constable's Deed of Sale (All Courts)	$ 65.00	
Ex-Parte Protective Order	$ 75.00	
Notice By Publication	$ 65.00	
Notice of An Application for A Protective Order	$ 70.00	
Notice of Garnishment	$ 75.00	
Notice of Hearing	$ 75.00	
Notice of Substitute Trustee Sale	$ 75.00	
Notice to Show Cause	$ 75.00	
Notice to Take Deposition (Oral/Written)	$ 65.00	
Notice/Precept to Serve	$ 75.00	
Postings (Citations)	$ 70.00	
Postings (Notice of Sale)	$ 65.00	
Postings (Probate)	$ 65.00	
Precept to Serve/Ex Probate Order	$ 75.00	
Protective Order	$ 75.00	
Subpoena	$ 70.00	
Summons	$ 70.00	
Tax Warrant	$ 70.00	
Temporary Ex Parte Protective Order	$ 100.00	
Turnover Order (All Courts)	$ 100.00	
Writ of Attachment (All Courts)	$ 150.00	
Writ of Certiorari (All Courts)	$ 125.00	
Writ of Execution * Commissions: 10% w/sale(No Maximum) 5% without sale(No Max)	$ 150.00	*
Writ of Garnishment (All Courts)	$ 125.00	
Writ of Habeas Corpus (All Courts)	$ 150.00	
Writ of Injunction	$ 100.00	
Writ of Possession	$ 150.00	*for maximum of 2 hours*
	$ 50.00	*per deputy per hour after 2 hours*
Writ of Possession/(non-eviction) Personal Property	$ 150.00	
Writ of Re-Entry (All Courts)	$ 150.00	
Writ of Sequestration (All Courts)	$ 200.00	
Writ of Temporary Injunction	$ 100.00	
Writ of Temporary Restraining Order	$ 100.00	
Writ of Turnover Order	$ 100.00	
Writ of Order of Sale (All Courts) *	$ 150.00	*
Commissions: 10% with sale (no maximum) 5% without sale (no maximum)		

Justice of the Peace Courts		
Eviction Citation (Forcible Entry/Detainer)	$ 70.00	
Justice Court Citation	$ 70.00	
Justice Court Subpoena	$ 70.00	
Magistrate Emergency Protective Order	$ 70.00	
Notice	$ 70.00	
Certified Mail	$ 70.00	
Summons	$ 70.00	
Subpoenas	$ 70.00	
Writ of Attachment	$ 150.00	
Writ of Execution	$ 150.00	*
* Commissions: 10% with sale (no maximum) 5% without sale (no maximum)		
Writ of Sequestration	$ 200.00	
Writ of Possession	$ 150.00	*for maximum of 2 hours*
	$ 50.00	*per deputy per hour after 2 hours*
Writ of Possession/(non-eviction) Personal Property	$ 150.00	
Writ of Sequestration	$ 200.00	
Writ of Re-entry	$ 150.00	
Certified Mail (Postage)	$ 70.00	
Notice of Substituted Trustee Sale	$ 75.00	
Turn Over Order	$ 100.00	
Commission to take Oral Deposition	$ 70.00	
Summons/Violation of Compulsory School Law, etc...	$ 70.00	
Criminal Subpoena	$ 70.00	

Warrants	
Warrant -AFRS	$ 50.00
Warrant for Arrest	$ 50.00
Capias Pro Fine	$ 50.00
Warrants (All Courts)	$ 50.00
Distress Warrants	$ 150.00
ALL OTHER WRITS NOT SPECIFICALLY LISTED	$ 100.00

With plaintiff direction to withhold or release levy, withhold collection, cancel or recall writ without Constable Completing collection of judgment and costs (except Tax Foreclosure Order of Sale) $500.00

COUNTY OF JEFFERSON

STATE OF TEXAS

IN THE COMMISSIONERS COURT

OF JEFFERSON COUNTY, TEXAS

ORDER

On this 22th day of September, 2014, came on to be considered, the setting of the tax rate of Jefferson County, and the Court further finding that at least four members of the Commissioners' Court are now present, as required by law.

It is ORDERED, upon motion made by _____, Commissioner of Precinct No. __, seconded by _____, Commissioner of Precinct No.__ that the tax rate for 2014/2015 shall be:

(1) the debt service tax rate is hereby set at $.0.024634 per one hundred dollars valuation for the County's 2014-15 debt service requirements; (2) the maintenance and operations tax rate is hereby set at $.340366 per one hundred dollars valuation; (3) to maintain the residence homestead exemptions of 20% or $5,000 and $40,000 for over 65. THIS RATE WILL RAISE LESS TAXES FOR MAINTENANCE AND OPERATIONS THAN LAST YEARS'S TAX RATE. ORDERED and signed this 22th day of September, 2014.

_____
JUDGE JEFF BRANICK
COUNTY JUDGE

_____
COMMISSIONER EDDIE ARNOLD
PRECINCT NO. 1

_____
COMMISSIONER MICHAEL SINEGAL
PRECINCT NO. 3

_____
COMMISSIONER BRENT WEAVER
PRECINCT NO. 2

_____
COMMISSIONER EVERETTE "BO" ALFRED
PRECINCT NO. 4

JEFFERSON COUNTY, TEXAS

ANNUAL BUDGET
FISCAL YEAR 2014-2015

JEFF BRANICK
COUNTY JUDGE

EDDIE ARNOLD
COMMISSIONER, PCT. 1

MICHAEL "SHANE" SINEGAL
COMMISSIONER, PCT. 3

BRENT WEAVER
COMMISSIONER, PCT. 2

EVERETTE "BO" ALFRED
COMMISSIONER, PCT. 4

PATRICK SWAIN
COUNTY AUDITOR

JEFFERSON COUNTY, TEXAS
ANNUAL BUDGET

This budget will raise less revenue from property taxes than last year's budget by an amount of $5,850,861, which is a 6.13% decrease from last year's budget. The property tax revenue to be raised from new property added to the tax roll this year is $1,050,128.

The members of the governing body voted on the budget as follows:

FOR:

AGAINST:

PRESENT and not voting:

ABSENT:

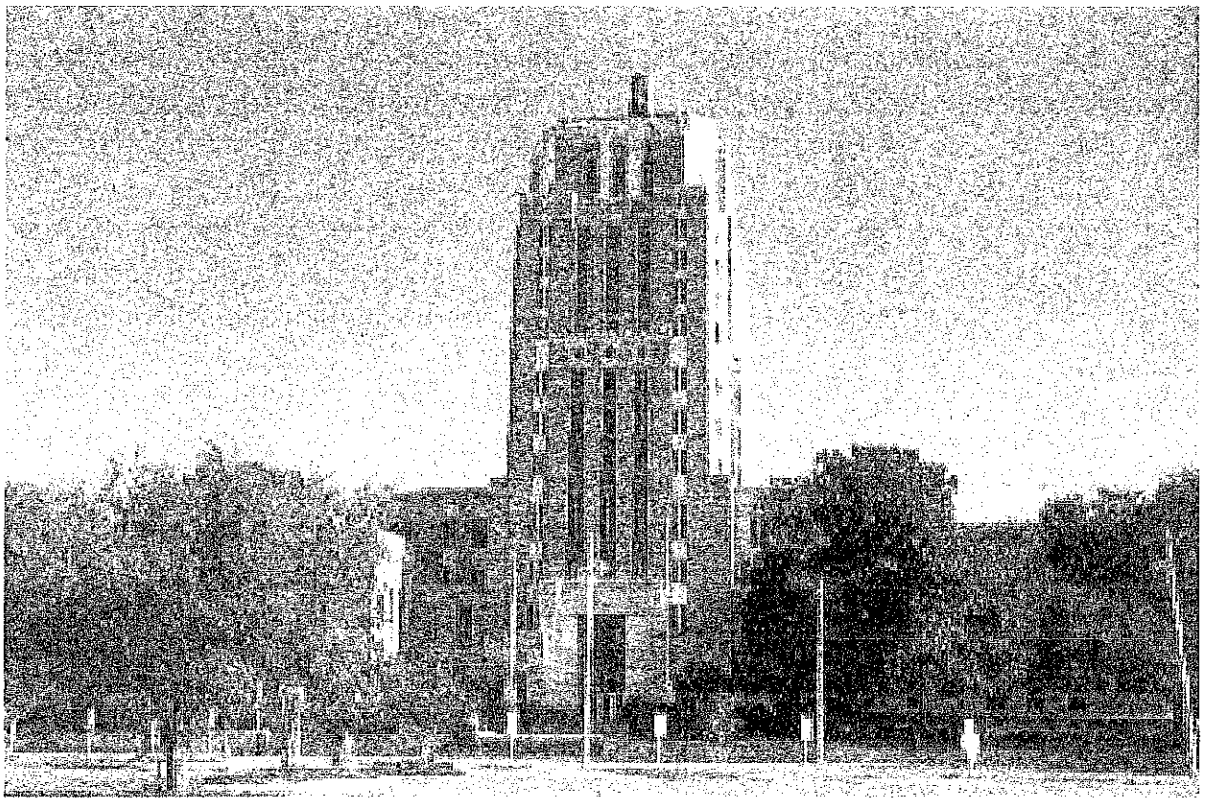
Property Tax Rate Comparison

	2014-2015	2013-2014
Property Tax Rate:	$0.365000/100	$0.365000/100
Effective Tax Rate:	$0.391606/100	$0.369436/100
Effective Maintenance & Operations Tax Rate:	$0.393468/100	$0.353177/100
Rollback Tax Rate:	$0.457173/100	$0.413015/100
Debt Rate:	$0.024634/100	$0.023575/100

Total debt obligation for Jefferson County secured by property taxes is $45,080,000.

FISCAL YEAR 2014-2015

HISTORY OF JEFFERSON COUNTY, TEXAS



Jefferson County Courthouse

Jefferson County is a 937 square mile County situated in the Coastal Plain or Gulf Prairie region of extreme southeastern Texas. The County is comprised of mainly grassy plains, though it has a dense forest belt, marshy saltgrass terrain, and coastal prairie within its boundaries. The area is low and flat with altitudes rising from sea level to approximately 50 feet above. The County has a subtropical humid climate with a mean annual temperature of 69 degrees and averages fifty-three inches of annual rainfall. The average growing season is 225 days a year. Several incorporated towns make up the County including: Beaumont, Bevil Oaks, China, Groves, Nederland, Nome, Port Arthur, and Port Neches.

Jefferson County was formed in 1836 and organized in 1837. It was one of the original counties in the Republic of Texas. The first County seat was Jefferson (named after Thomas Jefferson) on the east bank of Cow bayou and was replaced by Beaumont in 1838. The first Jefferson County courthouse was built in 1854 and later became a Confederate hospital during the Civil War. The second courthouse was a 3-story building, built in 1893. It was the County's seat of justice until demolished to make room for the current building. The courthouse as it stands today was built in 1931 for $1,000,000. Since the building of the original courthouse in 1931, there have been

several extensions. The "New Courthouse" was built in the 1980's, and is attached to the original structure. The County also has a sub-courthouse located in Port Arthur. Other County Buildings and Annexes that house the operations and offices of the government are located at optimal points within the County.

The area that is Jefferson County has been claimed by several different nations. The first inhabitants were the Atakapa Indians, which settled in the Lower Neches and Sabine rivers. The French and Spanish disputed ownership of the area during the eighteenth century, and when the United States acquired Louisiana, the area was under Spanish control as part of the Atascosito District. Anglo settlement began in the area around 1821 with encouragement by the Mexican government. With the formation of the Texas Republic in 1836, residents of the newly formed County sought to increase settlement.

Jefferson County was changed drastically by the discovery of oil at Spindletop in 1901. Almost overnight, the area became a booming economic base for oil exploration and refining. Jefferson County's economy to this day is still rooted in the oil industry. Currently the economy of the County is based primarily on petroleum refining; the production and processing of petrochemicals and other chemicals; the fabrication of steel and steel products; shipping activity; the manufacture of wood, pulp, food and feed products; agriculture; and health care services. The County continues to diversify its economic base.

Jefferson County is the location of one of the fastest-growing industrial areas of Texas. The County endeavors to offer its citizens everything they seek in the way of employment, entertainment, cultural activities, and educational facilities. Jefferson County not only seeks to increase economic development in the area, but also seeks to provide its residents with an enriching community life.

SOURCES:

"JEFFERSON COUNTY." The Handbook of Texas Online.
<http://www.tsha.utexas.edu/handbook/online/articles/view/JJ/hcj5.html> [Accessed Thu Sep 7 8:52:03 US/Central 2000].

"A History of Jefferson County, Texas From Wilderness To Reconstruction." W. T. Block, A Master of Arts Thesis at Lamar University. =http://block.dynip.com/wtblockjr/History%20of%20Jefferson%20County/Introduction.htm [Accessed Thu Sep 7 8:52:03 US/Central 2000].

TABLE OF CONTENTS

TABLE OF CONTENTS

Budget Summary

Letter of Transmittal	1
Budget Initiatives, Major Goals and Issues	3
Budget Highlights	6
Awards & Acknowledgements	15
Budget Policy & Procedures	16
Budget Calendar	21
Certificate of Recognition for Budget Preparation	22
Organizational Chart	23
Tax Revenues by Source – All Funds	24
Ratio of Annual Debt Service Expenditures for General Bonded Debt to Total General Expenditures	25
Assessed and Estimated Actual Value of Taxable Property	26
General Fund Revenues & Transfers	27
General Fund Expenditures & Transfers	28
All Funds Summary	29

General Fund

Summary of Revenues and Expenditures	31
Summary of Revenues	32
Summary of Expenditures	33
Summary of Expenditures by Division	34
General Government	36
Judicial & Law Enforcement	41
Education & Recreation	50
Health & Welfare	53
Maintenance – Equipment & Structures	57
Capital Outlay	61
Special Purpose Funding	66

Debt Service

Summary of Revenues and Expenditures	69
Summary of Annual Debt Service Requirements	70
Summary of Total Indebtedness	71
Schedule of Current Debt Service Requirements	72

Special Revenue Funds

Summary of Revenues and Expenditures	73
Summary of Expenditures by Division	74
Summary of Changes in Fund Balance by Fund	76
General Government	77
Judicial & Law Enforcement	78
Education & Recreation	83
Maintenance – Equipment & Structures	84
Capital Outlay	85
Special Purpose Funding	86

TABLE OF CONTENTS

Capital Projects

Capital Projects 2014-2015 87

Miscellaneous

Personnel Schedules

Budgeted Funds - Summary by Department 93

Compensation Plan 94

Budgeted Funds - Summary by Major Function 95

Miscellaneous Statistics

Elected County Officials 99

Appointed Officials 100

Other Information 101

Employment Statistics & Top Ten Employers County 102

Population & Demographics 103

Property Tax Analysis & Ten Year History of Abated Property Tax Values 104

Glossary of Terms 105

BUDGET SUMMARY

September 22, 2014

Honorable Commissioners' Court:

Jeff Branick, County Judge
Eddie Arnold, Commissioner, Precinct No. 1
Brent Weaver, Commissioner, Precinct No. 2
Michael "Shane" Sinegal, Commissioner, Precinct No. 3
Everette "Bo" Alfred, Commissioner, Precinct No. 4

The Commissioners' Court of Jefferson County, Texas was committed to adopting a budget for the year 2014-2015 which would not require an increase in the County's overall property tax rate. We are proud to present a budget for the general fund that has increased from the 2013-2014 adjusted budget by only 3.3%, and moreover maintains the same property tax rate. Therefore, in compliance with Section 111.033, Local Government Code, budget recommendations for fiscal year 2014-2015 are submitted for your consideration and approval.

This budget is prepared on the basis of $25,393,602,467 of net taxable value, after exemptions, which is a decrease of 2% over the previous year's net taxable value. The County's tax rate is $.365 per $100 of assessed value, 6.8% below the calculated effective tax rate. Net tax collections are estimated at 98% of the total levy.

The County's $.365 tax rate is allocated as follows:

General Fund	.340366
Debt Service	.024634

The fiscal year 2014-2015 budget provides for planned expenditures, net of contingency appropriations, for all operating funds totaling $135,326,651. Contingencies in the amount of $350,000 in the General Fund have also been appropriated. Such contingent appropriations are under the control of the Commissioners' Court and shall be distributed by that Court.

The Capital Projects for fiscal year 2014-2015, adopted independently of the operating budget, provides for planned expenditures of $10,947,018.

Annual budgets are adopted for all funds except for enterprise funds, internal service funds, capital project funds, and certain special revenue funds where funds are designated for specific purpose as identified in the grant award document, which adopts grant year or project length financial plans.

It is my opinion that the provisions of revenues and expenditures in this budget are adequate and that funds will be on hand to pay the obligations as set forth. All funds are expected to have sufficient resources to operate within the budgets as proposed. It is intended that each County department will operate within its total budget allocation.

Sincerely,

Patrick Swain
County Auditor

BUDGET INITIATIVES, MAJOR GOALS AND ISSUES

The 2014-2015 budget year was a great challenge for the Commissioners' Court of Jefferson County. Commissioners' Court developed the current General Fund budget of $122,481,618. Also, Commissioners' Court was able to maintain the same property tax rate of .365 cents per $100 of taxable valuation. This property tax rate will enable Jefferson County to continue to provide services to its citizens and promote an atmosphere conducive to economic development within the County.

Budget initiatives for the current operating year include:

Maintain the same property tax rate which is 6.8% below the effective tax rate. Each penny of the tax rate equals approximately $2.3 million in tax revenues.

Provide a 2% salary increase for all employees. The increase in cost is approximately $1.3 million including fringe benefits.

Commissioners' Court will utilize previously transferred funds to complete outstanding capital projects.

Maintain capital expenditures for durable goods to replace needed equipment to necessary levels.

On an on-going basis, County officials review and identify key issues facing the County and determine goals and objectives for the current operating year and the future. For the present and future years, the following represent the Commissioners' Court's list of major goals and issues:

* Economic Development
* Transportation Infrastructure
* Coastal Protection
* Organizational Development & Improvement

Economic Development - *Enhance the economic development climate in the County for future growth by focusing on workforce training and education, by exploiting our industrial infrastructure to attract and retain business and industry, and utilizing existing legislation to incentivize the attraction of businesses that bring diversification to the economic base.*

Local Industry – Several large projects are in construction, permitting, and development for the area and the County continues to work with other taxing entities to create a business environment conducive to this growth. These include such notables as Lucite, Air Products, Vitol, Golden Pass Products, OCI, and Exxon Mobil.

Petrochemical expansions at the Motiva, Total, and Valero facilities located in Jefferson County represent approximately $15 billion in project improvements. In addition, hundreds of millions of dollars are being spent on terminal and pipeline facilities to support these projects. The U.S. Department of State recently released a favorable Environmental Impact Study for construction of the Trans-Canada Keystone XL pipeline which will deliver Canadian tar sands crude to Jefferson County and help in relieving our dependence on oil from more politically volatile regions. In addition, recent rail terminal facility expansions and new construction has significantly increased the transportation of Canadian tar sands oil and bitumen to our area for processing by area refineries.

Cheniere, one of two companies with Liquefied Natural Gas Terminals on the border of the Texas/Louisiana Coast, has begun construction of a $10 billion liquefaction facility. Golden Pass LNG opened their terminal in mid 2011. With their opening, our ship channel is now home to over 40% of the nation's LNG capacity. Golden Pass LNG has filed with federal authorities for permits allowing it to build a $10 billion gas liquefaction facility in Jefferson County.

The County continues to work with industry leaders, the Texas Workforce Commission, Lamar Institute of Technology, Lamar University and non-profit groups to supply a workforce able to handle the growing labor needs of the County. This is especially critical given the interest of the international community in locating facilities in our county.

Hotel/Motel Tax – The County collects a 2% hotel occupancy tax from Jefferson County hotels. This tax has generated over $900,000 annually enabling the County to enhance tourism in the area by funding a variety of events and projects. The County funds the operational cost of the Ben J. Rogers Regional Visitors' Center with revenue from the Hotel/Motel Tax.

Airport Development – The County, area Chambers of Commerce, and other business leaders were successful in working with American Airlines to secure direct flights to the Dallas area to enhance the Airport's operations and link Jefferson County to worldwide destinations. Airport facility renovations are continual as part of the Airport's master plan approved and funded by the FAA.

Transportation Infrastructure – *Provide adequate funding for County infrastructure.*

Sabine-Neches Waterway - The County has participated in a study by the U.S. Army Corps of Engineers into the feasibility of deepening the Sabine-Neches waterway. This will allow ports in Southeast Texas, the fourth largest in the nation, to accommodate newer deep draft vessels and thus remain competitive with other ports on the Gulf Coast. Recently, the U.S. Army Corps of Engineers issued their "Chief's Report" which paves

the way for federal funding of this project. The U S House and Senate recently passed legislation which was signed by the President authorizing the construction of the waterway improvements at a cost in excess of $1 billion. Congressional appropriations for the project are expected shortly.

Coastal Protection – *Provide protection of the County's natural resources.*

Protection measures – Hurricane Ike destroyed the beach dune system along the 20 miles of Jefferson County coastline. As a result, the 62,000 acres of marsh in Jefferson County are being continually assaulted by normal saltwater tidal changes which will destroy the marshes' regenerative growth. This marsh area is critical economically, environmentally, and recreationally, and acts as a significant buffer against hurricane related tidal surges. Jefferson County has partnered with the U.S. Fish & Wildlife service, the Texas General Land office, Texas Commission on Environmental Quality, and Texas Parks & Wildlife department to address dune restoration issues. Jefferson County is currently working with State and Federal officials to leverage BP Oil Spill funding for coastal restoration projects. Thus far state and federal resources in excess of $12 million are currently being employed to address the issue and both state and federal officials are committed to further funding.

Organizational Development & Improvement - *Improve services to our citizens through development of employees within the County.*

Classification System – In 1997, the County implemented a Classification/Compensation system to formalize our pay structure. This has allowed the County to be more consistent, efficient and fair in our pay administration, and has allowed the County to develop career ladders and perform some succession planning.

Services – The County also intends to continue examining our business processes and use of technology to insure that citizen's needs are addressed in the most efficient and cost-effective manner possible.

Strategic Planning and Performance Measures – The County has created a strategic planning committee for enhanced long term budget planning including long range capital projects planning. They have developed a vision statement and mission statement. They are continuing to work on developing a strategic plan that will also help to a model of performance measures to assist with the budget process.

Vision Statement:

Jefferson County is proudly committed to ethically delivering efficient, responsive services which enhance the quality of life for all of our citizens.

Mission Statement:

Jefferson County Elected Officials and Employees will carry out our duties while respecting citizens and business entities by maintaining fiscal responsibility, demonstrating accountability, and allocating resources in a fair and equitable manner.

BUDGET HIGHLIGHTS

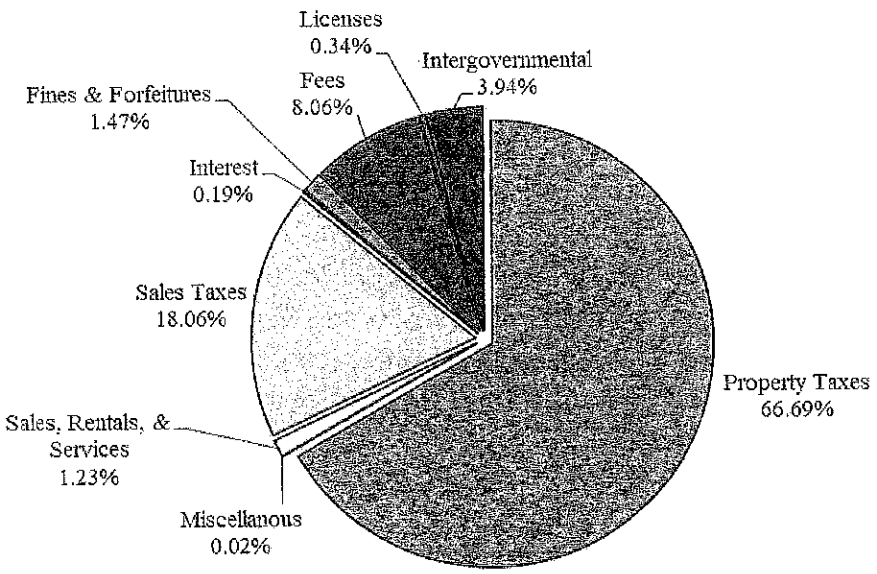
REVENUES

Jefferson County's budgeted revenues for the General Fund, Debt Service Fund, and Special Revenue Funds are derived as follows (excluding other sources):

Revenues by Source - All Funds Summary

	Approved 2013-2014	Approved 2014-2015	Percentage Change
Property Taxes	$ 84,630,980	$ 82,877,967	-2.07%
Sales Taxes	22,450,000	22,450,000	0.00%
Fees	9,753,544	10,016,044	2.69%
Licenses	430,000	418,200	-2.74%
Sales, Rentals, & Services	1,522,162	1,529,876	0.51%
Intergovernmental	4,776,646	4,901,618	2.62%
Fines & Forfeitures	1,855,000	1,825,000	-1.62%
Interest	237,138	237,010	-0.05%
Miscellaneous	24,000	24,000	0.00%
Contributions	5,000	4,000	-20.00%

Revenues by Source - All Funds Summary
Fiscal Year 2014-2015



Property taxes are expected to decrease by about $1.8 million for 2014-2015. This decrease is due in large part to declines in industrial values in association with the uniform and equal provision of the Texas Constitution. The County is hopeful that legislation will be passed to help bridge the gap between market values and appraised values for these commercial and industrial properties. This amount is based on a net taxable value of $25,393,602,467 and an adopted tax rate of .365¢. The County is anticipating a 98% collection rate for this budget year. Despite this current decline, net taxable values are still up by about 15% over the past five years as a result of increased commercial development.

Sales taxes collections are budgeted at $22,450,000. The County collects ½ cent on all taxable sales within the County. The ½ cent sales tax was adopted in 1989. Also, the County collects sales tax on alcoholic beverages. The County collects a 2% hotel occupancy tax from area hotels. This tax is used to fund the Ben J. Rogers Regional Visitors' Center as well as tourism grants.

Taxes typically make up about 85% of all revenues for the County. Please refer to page 24 for a ten year historical account of Tax Revenues by Source.

Fees represent the third largest source of revenue for the County. Fees are anticipated to remain relatively flat. Fees include all departmental fees. Fees depend on the provisions of state law, and are usually mandatory, but occasionally are optional with the approval of Commissioners' Court. Revenues from this source depend on collections by departments, the actions of courts, incidence of offenses, and various other external factors. The County uses historical trends of actual revenue collections to estimate for the current year with making adjustments for any changes in the fee schedules.

Road and Bridge Fees are generated from a $10 annual assessment at the time of license tag renewal. The Road and Bridge precincts utilize these funds for road construction and maintenance of roads as stipulated by the Texas statutes.

Auto registration fees represent the County's portion of the annual renewal fees for State auto registration. Based upon Chapter 152 of the State Tax Code this fee provides funding for construction, maintenance, bridge construction, purchases of right-of-way, and for relocation of utilities.

Other revenues are made up of licenses, sales, intergovernmental revenue, fines and forfeitures, interest, and other miscellaneous items. The County uses historical trends of actual revenue collections to estimate for the current year with making adjustments for any changes in circumstances or rates such as interest rates.

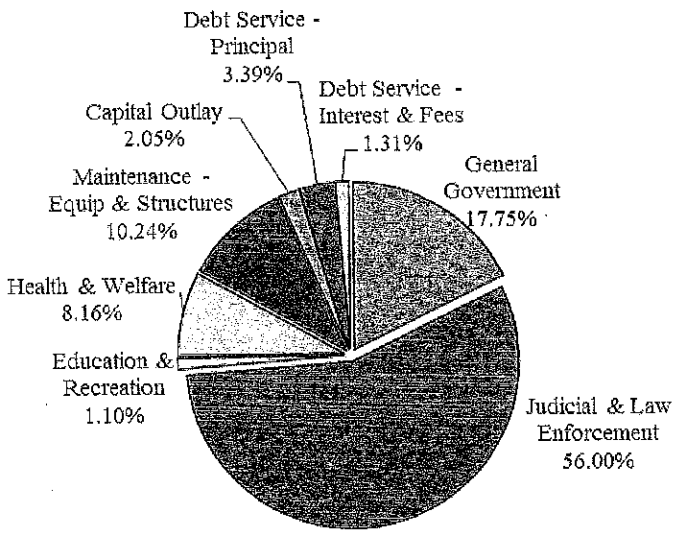
EXPENDITURES

Jefferson County's budgeted expenditures for the General Fund, Debt Service Fund, and Special Revenue Funds are derived as follows (excluding other uses):

Expenditures - All Funds Summary by Function

	Approved 2013-2014	Approved 2014-2015	Percentage Change
General Government	$22,642,645	$23,144,481	2.22%
Judicial & Law Enforcement	70,526,817	73,005,476	3.51%
Education & Recreation	1,397,377	1,428,629	2.24%
Health & Welfare	10,585,238	10,631,365	0.44%
Maintenance - Equipment & Structures	13,062,249	13,355,461	2.24%
Capital Outlay	2,493,972	2,675,389	7.27%
Debt Service - Principal	4,250,000	4,420,000	4.00%
Debt Service - Interest and Commission	1,875,512	1,691,644	-9.80%
Debt Service - Transaction Fees	14,000	12,000	-14.29%

Expenditures - All Funds Summary
Budgeted for Fiscal Year 2014-2015



General Fund expenditures make up 90.3% of total budgeted expenditures, while Debt Service make up 4.5% and Special Revenue funds make up 5.2% percent. All of the total increases from the 2013-2014 approved budget year to 2014-2015 is related to the General Fund and will be discussed below.

GENERAL FUND

The General Fund is used to account for the general governmental operations of the County. Included in these activities are budgets for the general government, judicial and law enforcement, education and recreation, health and welfare, maintenance of buildings and structures, capital outlay, and special purpose funding. Expenditures for fiscal year 2014-2015 including "transfers out" and contingency appropriation are approved at $122,481,618. Revenues including "transfers in" are estimated at $112,399,235.

Property Taxes represent 68.4% of the revenues generated by the General Fund. In 2014-2015 the budgeted property taxes for the General Fund is expected to decrease by $1.9 million from the prior year's budget. This decrease is due in large part to declines in industrial values in association with the uniform and equal provision of the Texas Constitution. The County is hopeful that legislation will be passed to help bridge the gap between market values and appraised values for these commercial and industrial properties. Budgeted property tax revenue for 2014-2015 is $76,885,100 for the General Fund.

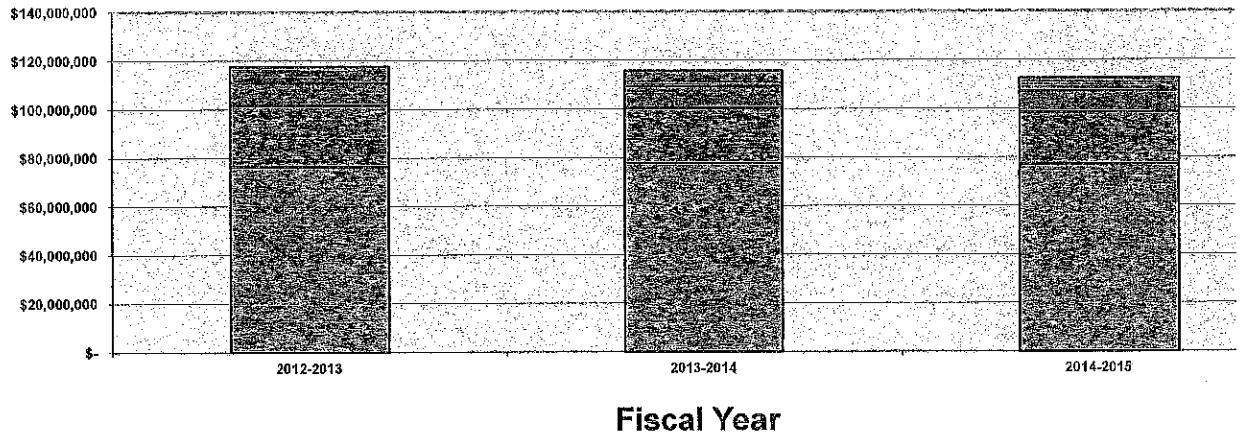
Budgeted sales tax revenue for 2014-2015 is $21,450,000 which represents 19.1% of the revenues generated by the General Fund. Revenue from Sales taxes appears to have stabilized after recent industrial expansions. The County anticipates revenue from Sales taxes to maintain their current levels for the 2014-2015 budget year.

Fees collected by the County account for 7.7% of the General Fund revenues. Estimated revenues for fees are budgeted at $8,680,744. Fees are expected to remain relatively flat with the prior year's budget.

Other revenue sources include intergovernmental revenue, contractual payments on the housing of inmates for area cities, and interest revenue. Other revenue sources accounts for 4.8% of the budgeted General Fund revenues. Estimated revenues for other revenue sources are budgeted at $5,383,391. Other revenue sources are expected to remain relatively flat with the prior year's budget.

The following graph shows the relationship of the major revenue sources for fiscal year 2012-2013 through 2014-2015:

General Fund (Revenues)



Expenditures budgeted for the 2014-2015 fiscal year total $122,481,618 including contingency appropriation and "transfers out".

General Fund Expenditures by Category

	Percentage of Budget	Approved 2012-2013	Approved 2013-2014	Percentage Change
Personnel Services	67.40%	$ 79,885,541	$ 82,556,778	3.34%
Operating Expenditures	26.67%	32,361,073	32,664,745	0.94%
Capital Outlay	1.66%	1,490,461	2,033,889	36.46%
Special Purpose Funding	4.27%	4,785,441	5,226,206	9.21%

Personnel services include salaries, wages, and fringe benefits of Jefferson County employees. This budget has an addition of four positions for 2014-2015. One position was eliminated during the 2013-2014 fiscal year. A two percent salary increase for all employees will increase personnel services approximately $1.3 million. The majority of the remaining increase is due to the actuarially determined rate increase for Employees' retirement and a five percent increase in employees' health insurance.

Operating expenditures include all materials and supplies, maintenance and utilities, and miscellaneous services Departments were diligent in maintaining their budgets as closely to current levels as possible. The one percent increase is mainly split between the increased cost for property insurance and retirees' health insurance accounted for in the General Services department.

Capital outlay, which includes all capital equipment purchases over $5,000 made by the County, increased by $543,428. The County will be replacing or purchasing necessary equipment including several vehicles for the Constable's offices and continued vehicle

replacement for the Sheriff's office. In addition, several pieces of road equipment will be purchased as well as replacement items for the Jail and Crime Lab. This year at least 140 computer replacements will be purchased. Other capital outlay needs, will be purchased with other funding including grants, where available.

Special Purpose Funding is used to account for expenditures that are non-operational in nature or do not specifically belong to a department. It consists of contingency appropriations and "transfers out". This budget year the following transfers are budgeted: Ford Park - $2,182,945, Jack Brooks Regional Airport - $1,775,032, and County match for Grant funds - $918,229. Contingency appropriations are budgeted at $350,000.

In 2014-2015, the County will anticipate utilizing $10,082,383 of the General Fund reserves to balance the operating requirements of the County. The County's ending available fund balance will be 28.7% of budgeted expenditures which complies with the County's fund balance policy. The amount that the County will utilize of the General Fund reserves will be used to fund capital outlay and special purpose funding.

General Fund Expenditures by Function

	Percentage of Budget	Approved 2013-2014	Approved 2013-2014	Percentage Change
General Government	19.67%	$22,231,619	$22,659,668	1.93%
Judicial & Law Enforcement	59.35%	66,173,293	68,388,670	3.35%
Education & Recreation	0.35%	393,032	402,359	2.37%
Health & Welfare	9.23%	10,585,238	10,631,365	0.44%
Maintenance - Equipment & Structures	11.40%	12,863,432	13,139,461	2.15%

General Government increase is mainly due to the two percent salary insurance for all employees, increases in employees' retirement and health insurance rates, retirees' health insurance, and increase in cost for property insurance. One position is being added for 2014-2015 in the MIS department. General Government is made up of the administrative functions of the County including the Tax office, Auditor's Office, County Clerk, County Treasurer, Purchasing, MIS, and others.

Judicial and Law Enforcement increases are in large part due to the two percent salary increase to all employees and increases in employees' retirement and health insurance rates as well as the addition of three positions in the District Attorney's office. Other increases in this area are due to contractual items.

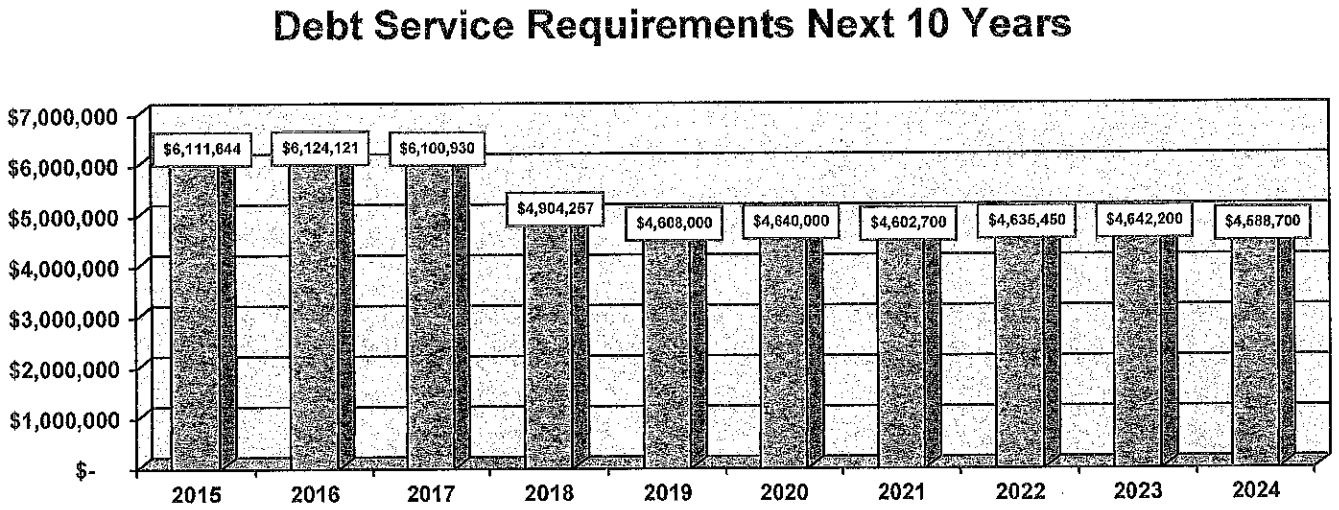
The Education and Recreation Division increase is due to the two percent salary increase to all employees and increases in employees' retirement and health insurance rates. The only department for this division is the Agriculture Extension Service which offers the citizens of Jefferson County access to a wealth of knowledge and experience on agricultural topics.

Health & Welfare increase is mostly due to the two percent salary increase to all employees and increases in employees' retirement and health insurance rates. This division provides health care for the indigent citizens of the County, support of the child protective services of the State of Texas, mosquito control practices throughout the County, emergency management, and environmental control functions for the County.

Maintenance – Equipment & Structures increase is due to the two percent salary increase to all employees and increases in employees' retirement and health insurance rates. One position was eliminated during the 2013-2014 fiscal year. This division is responsible for the maintenance and operation of all County facilities and roadways.

DEBT SERVICE FUND

The Debt Service Fund is a legally restricted fund utilized to account for revenues recognized to liquidate the debt service requirements for the County's debt. This income is primarily earned through the allocation of property taxes to the fund.



At October 1, 2014, the County has debt issues outstanding of $45,080,000. Revenues are budgeted at $6,001,732 for 2014-2015, of which 99.9% comes from the allocation of property taxes. The remaining portion of funding to debt service is interest. Expenditures of $6,123,644 are budgeted to meet the current debt service requirements. The County does not have any plans to issue additional debt for 2014-2015 fiscal year.

SPECIAL REVENUE FUNDS

Special revenue funds are used to account for revenues allocated for restricted purposes as specified by statute. The County's funds are comprised of revenues generated from road fees, confiscated goods, security fees, contributions, and other sources. Revenues for 2014-2015 are budgeted at $6,392,748 and expenditures are budgeted at $7,071,389. Some items that will benefit the County are: the continued maintenance and operation of the County Clerk's imaging system, installation of an imaging system in the District Clerk's and District Attorney's office, and implementation of the Texas Supreme Court e-file mandate in all courts. These systems will reduce the paperwork and create efficient ways to review the documents these offices manage. The County Clerk will also be working on a preservation project for records prior to 1990. The Marine Division is classified as a Special Revenue Fund since it is fully funded by the Sabine Neches Navigation District. The Marine Division provides law enforcement presence on the navigable waterways, terminals, and ship channels of the County. The ASAP program is also classified as a Special Revenue Fund since it is fully funded by Port Arthur Independent School District to provide law enforcement personnel to help the school district with truancy issues. Also, Courthouse security will continue to be a high priority. Finally, the Ben J. Rogers Regional Visitors' Center is fully functioning and the Hotel Occupancy Tax Fund will continue to fund the operations.

CAPITAL PROJECTS

The County maintains an ongoing capital improvement program. General government capital improvements have been funded by a combination of bond proceeds, general fund transfers, and state grants. The main focus of the County's capital improvement program is related to Transportation, General Government Buildings, Quality of Life, and Environmental Infrastructure.

Expenditures of $10,947,018 are estimated for projects in the 2014-2015 fiscal year. All of the funding for these expenditures has already been transferred to the Capital Project funds and will not require additional funding during the 2014-2015 fiscal year. As other projects are identified, the County could use available fund balance above the minimum fund balance policy to budget transfers in futures years in order to minimize debt issuances. The current expenditures will impact the County on several levels including:

Transportation Infrastructure – The County has deemed this program a priority to ensure that roadways and bridges are safe and reliable to handle the increased traffic flow in the rural areas. The County has completed funding for capital improvements to bridges as part of a systematic bridge replacement program.

The projects on Labelle Road and Sulphur Plant Road will increase road infrastructure. It will allow more access and wider roadways for the traffic that travels within the County,

and open up land for development that was previously inaccessible. The County is partnering with the Texas Department of Transportation (TXDOT) to modify and expand the County's rural roads. By partnering with TXDOT, the County can leverage the local taxpayer's dollars with Federal and State funding to provide a higher grade of roadway.

General Government Infrastructure – Several projects are funded in 2014-2015 for the repair, maintenance, and remodel of County buildings. These projects will increase the stability and soundness of the buildings, and assure their continued use in the future.

In the category of General Government, the largest project will be the restoration of the County's Historical Courthouse. The County has developed a seven phase approach to repairing and restoring the County Courthouse. Due to water intrusion, the exterior and the interior of the Courthouse has been severely damaged by water and termites. The County has completed Phases I thru IV of the project by replacing the Courthouse roof, exterior windows, and masonry to its historical equivalent built in the 1930's. In the current year budget, approximately $6.4 million is budgeted to address the HVAC and interior repairs. The County will consider a phased-in approach utilizing available fund balance for completing this restoration project.

Quality of Life – Jefferson County has vast resources to draw from in the form of recreational activity for its residents and visitors. One area the County is investing in is recreational fishing along the estuaries of the Gulf of Mexico. The County has a long term project to partner with the Texas Parks and Wildlife Department to develop a portion of land that borders the Keith Lake Fish Pass. This fish pass provides excellent salt water fishing due to significant tidal flow changes through the pass. The County will provide parking and picnic grounds along with a boat launch. Residents and visitors will be able to picnic and fish along the banks of the fish pass on concrete bulk heading and sidewalks.

Environmental Measures – The County has been working towards a resolution to re-open Highway 87 from Sea Rim Park to High Island. This twenty-five mile stretch of Highway runs along the Gulf of Mexico and has been closed since the late 1980's. As part of this long term project, the County has funded various environmental studies regarding shoreline erosion, sand source feasibility, and wetlands mitigation. The County is estimating to spend $470,463 in 2014-2015 to fund these studies. The County will need Federal or State funding for this project as the total cost to relocate and rebuild this stretch of highway would not be economically feasible for the County.

AWARDS & ACKNOWLEDGMENTS

Awards The Government Finance Officers Association of the United States and Canada (GFOA) presented a Distinguished Budget Presentation Award to Jefferson County, Texas for the Annual Budget beginning October 1, 2013. In order to receive this award, a governmental unit must publish a budget document that meets program criteria as a policy document, as an operations guide, as a financial plan, and as a communications device.

This award is valid for a period of one year only. We believe our current budget continues to conform to program requirements, and we are submitting it to GFOA to determine its eligibility for another award.

Acknowledgments The dedicated service and hard work of the entire staff of the Auditor's Office achieved the preparation of the 2014-2015 Annual Operating Budget. Sincere appreciation to the elected and appointed officials for their cooperation in completing this budget in a timely manner is also warranted. Commissioners' Court is also commended for exercising fiscal responsibility in their deliberations in setting the expenditures for the proposed fiscal year.

BUDGET POLICY & PROCEDURES

The overall goal of the County's budget policy and procedures are to establish and maintain effective management of the County's financial resources. Formal policy statements and major objectives provide the foundation for achieving this goal. Accordingly, this section outlines the policies and procedures used in guiding the preparation and management of the County's overall budget and the major objectives to be accomplished.

The County follows the policies below in establishing the budget.

Guidelines

- ⌘ The budget will be prepared in such a manner as to facilitate its understanding by citizens of the County, elected officials, and employees.

- ⌘ Financial information systems will be maintained to monitor operations of the County on an ongoing basis. Also, the accounting and financial reporting systems will be maintained in compliance with current generally accepted accounting principles.

- ⌘ The Auditors' Office will review all departmental budgets to identify possible increases or reductions, and will analyze all budget requests in detail.

Interim Financial Reporting

- ⌘ Commissioners Court and all Departments will be provided with monthly budget reports comparing actual versus budgeted revenue and expense activity.

Balanced Budget

- ⌘ The budget will be structurally balanced; total expenditures do not exceed total resources, or total estimated revenues plus reserves. The County will avoid budgetary procedures that balance current expenditures at the expense of meeting future years' expenses, such as postponing expenditures or accruing future year's revenues.

Capital Improvement Policies

- The budget will provide for adequate maintenance of capital, infrastructure, equipment, and for their logical replacement. No "carryover" capital outlay will be budgeted unless specifically approved by Commissioners' Court during the current year's budget hearings.

- The County will establish an appropriate mix of general fund transfers, state grant funds, and general obligation debt in the funding of capital projects.

Debt Management Policies

- The County will confine long-term debt to capital improvements or projects that cannot be financed from current revenues.

- The County will not use long-term debt for current operations.

- The County will strive to have the final maturity of general obligation bonds at, or below thirty years, and within a period not to exceed the estimated useful life of the project.

Fund Balance Policies

- The County will strive to maintain an unreserved, available fund balance of approximately 15% of budgeted expenditures for the General Fund. Fund balance for Debt Service funds will be maintained according to debt covenants, usually $1/12^{th}$ of the next year's debt principle payment requirements. Fund balance for Special Revenue funds will be maintained to ensure a positive fund balance for the individual funds.

- It is the intent of the County to use excess available fund balances above the 15% to help fund capital replacement and capital projects in order to reduce the need for future debt.

Investment Policies

- These Investment Policies apply to the investment of short-term operating funds of the County in excess of those funds required to meet current expenditures. Topics included in the investment policy are quite detailed and include information of Strategy, Scope, Objectives and Priorities, Responsibility and Control, Reporting, Institutions, Instruments, Procedures, Collateral and Safekeeping, and Policy Review and Amendments. The

complete policy can be reviewed in the separate Investment Policy Manual maintained by the Treasurer's office.

Capital Asset Procedures

⌘ Capital assets include buildings, roads, bridges, equipment, computers, furniture, and vehicles. Jefferson County's monetary criteria is $10,000 or more and with a useful life of more than one year. Once purchased, all capital assets are maintained in the physical inventory until disposed.

The County follows the procedures below in establishing the budget.

⌘ Jefferson County's fiscal year begins on October 1st each year and ends on September 30th. The budget process for each upcoming fiscal year begins in May with the preparation of Budget Workpapers which are distributed to all County Departments. Each department is asked to project their financial requirements for the upcoming year. The Budget Workpapers are a guide for initial budget requests.

⌘ Departmental annual budget requests are then submitted by the Department or Agency Head to the County Auditor in June. The County Auditor compiles the initial requests and in July, budget hearings are held for each department. Commissioners' Court, which includes the County Judge and the four County Commissioners oversee the Budget Hearings. These hearings give Department Heads the opportunity to discuss with Commissioners' Court any changes in their budget, and items that are a priority. The public is invited to attend all budget hearings, which are posted according to the Open Meetings Act.

⌘ In conjunction with compiling departmental budget requests, the County Auditor prepares an estimate of available resources in each fund for the upcoming fiscal year. Expenditures budgeted in the various funds may not exceed the fund balances as of the first day of the fiscal year plus the anticipated revenue for the year as estimated by the County Auditor.

⌘ In September, the County Auditor prepares the proposed annual operating budget to be presented to the Commissioners' Court for their consideration. The budget represents the financial plan for the new fiscal year. Public hearings are held on the proposed budget.

⌘ The Commissioners' Court must adopt an annual operating budget by a majority vote of the Commissioners' Court before October 1. The adopted budget must be balanced; that is, available resources must be sufficient to

support annual appropriations. Accountability is then required for operations to remain within available resources.

⌘ The department is the legal level of budgetary control. Total expenditures cannot exceed the final appropriation once the budget has been adopted. Commissioners' Court can amend the total appropriations for an individual department. To comply with expenditure limitations, when one department's total appropriation is increased, another department's appropriation must be reduced by an equal amount. Commissioners' Court may also approve the transfer of appropriations within funds. All such amendments require Commissioners' Court approval.

⌘ The County uses funds to report its financial position and results of its operations. Funds for budget purposes are classified as Governmental and Fiduciary. Governmental Funds are used to account for the majority of the County's general activities, including the collection and disbursement of earmarked monies (Special Revenue Funds), the acquisition or construction of general fixed assets (Capital Projects Funds), and the servicing of general long-term debt (Debt Service Funds). The General Fund is used to account for all activities of the County not accounted for in any other fund. Proprietary Funds are used to account for activities similar to those found in the private sector (Enterprise Funds), where the determination of net income (loss) is necessary and/or useful to sound financial management.

⌘ Annual budgets are legally adopted for the General Fund and Debt Service Fund. Budgets for Special Revenue Funds are established pursuant to statute guidelines, and budgets for Capital Projects are established on a project basis. Enterprise funds have submitted estimated net loss. The amount of the annual subsidy needed for the Enterprise funds are budgeted in the General Fund as a transfer.

⌘ All transactions affecting the acquisition and disposition of anything of value by the County are recorded in detail in the accounting system adopted by the Jefferson County Auditor.

⌘ The budgets of general government type funds (i.e. General Fund and Special Revenue Funds) are prepared on the modified accrual basis. Briefly, this means that obligations of the County are budgeted as expenditures, but revenues are recognized only when they are measurable and available.

⌘ Encumbrance accounting is used for all funds. Encumbrance accounting means that an estimated cost is recorded on the books at the time of an order of goods and services so that all obligations are booked. When the actual

cost is known, it is booked, and the encumbrance is reversed. All encumbrances lapse at year-end for all budgeted funds.

⌘ The Comprehensive Annual Financial Report (CAFR) shows the status of the County's finances on the basis of "generally accepted accounting principles" (GAAP). The CAFR and the budget are prepared on a basis consistent with GAAP using the modified accrual basis.

⌘ The budget document does not include Enterprise Funds, Internal Service Funds, and Special Revenue Funds that are grants. Grants are restricted for specific purposes. Because grants are presented to Commissioners' Court throughout the year and some run on different fiscal years, the grant budgets and accountings are maintained separately from this document.

JEFFERSON COUNTY, TEXAS

CALENDAR FOR BUDGET PREPARATION

Dates are approximate

APRIL 26 – Budget preparation packets sent to all County departments by County Auditor.

MAY 31 – Budget preparation packets are due back to the County Auditor's office.

JUNE 1 – JULY 20 – Compile initial budget requests, and estimate of available resources.

JULY 21 – JULY 25 – Budget Hearings.

AUGUST 6 – Publish notice of public hearing on annual compensation of County Auditor, Assistant Auditors, and Court Reporters. (Section 152.905 LGC)

AUGUST 14 – Budget Workshop to discuss pending items for budget.

AUGUST 21 – Public hearings on Auditors and Court Reporters budget with District Judges. (Section 152.905 LGC)

SEPTEMBER 11 – Notify Elected officials of salaries and allowances. (Section 152.013 LGC)

SEPTEMBER 12 – Notice of proposed increases in elected officials' salaries and allowances published in local newspaper. (Section 152.013 LGC)

SEPTEMBER 12 – Publish notice for budget public hearing. (Section 111.0385 LGC)

SEPTEMBER 12 – File budget with County Clerk. (Section 111.037 LGC)

SEPTEMBER 22 – Adopt tax rate.

SEPTEMBER 22 – Public hearing and adopt budget. (Section 111.039 LGC)

SEPTEMBER 29 – Receive & file budget.

GOVERNMENT FINANCE OFFICERS ASSOCIATION

Distinguished Budget Presentation Award

PRESENTED TO

Jefferson County

Texas

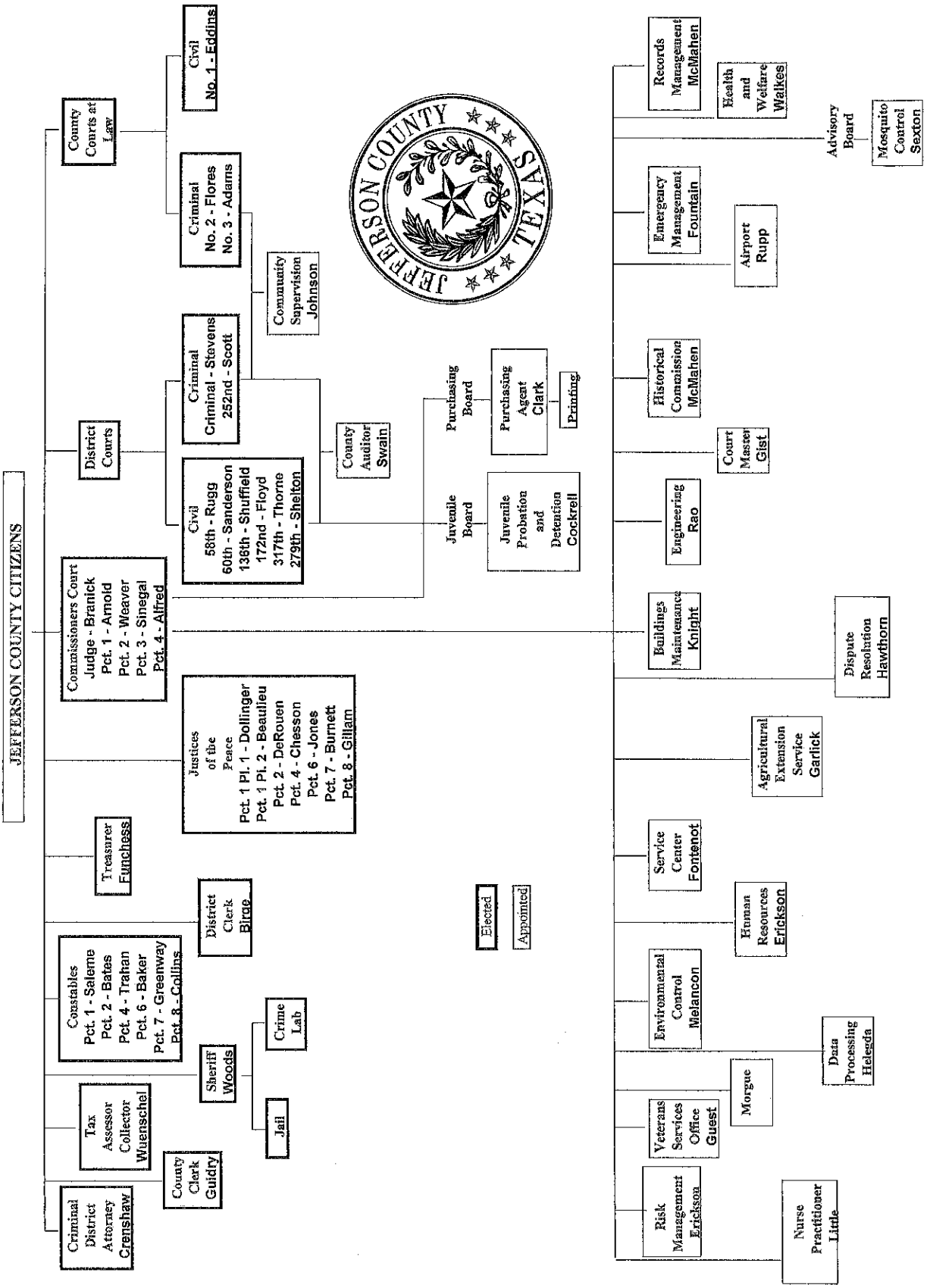
For the Fiscal Year Beginning

October 1, 2013

Executive Director

ORGANIZATION CHART OF JEFFERSON COUNTY

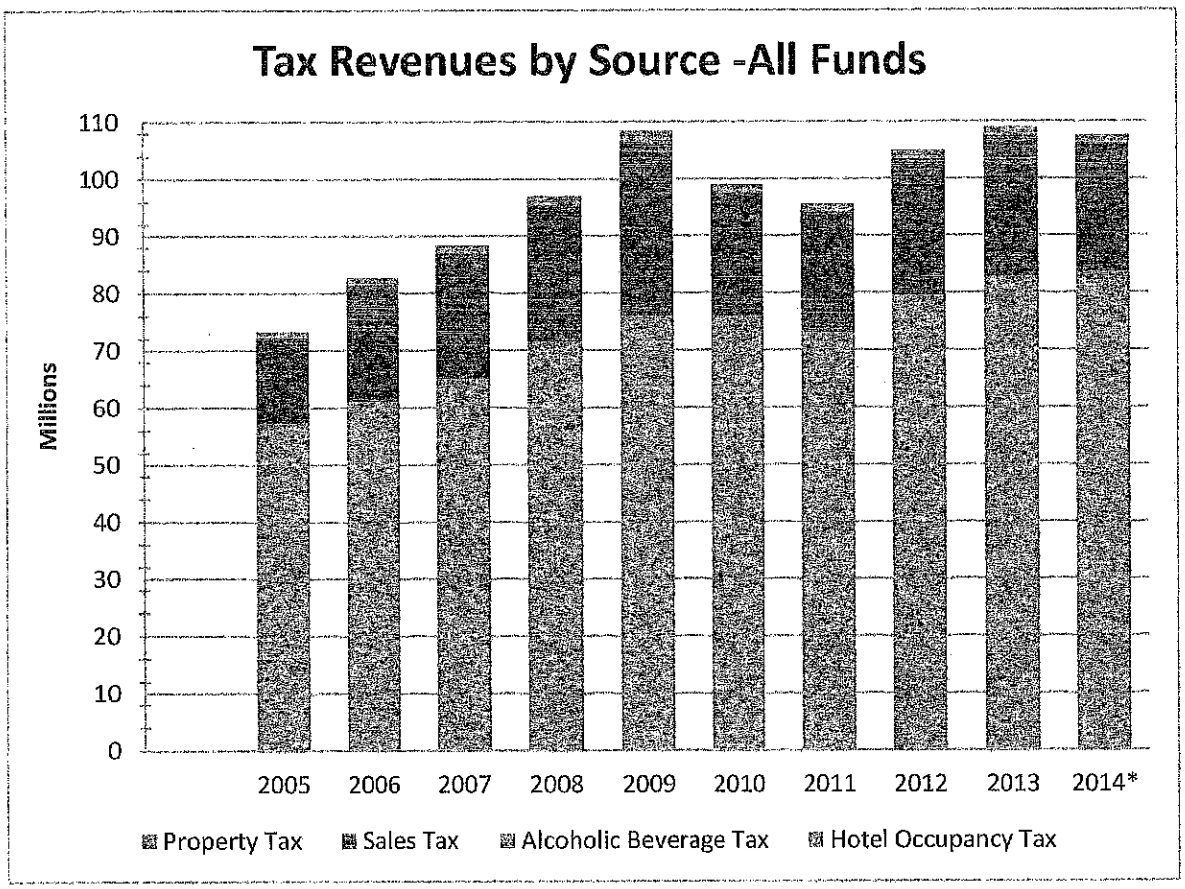
As of September 30, 2014



TAX REVENUES BY SOURCE - ALL FUNDS
LAST TEN FISCAL YEARS

Fiscal Year	Property Tax	Sales Tax	Alcoholic Beverage Tax	Hotel Occupancy Tax	Total
2005	$57,343,655	$ 14,796,016	$ 430,130	$ 658,878	$ 73,228,679
2006	61,103,193	20,150,358	494,201	894,368	82,642,120
2007	65,071,514	21,654,606	503,134	973,569	88,202,823
2008	71,516,193	23,906,777	506,047	1,011,577	96,940,594
2009	75,912,693	30,410,633	614,474	1,294,063	108,231,863
2010	75,995,020	21,361,596	575,928	893,234	98,825,778
2011	72,959,364	20,961,453	547,605	981,619	95,450,041
2012	79,446,316	23,864,675	484,988	1,064,165	104,860,144
2013	82,593,407	24,695,194	475,162	1,015,651	108,779,414
2014*	83,588,494	22,200,000	503,496	1,039,500	107,331,490

* Estimate for current year



RATIO OF ANNUAL DEBT SERVICE EXPENDITURES FOR GENERAL BONDED DEBT TO TOTAL GENERAL EXPENDITURES

LAST TEN FISCAL YEARS

Fiscal Year	Debt Service			General Expenditures	Ratio of Debt Service To General Expenditures
	Principal	Interest	Total Debt Service		
2004	3,250,000	4,351,299	7,601,299	106,854,206	7.11%
2005	3,335,000	4,057,373	7,392,373	98,764,803	7.48%
2006	3,890,000	4,084,539	7,974,539	135,159,034	5.90%
2007	4,045,000	3,938,978	7,983,978	116,795,960	6.84%
2008	3,510,000	3,794,062	7,304,062	129,426,472	5.64%
2009	3,660,000	3,671,261	7,331,261	149,958,683	4.89%
2010	3,760,000	3,538,141	7,298,141	137,187,243	5.32%
2011	4,942,070	3,530,237	8,472,307	142,843,651	5.93%
2012	4,430,000	2,169,209	6,599,209	143,444,952	4.60%
2013	3,965,000	1,960,536	5,925,536	142,672,765	4.15%

ASSESSED AND ESTIMATED ACTUAL VALUE OF TAXABLE PROPERTY
LAST TEN TAX YEARS

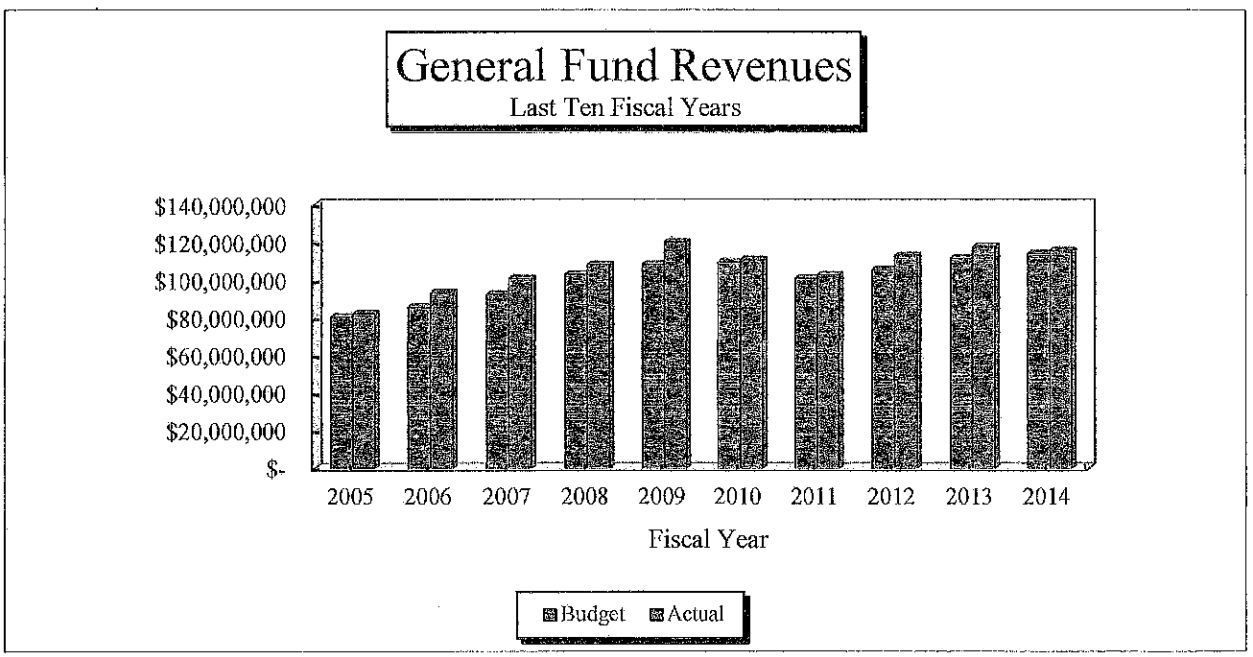
Tax Year	Assessed Value					Assessment Ratio	Estimated Actual Value
	Real Property	Less (a) Exemptions	Real Property (Net)	Personal Property	Total (b)		
2004	14,557,527,010	4,091,571,282	10,465,955,728	3,062,622,300	13,528,578,028	100%	17,620,149,310
2005	15,598,910,420	4,601,530,770	10,997,379,650	3,373,285,690	14,370,665,340	100%	18,972,196,110
2006	15,794,009,095	3,180,724,674	12,613,284,421	3,926,963,740	16,540,248,161	100%	19,720,972,835
2007	18,139,037,814	3,824,188,028	14,314,849,786	4,259,356,205	18,574,205,991	100%	22,398,394,019
2008	20,241,889,423	4,416,709,776	15,825,179,647	4,971,316,869	20,796,496,516	100%	25,213,206,292
2009	19,305,377,164	3,053,531,674	16,251,845,490	4,886,199,496	21,138,044,986	100%	24,191,576,660
2010	20,175,815,485	2,904,361,132	17,271,454,353	4,864,011,338	22,135,465,691	100%	25,039,826,823
2011	20,499,976,905	2,819,185,882	17,680,791,023	5,472,265,740	23,153,056,763	100%	25,972,242,645
2012	22,320,153,198	3,198,328,907	19,121,824,291	6,131,164,990	25,252,989,281	100%	28,451,318,188
2013	25,832,370,800	6,667,443,764	19,164,927,036	6,742,185,740	25,907,112,776	100%	32,574,556,540

(a) Exemptions are evenly divided between regular homesteads, homestead property of person 65 years or older, veteran, abatements, charitable organizations, agriculture, and pollution control.

(b) Net of exemptions.

GENERAL FUND REVENUES & TRANSFERS
LAST TEN FISCAL YEARS

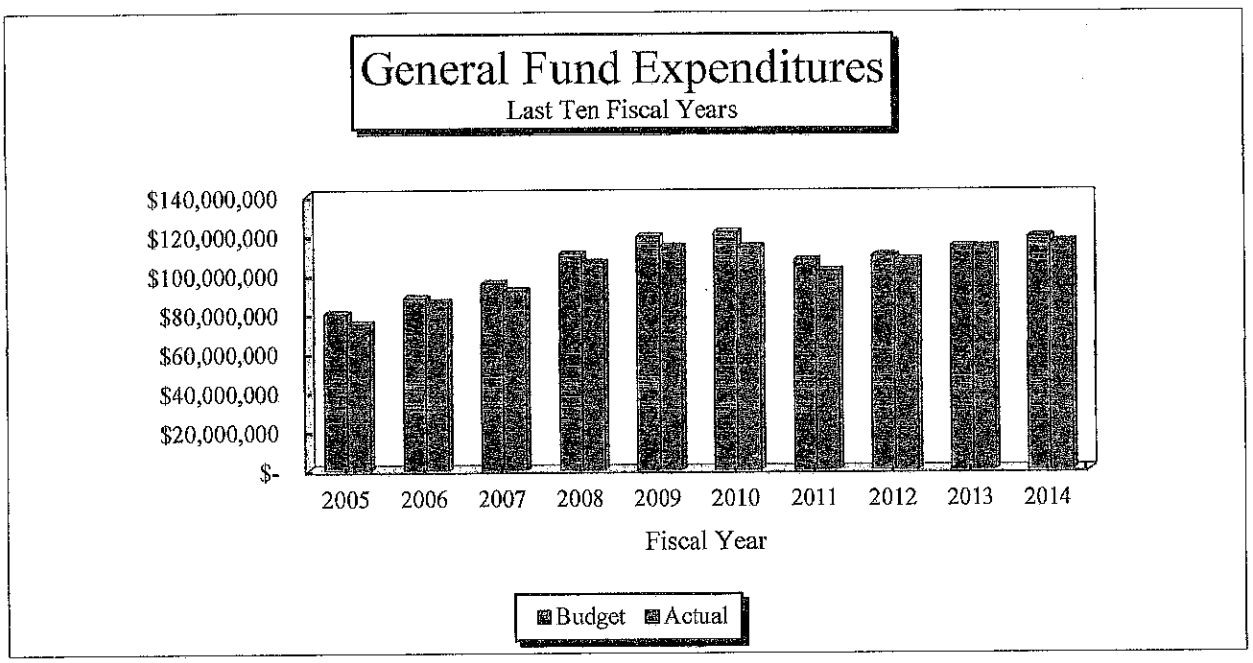
Fiscal Year	Adjusted Budget	Actual
2005	$ 80,525,000	$ 82,196,528
2006	85,757,016	93,261,431
2007	92,460,602	100,850,387
2008	103,086,871	108,133,630
2009	108,236,908	120,044,224
2010	109,494,972	110,681,187
2011	101,016,860	102,643,405
2012	105,517,925	112,903,367
2013	111,504,653	117,560,491
2014	114,209,840	115,566,525 *



* Estimate for current year.

GENERAL FUND EXPENDITURES & TRANSFERS
LAST TEN FISCAL YEARS

Fiscal Year	Adjusted Budget	Actual
2005	$ 79,965,411	$ 74,890,305
2006	87,838,306	85,849,327
2007	95,229,520	91,476,441
2008	110,247,921	105,605,328
2009	119,037,978	113,606,176
2010	121,214,444	113,561,474
2011	107,016,860	101,375,430
2012	109,000,000	107,067,911
2013	113,800,000	113,163,205
2014	118,522,516	115,872,367 *



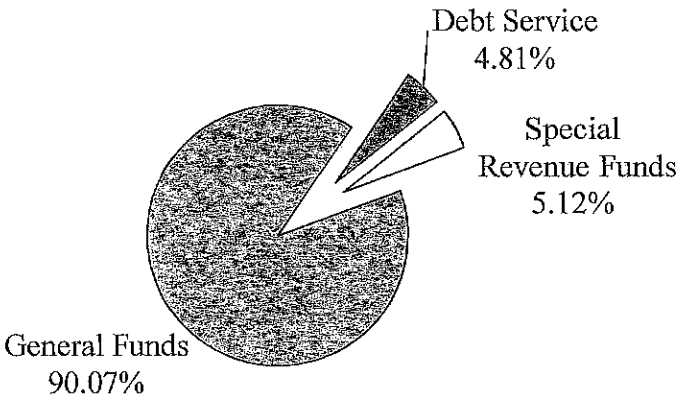
* Estimate for current year.

JEFFERSON COUNTY, TEXAS
ALL FUNDS SUMMARY

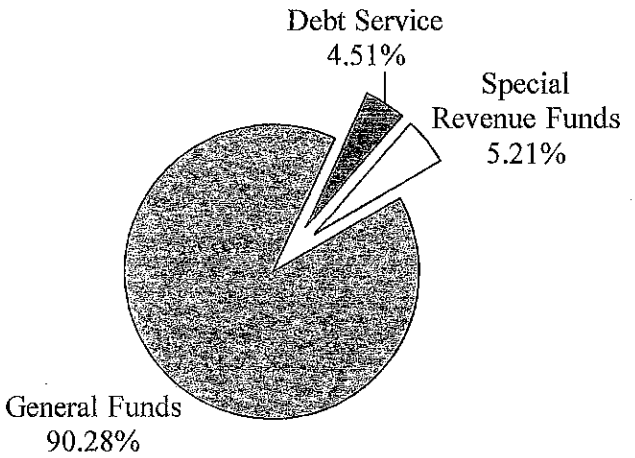
	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
REVENUES			
Property Taxes	$ 82,593,407	$ 83,588,494	$ 82,877,967
Sales Taxes	26,186,007	23,742,996	22,450,000
Fees	10,135,049	10,393,504	10,016,044
Licenses	590,148	479,663	418,200
Sales, Rentals & Services	2,746,880	2,311,879	1,529,876
Intergovernmental	4,190,353	4,456,594	4,901,618
Fines & Forfeitures	2,072,656	1,859,065	1,825,000
Interest	191,933	230,447	237,010
Miscellaneous	40,518	17,926	24,000
Contributions	-	-	4,000
Total Revenues	$ 128,746,951	$ 127,080,568	$ 124,283,715
OTHER SOURCES			
Proceeds from Sales of Capital Assets	$ -	$ -	$ -
Transfers In	440,003	511,423	510,000
Total Other Sources	$ 440,003	$ 511,423	$ 510,000
Total Revenues & Other Sources	$ 129,186,954	$ 127,591,991	$ 124,793,715
EXPENDITURES			
General Government	$ 21,368,319	$ 22,459,349	$ 23,144,481
Judicial & Law Enforcement	64,219,551	67,152,291	73,005,476
Education & Recreation	1,193,021	1,208,066	1,428,629
Health & Welfare	9,638,595	10,064,830	10,631,365
Maintenance - Equipment & Structures	11,527,394	12,089,100	13,355,461
Capital Outlay	1,485,206	2,130,052	2,675,389
Debt Service -			
Principal	3,965,000	4,280,000	4,420,000
Interest and Commission	1,955,311	1,834,252	1,691,644
Transaction Fees	5,225	4,855	12,000
Total Expenditures	$ 115,357,622	$ 121,222,795	$ 130,364,445
OTHER USES			
Transfers Out	$ 9,581,462	$ 6,566,864	$ 4,962,206
Contingency Appropriation	-	-	350,000
Total Other Uses	$ 9,581,462	$ 6,566,864	$ 5,312,206
Total Appropriations	$ 124,939,084	$ 127,789,659	$ 135,676,651
BEGINNING FUND BALANCE	$ 49,098,151	$ 53,346,021	$ 53,148,353
ENDING FUND BALANCE	$ 53,346,021	$ 53,148,353	$ 42,265,417
RESERVED FUND BALANCE	2,114,421	1,976,954	1,855,042
ENDING AVAILABLE FUND BALANCE	$ 51,231,600	$ 51,171,399	$ 40,410,375

JEFFERSON COUNTY, TEXAS
ALL FUNDS SUMMARY

FY 2015 - Revenues and Other Sources



FY 2015 - Expenditures and Other Uses



GENERAL FUND

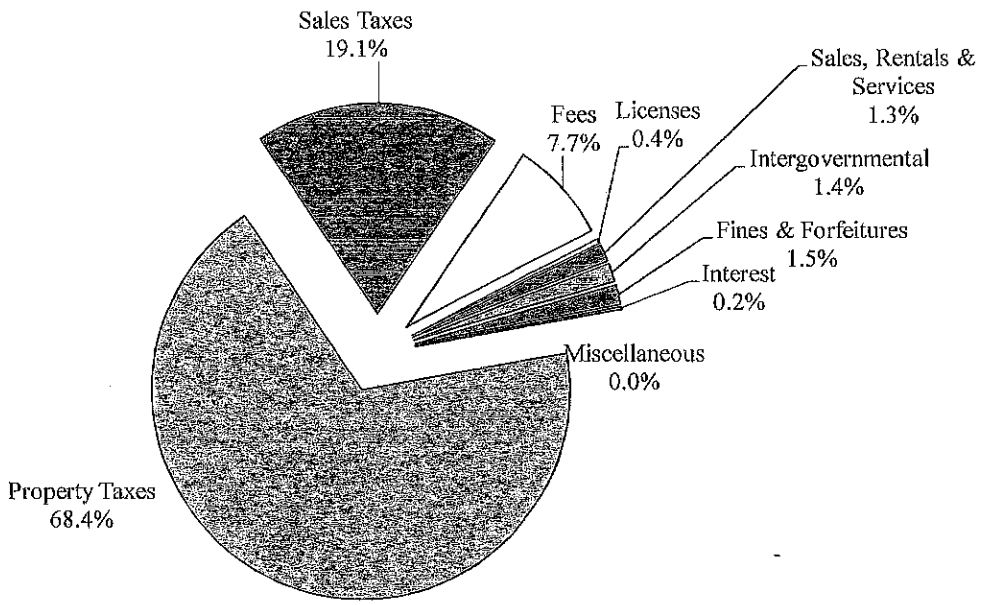
GENERAL FUND
SUMMARY OF REVENUES AND EXPENDITURES

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
REVENUES			
Property Taxes	$ 76,480,625	$ 77,617,753	$ 76,885,100
Sales Taxes	25,170,356	22,703,496	21,450,000
Fees	9,067,410	9,078,566	8,680,744
Licenses	590,148	479,663	418,200
Sales, Rentals & Services	2,658,453	2,146,579	1,429,876
Intergovernmental	1,510,298	1,566,339	1,574,315
Fines & Forfeitures	1,884,566	1,758,445	1,725,000
Interest	162,714	201,764	212,000
Miscellaneous	35,918	13,920	24,000
Contributions	-	-	-
Total Revenues	$ 117,560,488	$ 115,566,525	$ 112,399,235
OTHER SOURCES			
Transfers In	$ 3	$ -	$ -
Total Other Sources	$ 3	$ -	$ -
Total Revenues & Other Sources	$ 117,560,491	$ 115,566,525	$ 112,399,235
EXPENDITURES			
General Government	$ 20,826,230	$ 22,024,718	$ 22,659,668
Judicial & Law Enforcement	60,579,727	63,344,352	68,388,670
Education & Recreation	339,621	371,383	402,359
Health & Welfare	9,638,595	10,064,830	10,631,365
Maintenance - Equipment & Structures	11,500,062	12,064,242	13,139,461
Capital Outlay	896,548	1,567,401	2,033,889
Total Expenditures	$ 103,780,783	$ 109,436,926	$ 117,255,412
OTHER USES			
Transfers Out	$ 9,382,422	$ 6,435,441	$ 4,876,206
Contingency Appropriation	-	-	350,000
Total Other Uses	$ 9,382,422	$ 6,435,441	$ 5,226,206
Total Appropriations	$ 113,163,205	$ 115,872,367	$ 122,481,618
BEGINNING FUND BALANCE	$ 42,228,333	$ 46,625,619	$ 46,319,777
ENDING FUND BALANCE	$ 46,625,619	$ 46,319,777	$ 36,237,394
RESERVED FUND BALANCE	1,043,407	1,043,407	1,043,407
ENDING AVAILABLE FUND BALANCE	$ 45,582,212	$ 45,276,370	$ 35,193,987

GENERAL FUND
SUMMARY OF REVENUES

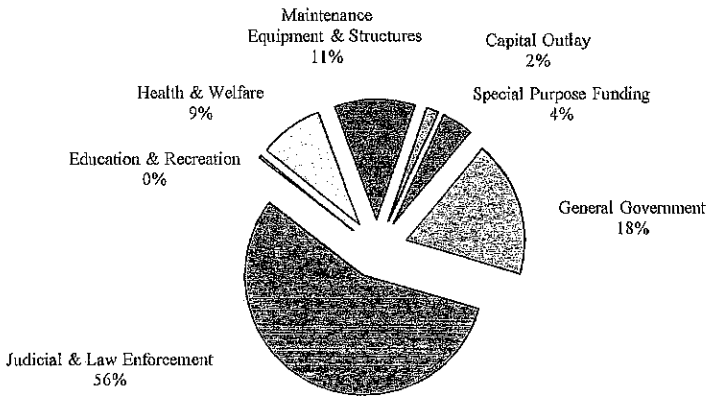
REVENUES	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
Property Taxes	$ 76,480,625	$ 77,617,753	$ 76,885,100
Sales Taxes	25,170,356	22,703,496	21,450,000
Fees	9,067,410	9,078,566	8,680,744
Licenses	590,148	479,663	418,200
Sales, Rentals & Services	2,658,453	2,146,579	1,429,876
Intergovernmental	1,510,298	1,566,339	1,574,315
Fines & Forfeitures	1,884,566	1,758,445	1,725,000
Interest	162,714	201,764	212,000
Miscellaneous	35,918	13,920	24,000
Total	$ 117,560,488	$ 115,566,525	$ 112,399,235

Approved 2014-2015

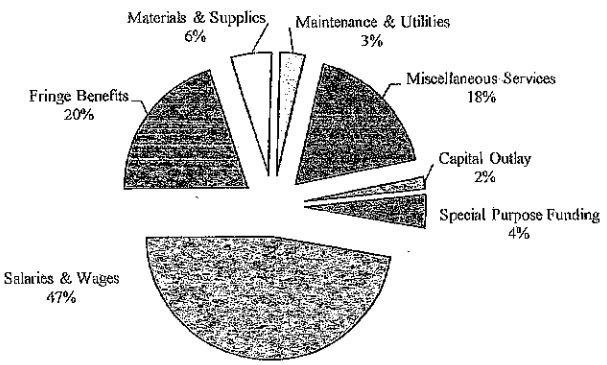


GENERAL FUND
SUMMARY OF EXPENDITURES

Department	APPROVED 2014-2015 BUDGET	% OF TOTAL
General Government	$ 22,659,668	18.49%
Judicial & Law Enforcement	68,388,670	55.84%
Education & Recreation	402,359	0.33%
Health & Welfare	10,631,365	8.68%
Maintenance - Equipment Structures	13,139,461	10.73%
Capital Outlay	2,033,889	1.66%
Special Purpose Funding	5,226,206	4.27%
Total	$ 122,481,618	100.00%



Category	APPROVED 2014-2015 BUDGET	% OF TOTAL
Salaries & Wages	$ 57,747,069	47.14%
Fringe Benefits	24,809,709	20.26%
Materials & Supplies	6,480,059	5.29%
Maintenance & Utilities	3,917,648	3.20%
Miscellaneous Services	22,267,038	18.18%
Capital Outlay	2,033,889	1.66%
Special Purpose Funding	5,226,206	4.27%
Total	$ 122,481,618	100.00%



GENERAL FUND
SUMMARY OF EXPENDITURES BY DIVISION

Department / Division	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
General Government			
Tax Assessor-Collector	$ 3,325,861	$ 3,396,038	$ 3,668,340
Human Resources	365,501	380,952	430,962
County Auditor	1,356,372	1,324,418	1,415,573
County Clerk	2,017,460	2,088,983	2,167,027
County Judge	764,350	824,983	894,428
Risk Management	227,674	230,733	240,745
County Treasurer	264,005	352,721	375,326
Printing	134,856	150,632	168,274
Purchasing Agent	475,249	506,495	547,371
General Services	9,255,807	9,600,614	9,578,708
Management Information Systems	1,632,499	1,687,094	1,848,984
Voters Registration Department	206,501	241,705	226,010
Elections Department	539,519	970,888	815,383
Veterans Services	260,576	268,462	282,537
Total General Government	$ 20,826,230	$ 22,024,718	$ 22,659,668
Judicial & Law Enforcement			
District Attorney	$ 5,206,164	$ 5,459,267	$ 6,460,869
District Clerk	1,583,022	1,538,519	1,799,632
District Courts	5,038,312	5,009,729	4,934,816
Jury	692,675	741,053	1,086,240
Justice of the Peace	2,198,952	2,243,154	2,482,384
County Courts at Law	1,512,816	1,669,691	1,756,318
Court Master	386,315	472,008	483,603
Dispute Resolution Center	189,642	192,993	254,682
Juvenile Alternative School	316,583	348,681	381,977
Community Supervision	12,313	14,384	10,228
Sheriff	11,141,486	11,864,695	12,859,790
Crime Laboratory	1,119,172	1,168,019	1,320,193
Jail	24,934,874	26,070,391	27,186,288
Juvenile Probation	1,112,736	1,254,796	1,549,640
Juvenile Detention Home	1,755,684	1,808,771	2,042,112
Constables	2,703,193	2,740,229	3,019,898
County Morgue	675,788	747,972	760,000
Total Judicial & Law Enforcement	$ 60,579,727	$ 63,344,352	$ 68,388,670
Education & Recreation			
Agricultural Extension Service	$ 339,621	$ 371,383	$ 402,359
Total Education & Recreation	$ 339,621	$ 371,383	$ 402,359

GENERAL FUND
SUMMARY OF EXPENDITURES BY DIVISION

Department / Division	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
Health & Welfare			
Health & Welfare Unit 1	$ 1,061,375	$ 1,086,262	$ 1,257,858
Health & Welfare Unit 2	1,042,945	1,074,176	1,208,834
Nurse Practitioner	299,667	303,976	299,070
Child Welfare	145,736	136,288	153,900
Environmental Control	335,885	344,960	375,848
Indigent Medical Service	4,588,916	4,877,533	4,897,891
Mosquito Control	1,923,826	1,987,745	2,163,276
Emergency Management	190,245	203,890	224,688
Tobacco Settlement	50,000	50,000	50,000
Total Health & Welfare	$ 9,638,595	$ 10,064,830	$ 10,631,365
Maintenance - Equipment & Structures			
Courthouse & Annexes	$ 2,354,996	$ 2,431,568	$ 2,754,648
Port Arthur Buildings	578,375	608,181	746,362
Mid-County Buildings	181,829	183,399	217,228
Road & Bridge Pct. #1	1,390,788	1,487,043	1,565,779
Road & Bridge Pct. #2	1,544,993	1,605,900	1,591,393
Road & Bridge Pct. #3	1,415,477	1,549,313	1,751,562
Road & Bridge Pct. #4	1,744,662	1,837,011	2,021,214
Engineering	873,949	903,090	985,864
Parks & Recreation	147,077	162,638	197,532
Service Center	1,267,916	1,296,099	1,307,879
Total Maintenance - Equipment & Structures	$ 11,500,062	$ 12,064,242	$ 13,139,461
Capital Outlay	$ 896,548	$ 1,567,401	$ 2,033,889
Special Purpose Funding			
Contingency Appropriation	$ -	$ -	$ 350,000
Transfers Out	9,382,422	6,435,441	4,876,206
Total Special Purpose Funding	$ 9,382,422	$ 6,435,441	$ 5,226,206
Total General Fund Expenditures	$ 113,163,205	$ 115,872,367	$ 122,481,618

GENERAL GOVERNMENT

General Government includes the Tax Assessor-Collector, Human Resources, County Auditor, County Clerk, County Judge, Risk Management, County Treasurer, Printing, Purchasing Agent, General Services, Management Information Systems, and Veterans Services.

Tax Assessor Collector – main duties are to assess and collect property taxes; to issue certificates of title and license plates for motor vehicles and trailers. Elected for a four-year term by the voters of the County.

Human Resources – main duties are to provide staff support services for personnel administration. The personnel administration function includes obtaining qualified applicants to fill various job vacancies, maintaining equitable and competitive compensation practices, providing consultation to all departments on personnel related issues, reviewing and/or resolving employee concerns, grievance and appeals, ensuring compliance with federal and state laws, and developing/interpreting policy.

County Auditor – main duties are to act as the chief financial officer of the County; responsible for substantially all County finance and accounting control functions. Such functions include auditing, accounting systems design, financial planning, financial relations, and payroll.

County Clerk – main duties are to serve as clerk for both Commissioners' Court and County Courts; responsible for filing, indexing, and recording all legal instruments affecting real property titles; recording security instruments, births and deaths, and issuing marriage licenses. Elected for a four-year term by the voters of the County.

County Judge – main duties are: presiding officer of the Commissioners' Court; judge of the Probate Court; handles hearings on admittance to state hospital for the mentally ill and mentally challenged; and is head of civil defense and disaster relief. Elected for a four-year term by the voters of the County.

Risk Management – provides staff support services for benefits and risk administration. The benefits function includes administering the health and dental plan for the County, workers' compensation program, safety program, and retirement program.

County Treasurer – duties include receiving all money collected by the County, investing County revenue, paying and applying County funds as directed by the Commissioners' Court, and signing all County checks. Elected for a four-year term by the voters of the County.

Printing – provides support in the printing of all stationery, court dockets, Comprehensive Annual Financial Report, and the Annual Budget of the County.

Purchasing Agent – responsible for the procurement of goods, materials, and services for all departments and offices of the County. The department recommends award of bids to Commissioners' Court and administers bids and various contracts. The Purchasing Agent is also in charge of reviewing all requisitions, making proper buying decisions and processing purchase orders for same.

General Services – provides accounting control for expenditures of the County that are not allocated to specific departments.

Management Information Systems (M.I.S.) – provides all County departments with computer based systems support. This includes analysis of manual and automated procedures and the feasibility of implementing data and word processing systems. M.I.S. is also the interface between departments and users in the operation of systems. The department is responsible for the ongoing evolution of County-wide data systems.

Voters Registration Department – provides accounting for expenditures associated with the Tax Assessor Collector's responsibility to issue voter registration applications and certificates; and to compile election poll lists.

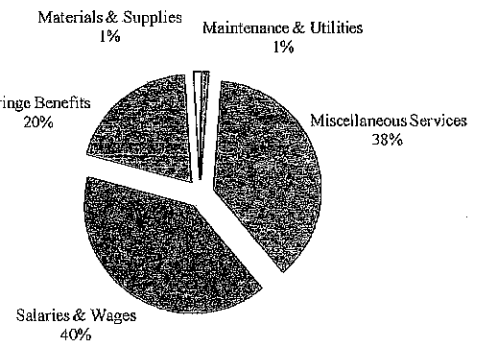
Elections Department – provides accounting for expenditures associated with the County Clerk's duties to provide general supervisory authority over all elections held within the County.

Veterans Services Office – develops and submits claims for benefits to the Department of Veterans Affairs for disability compensation, pension, death pension, medical benefits, burial benefits, insurance, education, home loans, records requests, and various benefits through other government agencies.

GENERAL GOVERNMENT
DEPARTMENT SUMMARY

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
DEPARTMENTS			
Tax Assessor-Collector	$ 3,325,861	$ 3,396,038	$ 3,668,340
Human Resources	365,501	380,952	430,962
County Auditor	1,356,372	1,324,418	1,415,573
County Clerk	2,017,460	2,088,983	2,167,027
County Judge	764,350	824,983	894,428
Risk Management	227,674	230,733	240,745
County Treasurer	264,005	352,721	375,326
Printing	134,856	150,632	168,274
Purchasing Agent	475,249	506,495	547,371
General Services	9,255,807	9,600,614	9,578,708
Management Information Systems	1,632,499	1,687,094	1,848,984
Voters Registration Department	206,501	241,705	226,010
Elections Department	539,519	970,888	815,383
Veterans Services	260,576	268,462	282,537
Total	$ 20,826,230	$ 22,024,718	$ 22,659,668

	APPROVED 2014-2015
APPROPRIATIONS CATEGORY	
Salaries & Wages	$ 9,138,097
Fringe Benefits	4,481,604
Materials & Supplies	280,211
Maintenance & Utilities	237,298
Miscellaneous Services	8,522,458
Total	$ 22,659,668



PERSONNEL SUMMARY

	Elected Official	Clerical, Administrative & Fiscal	Law Enforcement	Labor, Trades & Maintenance	Nursing & Public Health	Human & Social Services	Other Un-Classified or Contract	TOTAL
Tax Assessor-Collector	1	52	-	-	-	-	-	53
Human Resources	-	4	-	-	-	-	-	4
County Auditor	-	15	-	-	-	-	-	15
County Clerk	1	30	-	-	-	-	-	31
County Judge	1	6	-	-	-	-	1	8
Risk Management	-	3	-	-	-	-	-	3
County Treasurer	1	3	-	-	-	-	-	4
Printing	-	-	-	1	-	-	-	1
Purchasing Agent	-	6	-	-	-	-	-	6
General Services	4	-	-	-	-	-	-	4
Management Information Systems	-	19	-	-	-	-	-	19
Voters Registration Department	-	3	-	-	-	-	-	3
Elections Department	-	4	-	1	-	-	-	5
Veterans Services	-	2	-	-	-	2	-	4
Total	8	147	-	2	-	2	1	160

GENERAL GOVERNMENT
DIVISION SUMMARY

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
Tax Assessor-Collector			
Salaries & Wages	$ 2,177,293	$ 2,191,392	$ 2,326,506
Fringe Benefits	934,520	971,764	1,089,998
Materials & Supplies	42,696	43,135	45,500
Maintenance & Utilities	99,162	101,900	106,526
Miscellaneous Services	72,190	87,847	99,810
Total	$ 3,325,861	$ 3,396,038	$ 3,668,340
Human Resources			
Salaries & Wages	$ 240,165	$ 248,248	$ 276,945
Fringe Benefits	97,699	102,950	116,990
Materials & Supplies	1,465	1,787	3,724
Maintenance & Utilities	549	385	1,500
Miscellaneous Services	25,623	27,582	31,803
Total	$ 365,501	$ 380,952	$ 430,962
County Auditor			
Salaries & Wages	$ 932,590	$ 904,504	$ 955,002
Fringe Benefits	353,624	350,740	384,195
Materials & Supplies	7,036	8,220	10,576
Maintenance & Utilities	2,840	2,449	2,700
Miscellaneous Services	60,282	58,505	63,100
Total	$ 1,356,372	$ 1,324,418	$ 1,415,573
County Clerk			
Salaries & Wages	$ 1,340,214	$ 1,372,860	$ 1,410,934
Fringe Benefits	567,294	599,124	632,607
Materials & Supplies	35,969	37,368	35,950
Maintenance & Utilities	22,615	20,286	23,500
Miscellaneous Services	51,368	59,345	64,036
Total	$ 2,017,460	$ 2,088,983	$ 2,167,027
County Judge			
Salaries & Wages	$ 510,522	$ 530,108	$ 540,918
Fringe Benefits	214,531	225,356	239,839
Materials & Supplies	4,812	4,522	4,671
Maintenance & Utilities	487	414	1,850
Miscellaneous Services	33,998	64,583	107,150
Total	$ 764,350	$ 824,983	$ 894,428
Risk Management			
Salaries & Wages	$ 164,112	$ 164,856	$ 170,714
Fringe Benefits	57,170	59,916	63,570
Materials & Supplies	841	700	1,000
Maintenance & Utilities	1,715	1,100	800
Miscellaneous Services	3,836	4,161	4,661
Total	$ 227,674	$ 230,733	$ 240,745

GENERAL GOVERNMENT
DIVISION SUMMARY

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
County Treasurer			
Salaries & Wages	$ 174,194	$ 224,268	$ 232,772
Fringe Benefits	70,167	101,484	107,986
Materials & Supplies	3,349	3,049	3,650
Maintenance & Utilities	10,352	10,253	15,460
Miscellaneous Services	5,943	13,667	15,458
Total	$ 264,005	$ 352,721	$ 375,326
Printing			
Salaries & Wages	$ 53,979	$ 56,376	$ 58,026
Fringe Benefits	24,589	26,256	28,071
Materials & Supplies	27,189	28,000	40,000
Maintenance & Utilities	-	-	-
Miscellaneous Services	29,099	40,000	42,177
Total	$ 134,856	$ 150,632	$ 168,274
Purchasing Agent			
Salaries & Wages	$ 305,160	$ 324,924	$ 340,590
Fringe Benefits	134,526	144,924	154,562
Materials & Supplies	3,292	2,812	3,150
Maintenance & Utilities	1,330	1,156	1,000
Miscellaneous Services	30,941	32,679	48,069
Total	$ 475,249	$ 506,495	$ 547,371
General Services			
Salaries & Wages	$ 1,183,603	$ 1,101,372	$ 999,484
Fringe Benefits	886,517	898,021	882,229
Materials & Supplies	59,747	59,910	60,000
Maintenance & Utilities	-	-	-
Miscellaneous Services	7,125,940	7,541,311	7,636,995
Total	$ 9,255,807	$ 9,600,614	$ 9,578,708
Management Information Systems			
Salaries & Wages	$ 1,101,925	$ 1,127,839	$ 1,222,466
Fringe Benefits	422,202	450,064	504,178
Materials & Supplies	25,814	28,089	30,480
Maintenance & Utilities	60,595	60,046	66,012
Miscellaneous Services	21,963	21,056	25,848
Total	$ 1,632,499	$ 1,687,094	$ 1,848,984
Voters Registration Department			
Salaries & Wages	$ 136,491	$ 128,280	$ 135,296
Fringe Benefits	57,476	60,696	66,414
Materials & Supplies	1,287	4,000	8,500
Maintenance & Utilities	9,887	45,436	12,000
Miscellaneous Services	1,360	3,293	3,800
Total	$ 206,501	$ 241,705	$ 226,010

GENERAL GOVERNMENT
DIVISION SUMMARY

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
Elections Department			
Salaries & Wages	$ 197,818	$ 236,244	$ 290,075
Fringe Benefits	79,539	98,326	120,769
Materials & Supplies	28,761	69,667	32,000
Maintenance & Utilities	2,688	10,000	5,000
Miscellaneous Services	230,713	556,651	367,539
Total	$ 539,519	$ 970,888	$ 815,383
Veterans Services			
Salaries & Wages	$ 166,702	$ 169,308	$ 178,369
Fringe Benefits	79,796	85,092	90,196
Materials & Supplies	1,008	1,097	1,010
Maintenance & Utilities	1,069	946	950
Miscellaneous Services	12,001	12,019	12,012
Total	$ 260,576	$ 268,462	$ 282,537

JUDICIAL & LAW ENFORCEMENT

Judicial & Law Enforcement includes Pre-Trial Release, District Attorney, District Clerk, District Courts, Jury, Justices of the Peace, County Courts at Law, Court Master, Dispute Resolution Center, Juvenile Alternative School, Community Supervision, Sheriff, Crime Laboratory, Jail, Juvenile Correctional Probation, Juvenile Detention Home, Constables, and County Morgue.

District Attorney – responsible for the prosecution of felony and misdemeanor criminal cases in the County; serves as legal advisor to Commissioners' Court and other County officials. Elected for a four-year term by the voters of the County.

District Clerk – duties revolve around the District Courts; specifically serves as legal record keeper for all documents filed in District Courts. Elected for a four-year term by the voters of the County.

District Courts – serve as trial courts of general jurisdiction of Texas. The geographical area served by each court is established by the Legislature, but each County must be served by at least one District Court. District Courts have original jurisdiction in all felony criminal cases, divorce cases, cases involving title to land, election contest cases, civil matters in which the amount in controversy (the amount of money or damages involved) is $200 or more, and any matters in which jurisdiction is not placed in another trial court. There are eight District Courts in Jefferson County: Criminal, 58th, 60th, 136th, 172nd, 252nd, 279th, and the 317th. Elected for a four-year term by the voters of the County.

Jury – department responsible for expenditures related to selection of the petit and grand juries seated in Jefferson County.

Justice of the Peace – presiding officer over the Justice and Small Claims Court; courts have original jurisdiction in Class C misdemeanor criminal cases, which are less serious minor offenses; courts have jurisdiction over minor civil matters; may issue search or arrest warrants; serve as the coroner in Jefferson County. There are seven Justice of the Peace Courts in Jefferson County. Justices of the Peace are elected for a four-year term by the voters of the County.

County Courts at Law – legal jurisdiction varies considerably and is established by statute, which creates the particular court. The jurisdiction of statutorily created County Courts at Law is concurrent with the jurisdiction of the County and District Courts in the County. There are three County Courts at Law in Jefferson County. Judges are elected for a four-year term by the voters of the County.

Court Master – is allocated all expenditures associated with the Drug Impact Court of Jefferson County.

Dispute Resolution Center – responsible for working with individuals, families, community groups, government agencies, and businesses to assist them in resolving conflict. Through the use of constructive means like mediation and facilitation, the Center has helped in thousands of matters to prevent the need for costly litigation, or escalation to the point of violence.

Sheriff's Office – diversified in its responsibilities by statute. The Sheriff provides security for the Courthouse. The Sheriff is responsible for prisoner transportation. Civil Warrants, Writs of Execution, Levies on and Posting of Property, and the sale of Real Property after foreclosure proceedings are functions which most people associate with the Office of the Sheriff. The Sheriff also oversees the following: The **Juvenile Alternative School** is allocated all expenditures associated with the security of the alternative school. The **Crime Lab** is allocated all expenditures associated with the examination of crime scene evidence in Jefferson County. The **Jail** is allocated all expenditures associated with the operation of the Jefferson County Correctional Facility. Elected for a four-year term by the voters of the County.

Community Supervision – represents maintenance and equipment expenditures mandated by the state to be provided to the Adult Probation Department.

Juvenile Probation and Juvenile Detention Home – represents all operating expenditures for the Jefferson County Juvenile Probation Department and Detention Facility.

Constables – are constitutionally authorized peace officers elected by precinct. While they may perform patrol functions and make criminal investigations, the main duty of most Constables is to serve as executive officer of the Justice of the Peace Courts. Constables serve subpoenas and other papers. Elected for a four-year term by the voters of the County.

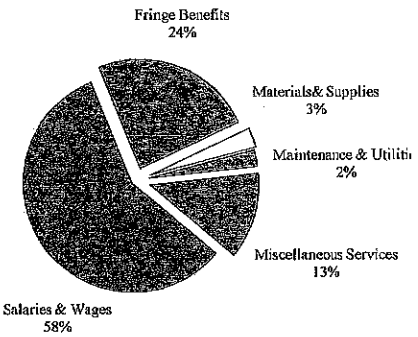
County Morgue – responsible for costs of laboratory and pathological services (autopsies) in Jefferson County.

JUDICIAL & LAW ENFORCEMENT

DEPARTMENT SUMMARY

DEPARTMENTS	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
District Attorney	$ 5,206,164	$ 5,459,267	$ 6,460,869
District Clerk	1,583,022	1,538,519	1,799,632
District Courts	5,038,312	5,009,729	4,934,816
Jury	692,675	741,053	1,086,240
Justice of the Peace	2,198,952	2,243,154	2,482,384
County Courts at Law	1,512,816	1,669,691	1,756,318
Court Master	386,315	472,008	483,603
Dispute Resolution Center	189,642	192,993	254,682
Juvenile Alternative School	316,583	348,681	381,977
Community Supervision	12,313	14,384	10,228
Sheriff	11,141,486	11,864,695	12,859,790
Crime Laboratory	1,119,172	1,168,019	1,320,193
Jail	24,934,874	26,070,391	27,186,288
Juvenile Probation	1,112,736	1,254,796	1,549,640
Juvenile Detention Home	1,755,684	1,808,771	2,042,112
Constables	2,703,193	2,740,229	3,019,898
County Morgue	675,788	747,972	760,000
Total	$ 60,579,727	$ 63,344,352	$ 68,388,670

APPROPRIATIONS CATEGORY	APPROVED 2014-2015
Salaries & Wages	$ 39,545,553
Fringe Benefits	16,442,175
Materials & Supplies	1,990,526
Maintenance & Utilities	1,645,273
Miscellaneous Services	8,765,143
Total	$ 68,388,670



PERSONNEL SUMMARY

	Elected Official	Clerical, Administrative & Fiscal	Law Enforcement	Labor, Trades & Maintenance	Nursing & Public Health	Human & Social Services	Other Unclassified or Contract	TOTAL
District Attorney	1	24	-	-	-	-	36	61
District Clerk	1	26	-	-	-	-	-	27
District Courts	8	18	-	-	-	-	10	36
Jury	-	1	-	-	-	-	1	2
Justice of the Peace	7	21	-	-	-	-	-	28
County Courts at Law	3	9	-	-	-	-	3	15
Court Master	-	3	-	-	-	-	1	4
Dispute Resolution Center	-	-	-	-	-	3	-	3
Juvenile Alternative School	-	-	-	-	-	-	4	4
Sheriff	1	19	14	-	-	-	97	131
Crime Laboratory	-	-	11	-	-	-	-	11
Jail	-	13	2	8	1	-	239	263
Juvenile Probation	-	3	-	-	-	15	-	18
Juvenile Detention Home	-	-	19	-	-	1	-	20
Constables	6	8	-	-	-	-	14	28
County Morgue	-	-	-	-	-	-	-	-
Total	27	145	46	8	1	19	405	651

JUDICIAL & LAW ENFORCEMENT
DIVISION SUMMARY

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
District Attorney			
Salaries & Wages	$ 3,655,091	$ 3,807,712	$ 4,435,651
Fringe Benefits	1,386,063	1,466,425	1,754,353
Materials & Supplies	42,314	40,433	73,443
Maintenance & Utilities	17,791	16,165	21,000
Miscellaneous Services	104,905	128,532	176,422
Total	$ 5,206,164	$ 5,459,267	$ 6,460,869
District Clerk			
Salaries & Wages	$ 1,084,547	$ 1,038,072	$ 1,212,038
Fringe Benefits	466,587	467,952	546,560
Materials & Supplies	16,745	18,290	19,000
Maintenance & Utilities	11,929	11,892	16,750
Miscellaneous Services	3,214	2,313	5,284
Total	$ 1,583,022	$ 1,538,519	$ 1,799,632
Criminal District Court			
Salaries & Wages	$ 246,189	$ 403,564	$ 477,263
Fringe Benefits	85,219	140,600	194,778
Materials & Supplies	1,500	6,580	8,055
Maintenance & Utilities	105	85	2,200
Miscellaneous Services	992,502	817,830	826,805
Total	$ 1,325,515	$ 1,368,659	$ 1,509,101
58th District Court			
Salaries & Wages	$ 186,909	$ 191,848	$ 196,016
Fringe Benefits	80,620	87,654	96,542
Materials & Supplies	5,966	3,500	3,500
Maintenance & Utilities	54	47	400
Miscellaneous Services	6,260	6,998	9,228
Total	$ 279,809	$ 290,047	$ 305,686
60th District Court			
Salaries & Wages	$ 183,442	$ 189,000	$ 192,417
Fringe Benefits	74,055	79,848	83,472
Materials & Supplies	530	264	1,750
Maintenance & Utilities	97	129	700
Miscellaneous Services	4,941	5,950	9,385
Total	$ 263,065	$ 275,191	$ 287,724
136th District Court			
Salaries & Wages	$ 181,199	$ 186,684	$ 190,466
Fringe Benefits	82,377	87,288	92,420
Materials & Supplies	104	104	1,074
Maintenance & Utilities	132	125	430
Miscellaneous Services	5,259	5,784	7,816
Total	$ 269,071	$ 279,985	$ 292,206

JUDICIAL & LAW ENFORCEMENT
DIVISION SUMMARY

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
172nd District Court			
Salaries & Wages	$ 183,760	$ 190,896	$ 195,488
Fringe Benefits	71,683	70,872	87,026
Materials & Supplies	157	497	1,180
Maintenance & Utilities	470	370	1,000
Miscellaneous Services	8,036	8,626	10,431
Total	$ 264,106	$ 271,261	$ 295,125
252nd District Court			
Salaries & Wages	$ 393,964	$ 251,611	$ 206,191
Fringe Benefits	155,471	106,560	95,302
Materials & Supplies	4,321	3,933	6,057
Maintenance & Utilities	10,943	10,474	8,628
Miscellaneous Services	1,036,296	1,086,340	842,328
Total	$ 1,600,995	$ 1,458,918	$ 1,158,506
279th District Court			
Salaries & Wages	$ 147,876	$ 155,232	$ 157,876
Fringe Benefits	53,544	57,888	60,288
Materials & Supplies	938	1,278	1,250
Maintenance & Utilities	104	75	250
Miscellaneous Services	152,386	140,748	167,621
Total	$ 354,848	$ 355,221	$ 387,285
317th District Court			
Salaries & Wages	$ 339,237	$ 345,168	$ 355,572
Fringe Benefits	114,693	121,308	139,824
Materials & Supplies	809	1,434	2,000
Maintenance & Utilities	95	127	650
Miscellaneous Services	226,069	242,410	201,137
Total	$ 680,903	$ 710,447	$ 699,183
Jury			
Salaries & Wages	$ 125,502	$ 127,584	$ 130,503
Fringe Benefits	47,989	50,628	53,237
Materials & Supplies	6,173	6,250	18,000
Maintenance & Utilities	-	-	-
Miscellaneous Services	513,011	556,591	884,500
Total	$ 692,675	$ 741,053	$ 1,086,240
J.P. Precinct No. 1 - Place No. 1			
Salaries & Wages	$ 225,186	$ 228,384	$ 238,489
Fringe Benefits	88,208	98,940	103,689
Materials & Supplies	1,614	1,829	3,225
Maintenance & Utilities	1,626	1,694	2,500
Miscellaneous Services	5,711	5,934	7,191
Total	$ 322,345	$ 336,781	$ 355,094

JUDICIAL & LAW ENFORCEMENT
DIVISION SUMMARY

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
J.P. Precinct No. 1 - Place No. 2			
Salaries & Wages	$ 224,074	$ 223,032	$ 236,360
Fringe Benefits	92,432	96,012	102,342
Materials & Supplies	2,273	1,659	2,600
Maintenance & Utilities	1,923	2,068	2,400
Miscellaneous Services	6,043	5,587	5,848
Total	$ 326,745	$ 328,358	$ 349,550
J.P. Precinct No. 2			
Salaries & Wages	$ 183,640	$ 188,628	$ 217,977
Fringe Benefits	82,567	83,208	102,994
Materials & Supplies	2,294	2,726	3,100
Maintenance & Utilities	517	1,117	1,150
Miscellaneous Services	4,806	4,645	5,337
Total	$ 273,824	$ 280,324	$ 330,558
J.P. Precinct No. 4			
Salaries & Wages	$ 204,341	$ 217,332	$ 237,815
Fringe Benefits	87,988	94,824	102,694
Materials & Supplies	974	1,461	4,100
Maintenance & Utilities	2,364	2,378	3,000
Miscellaneous Services	5,259	6,272	7,710
Total	$ 300,926	$ 322,267	$ 355,319
J.P. Precinct No. 6			
Salaries & Wages	$ 225,773	$ 241,584	$ 238,312
Fringe Benefits	98,834	100,284	112,228
Materials & Supplies	4,334	4,146	4,500
Maintenance & Utilities	2,542	2,420	3,100
Miscellaneous Services	6,202	6,196	6,494
Total	$ 337,685	$ 354,630	$ 364,634
J.P. Precinct No. 7			
Salaries & Wages	$ 220,644	$ 218,832	$ 237,022
Fringe Benefits	87,722	90,300	106,674
Materials & Supplies	3,936	4,112	4,834
Maintenance & Utilities	7,289	7,365	8,350
Miscellaneous Services	3,982	3,901	5,390
Total	$ 323,573	$ 324,510	$ 362,270
J.P. Precinct No. 8			
Salaries & Wages	$ 213,884	$ 200,952	$ 239,625
Fringe Benefits	87,080	80,316	107,350
Materials & Supplies	4,655	4,400	6,364
Maintenance & Utilities	3,406	3,569	3,500
Miscellaneous Services	4,829	7,047	8,120
Total	$ 313,854	$ 296,284	$ 364,959

JUDICIAL & LAW ENFORCEMENT
DIVISION SUMMARY

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
County Court at Law #1			
Salaries & Wages	$ 281,772	$ 317,508	$ 327,964
Fringe Benefits	97,305	118,812	127,643
Materials & Supplies	1,339	1,200	2,600
Maintenance & Utilities	351	327	500
Miscellaneous Services	6,956	11,028	15,828
Total	$ 387,723	$ 448,875	$ 474,535
County Court at Law #2			
Salaries & Wages	$ 391,989	$ 412,236	$ 418,931
Fringe Benefits	134,647	147,096	155,157
Materials & Supplies	2,602	2,190	4,400
Maintenance & Utilities	1,000	1,080	1,750
Miscellaneous Services	57,802	67,693	73,517
Total	$ 588,040	$ 630,295	$ 653,755
County Court at Law #3			
Salaries & Wages	$ 375,643	$ 388,620	$ 400,523
Fringe Benefits	131,394	140,819	149,569
Materials & Supplies	1,542	4,050	4,491
Maintenance & Utilities	1,314	1,334	1,750
Miscellaneous Services	27,160	55,698	71,695
Total	$ 537,053	$ 590,521	$ 628,028
Court Master			
Salaries & Wages	$ 212,987	$ 216,612	$ 221,845
Fringe Benefits	89,333	94,128	99,289
Materials & Supplies	1,919	2,000	3,500
Maintenance & Utilities	392	487	850
Miscellaneous Services	81,684	158,781	158,119
Total	$ 386,315	$ 472,008	$ 483,603
Dispute Resolution Center			
Salaries & Wages	$ 125,392	$ 128,496	$ 154,622
Fringe Benefits	42,352	43,536	75,206
Materials & Supplies	2,854	1,185	1,185
Maintenance & Utilities	434	390	1,923
Miscellaneous Services	18,610	19,386	21,746
Total	$ 189,642	$ 192,993	$ 254,682
Juvenile Alternative School			
Salaries & Wages	$ 221,065	$ 244,248	$ 266,626
Fringe Benefits	89,335	98,232	107,851
Materials & Supplies	3,955	3,972	4,000
Maintenance & Utilities	1,485	1,485	1,500
Miscellaneous Services	743	744	2,000
Total	$ 316,583	$ 348,681	$ 381,977

JUDICIAL & LAW ENFORCEMENT
DIVISION SUMMARY

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
Community Supervision			
Salaries & Wages	$ -	$ -	$ -
Fringe Benefits	-	-	-
Materials & Supplies	5,690	7,900	3,605
Maintenance & Utilities	1,000	861	1,000
Miscellaneous Services	5,623	5,623	5,623
Total	$ 12,313	$ 14,384	$ 10,228
Sheriff			
Salaries & Wages	$ 7,723,808	$ 8,103,144	$ 8,646,141
Fringe Benefits	2,928,206	3,201,700	3,538,130
Materials & Supplies	151,600	187,264	246,832
Maintenance & Utilities	102,033	108,900	120,450
Miscellaneous Services	235,839	263,687	308,237
Total	$ 11,141,486	$ 11,864,695	$ 12,859,790
Crime Laboratory			
Salaries & Wages	$ 718,493	$ 735,804	$ 840,204
Fringe Benefits	256,804	273,000	315,334
Materials & Supplies	56,638	58,137	58,000
Maintenance & Utilities	8,499	8,538	8,500
Miscellaneous Services	78,738	92,540	98,155
Total	$ 1,119,172	$ 1,168,019	$ 1,320,193
Jail			
Salaries & Wages	$ 13,418,741	$ 14,136,099	$ 14,622,120
Fringe Benefits	5,276,771	5,750,208	6,182,768
Materials & Supplies	1,245,694	1,273,572	1,330,500
Maintenance & Utilities	1,123,939	1,169,248	1,207,400
Miscellaneous Services	3,869,729	3,741,264	3,843,500
Total	$ 24,934,874	$ 26,070,391	$ 27,186,288
Juvenile Probation			
Salaries & Wages	$ 699,302	$ 815,556	$ 995,960
Fringe Benefits	351,924	375,972	437,982
Materials & Supplies	9,275	9,037	9,827
Maintenance & Utilities	3,313	3,035	6,467
Miscellaneous Services	48,922	51,196	99,404
Total	$ 1,112,736	$ 1,254,796	$ 1,549,640
Juvenile Detention Home			
Salaries & Wages	$ 1,023,067	$ 1,044,284	$ 1,188,361
Fringe Benefits	401,965	423,188	491,449
Materials & Supplies	107,255	100,986	106,547
Maintenance & Utilities	173,526	188,218	191,100
Miscellaneous Services	49,871	52,095	64,655
Total	$ 1,755,684	$ 1,808,771	$ 2,042,112

JUDICIAL & LAW ENFORCEMENT
DIVISION SUMMARY

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
Constable Precinct No. 1			
Salaries & Wages	$ 477,437	$ 439,992	$ 507,843
Fringe Benefits	163,498	179,388	207,402
Materials & Supplies	17,349	18,136	12,362
Maintenance & Utilities	3,808	4,022	6,075
Miscellaneous Services	18,487	18,619	17,951
Total	$ 680,579	$ 660,157	$ 751,633
Constable Precinct No. 2			
Salaries & Wages	$ 278,849	$ 278,940	$ 297,497
Fringe Benefits	105,653	112,956	122,167
Materials & Supplies	3,814	4,069	8,170
Maintenance & Utilities	367	450	600
Miscellaneous Services	4,080	6,259	6,295
Total	$ 392,763	$ 402,674	$ 434,729
Constable Precinct No. 4			
Salaries & Wages	$ 261,025	$ 273,468	$ 291,052
Fringe Benefits	104,083	111,864	120,524
Materials & Supplies	8,278	4,012	4,925
Maintenance & Utilities	798	733	1,350
Miscellaneous Services	5,834	8,572	9,016
Total	$ 380,018	$ 398,649	$ 426,867
Constable Precinct No. 6			
Salaries & Wages	$ 324,027	$ 329,220	$ 380,095
Fringe Benefits	124,199	131,484	149,552
Materials & Supplies	12,939	12,936	13,100
Maintenance & Utilities	3,807	3,504	3,000
Miscellaneous Services	18,610	11,834	14,429
Total	$ 483,582	$ 488,978	$ 560,176
Constable Precinct No. 7			
Salaries & Wages	$ 282,992	$ 287,856	$ 298,972
Fringe Benefits	90,018	99,348	117,039
Materials & Supplies	1,948	2,170	2,700
Maintenance & Utilities	623	618	1,250
Miscellaneous Services	3,423	5,824	6,024
Total	$ 379,004	$ 395,816	$ 425,985
Constable Precinct No. 8			
Salaries & Wages	$ 275,202	$ 280,032	$ 291,716
Fringe Benefits	97,089	97,596	103,340
Materials & Supplies	4,651	4,613	9,750
Maintenance & Utilities	2,792	2,178	3,800
Miscellaneous Services	7,513	9,536	11,902
Total	$ 387,247	$ 393,955	$ 420,508

JUDICIAL & LAW ENFORCEMENT
DIVISION SUMMARY

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
County Morgue			
Salaries & Wages	$ -	$ -	$ -
Fringe Benefits	-	-	-
Materials & Supplies	-	-	-
Maintenance & Utilities	6,411	5,249	10,000
Miscellaneous Services	669,377	742,723	750,000
Total	$ 675,788	$ 747,972	$ 760,000

EDUCATION & RECREATION

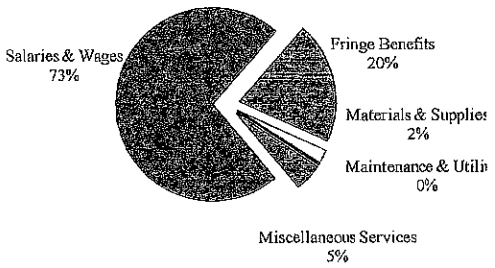
Education and Recreation includes the Agricultural Extension Service of the County.

Agricultural Extension Service – County shares cost with Texas A&M University System to provide expert advice, assistance and training for a wide range of subjects under the 4 areas of family and consumer sciences, urban development, agriculture and natural resources, and 4-H and youth. Some of the subjects are horticulture, nutrition, health and wellness, agriculture awareness, pesticide management, parenting, money management, tourism, sustainable agriculture, youth development, waste management, preservation of nature, and water quality.

EDUCATION & RECREATION
DEPARTMENT SUMMARY

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
DEPARTMENTS			
Agricultural Extension Service	$ 339,621	$ 371,383	$ 402,359
Total	$ 339,621	$ 371,383	$ 402,359

	APPROVED 2014-2015
APPROPRIATIONS CATEGORY	
Salaries & Wages	$ 291,738
Fringe Benefits	81,895
Materials & Supplies	9,274
Maintenance & Utilities	835
Miscellaneous Services	18,617
Total	$ 402,359



PERSONNEL SUMMARY

	Elected Official	Clerical, Administrative & Fiscal	Law Enforcement	Labor, Trades & Maintenance	Nursing & Public Health	Human & Social Services	Other Un-Classified or Contract	TOTAL
Agricultural Extension Service	-	3	-	-	-	-	4	7
Total	-	3	-	-	-	-	4	7

EDUCATION & RECREATION
DIVISION SUMMARY

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
Agriculture Extension Service			
Salaries & Wages	$ 247,138	$ 273,192	$ 291,738
Fringe Benefits	69,228	74,628	81,895
Materials & Supplies	7,647	6,833	9,274
Maintenance & Utilities	403	586	835
Miscellaneous Services	15,205	16,144	18,617
Total	$ 339,621	$ 371,383	$ 402,359

HEALTH & WELFARE

Health & Welfare includes Health & Welfare Units 1 and 2, Nurse Practitioner, Child Welfare, Environmental Control, Indigent Medical Service, Mosquito Control, Emergency Management, and Tobacco Settlement.

Health & Welfare Units 1 & 2 – responsible for the public health of all County citizens within the framework of County government. Provides medical care, mental health, and protective services for indigent care individuals and families. Cooperates with other community health providers, concerned citizens, and committed volunteers who help achieve its mission. Unit 1 is located in Beaumont, and Unit 2 is located in Port Arthur.

Nurse Practitioner – responsible for the County's in-house employee health care program. The Nurse Practitioner's primary function is preventive health care for all Jefferson County employees. This includes diagnosis and treatment of employees and their dependents.

Child Welfare – represents allocated expenditures that are associated with the County's support of the child protective services of the State of Texas.

Environmental Control – responsible for an integrated management program with elements designed to safeguard the quality of water supplies, to protect the groundwater resource from non-potable elements and contaminants, minimizing the impact of need residential, commercial and industrial development, and to promote water conservation. Environmental Control also identifies the best means of sewage collection, treatment and disposal; oversees new construction; issues State-mandated permits for industrial waste, sewage treatment plants and large-volume sewage discharges, and inspects and enforces permit conditions.

Indigent Medical Service – represents the expenditures incurred for outside medical and prescription service associated with the indigent population of Jefferson County.

Mosquito Control – represents expenditures associated with the control of mosquitoes in the County. By significantly reducing the mosquito population, the event of epidemic disease from occurring is reduced.

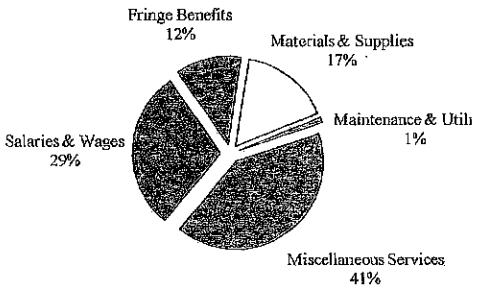
Emergency Management – responsible for the support systems and other statutory functions to help individuals and the community prepare for disasters regardless of the cause.

Tobacco Settlement – represents expenditures for special indigent health related services using tobacco settlement proceeds.

HEALTH & WELFARE
DEPARTMENT SUMMARY

DEPARTMENTS	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
Health & Welfare Unit 1	$ 1,061,375	$ 1,086,262	$ 1,257,858
Health & Welfare Unit 2	1,042,945	1,074,176	1,208,834
Nurse Practitioner	299,667	303,976	299,070
Child Welfare	145,736	136,288	153,900
Environmental Control	335,885	344,960	375,848
Indigent Medical Service	4,588,916	4,877,533	4,897,891
Mosquito Control	1,923,826	1,987,745	2,163,276
Emergency Management	190,245	203,890	224,688
Tobacco Settlement	50,000	50,000	50,000
Total	$ 9,638,595	$ 10,064,830	$ 10,631,365

APPROPRIATIONS CATEGORY	APPROVED 2014-2015
Salaries & Wages	$ 3,102,551
Fringe Benefits	1,292,533
Materials & Supplies	1,751,267
Maintenance & Utilities	101,909
Miscellaneous Services	4,383,105
Total	$ 10,631,365



PERSONNEL SUMMARY

	Elected Official	Clerical, Administrative & Fiscal	Law Enforcement	Labor, Trades & Maintenance	Nursing & Public Health	Human & Social Services	Other Un-Classified or Contract	TOTAL
Health & Welfare Unit 1	-	3	-	1	5	4	-	13
Health & Welfare Unit 2	-	4	-	1	3	4	-	12
Nurse Practitioner	-	-	-	-	3	-	-	3
Environmental Control	-	2	-	-	3	-	-	5
Indigent Medical Services	-	-	-	-	1	-	-	1
Mosquito Control	-	1	-	13	-	-	-	14
Emergency Management	-	-	1	-	-	-	1	2
Tobacco Settlement	-	-	-	-	-	-	-	-
Total	-	10	1	15	15	8	1	50

HEALTH & WELFARE
DIVISION SUMMARY

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
Health & Welfare Unit 1			
Salaries & Wages	$ 595,814	$ 590,028	$ 684,878
Fringe Benefits	232,303	236,622	292,030
Materials & Supplies	7,479	20,898	31,100
Maintenance & Utilities	5,831	4,820	6,800
Miscellaneous Services	219,948	233,894	243,050
Total	$ 1,061,375	$ 1,086,262	$ 1,257,858
Health & Welfare Unit 2			
Salaries & Wages	$ 605,710	$ 620,064	$ 676,379
Fringe Benefits	248,148	270,930	309,755
Materials & Supplies	14,352	16,441	22,442
Maintenance & Utilities	4,901	4,675	5,909
Miscellaneous Services	169,834	162,066	194,349
Total	$ 1,042,945	$ 1,074,176	$ 1,208,834
Nurse Practitioner			
Salaries & Wages	$ 193,297	$ 196,512	$ 184,451
Fringe Benefits	71,751	72,792	71,235
Materials & Supplies	19,076	18,096	23,012
Maintenance & Utilities	-	190	350
Miscellaneous Services	15,543	16,386	20,022
Total	$ 299,667	$ 303,976	$ 299,070
Child Welfare			
Salaries & Wages	$ -	$ -	$ -
Fringe Benefits	-	-	-
Materials & Supplies	-	-	-
Maintenance & Utilities	-	-	-
Miscellaneous Services	145,736	136,288	153,900
Total	$ 145,736	$ 136,288	$ 153,900
Environmental Control			
Salaries & Wages	$ 225,224	$ 226,356	$ 240,569
Fringe Benefits	100,833	109,032	118,335
Materials & Supplies	2,119	1,755	3,250
Maintenance & Utilities	1,833	2,083	2,600
Miscellaneous Services	5,876	5,734	11,094
Total	$ 335,885	$ 344,960	$ 375,848
Indigent Medical Service			
Salaries & Wages	$ 237,954	$ 269,412	$ 277,783
Fringe Benefits	65,669	72,960	77,071
Materials & Supplies	765,103	855,161	860,963
Maintenance & Utilities	-	-	-
Miscellaneous Services	3,520,190	3,680,000	3,682,074
Total	$ 4,588,916	$ 4,877,533	$ 4,897,891

HEALTH & WELFARE
DIVISION SUMMARY

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
Mosquito Control			
Salaries & Wages	$ 773,977	$ 817,040	$ 880,033
Fringe Benefits	299,900	324,128	358,727
Materials & Supplies	759,243	751,874	810,200
Maintenance & Utilities	64,570	68,714	86,050
Miscellaneous Services	26,136	25,989	28,266
Total	$ 1,923,826	$ 1,987,745	$ 2,163,276
Emergency Management			
Salaries & Wages	$ 144,050	$ 153,336	$ 158,458
Fringe Benefits	45,945	50,304	65,380
Materials & Supplies	-	-	300
Maintenance & Utilities	-	-	200
Miscellaneous Services	250	250	350
Total	$ 190,245	$ 203,890	$ 224,688
Tobacco Settlement			
Salaries & Wages	$ -	$ -	$ -
Fringe Benefits	-	-	-
Materials & Supplies	-	-	-
Maintenance & Utilities	-	-	-
Miscellaneous Services	50,000	50,000	50,000
Total	$ 50,000	$ 50,000	$ 50,000

MAINTENANCE – EQUIPMENT & STRUCTURES

Maintenance – Equipment & Structures includes Courthouse & Annexes, Port Arthur Buildings, Mid-County Buildings, Road & Bridge Precincts, Engineering, Parks & Recreation, and Service Center.

Courthouse & Annexes, Port Arthur Buildings, and Mid-County Buildings – responsible for building services of Jefferson County. These departments direct activities associated with building maintenance and communications. Building Maintenance is responsible for structural maintenance and repair of the County's buildings, including electrical, heating, air conditioning, roofing, and mechanical systems. Communications includes the maintenance of the County's internal telephone system.

Road & Bridge Precincts – represents the expenditures associated with the maintenance of the County roads. There are four Road and Bridge Precincts, which are governed by the elected Commissioner of each precinct. Each Commissioner is elected to a four-year term by the voters of each precinct, and serves with the County Judge to make up the Commissioners' Court.

Engineering – responsible for the acquisition of land and the design and construction of capital improvement projects involving roadways, bridges, drainage systems, and buildings. Engineering updates and maintains the various maps and files of County owned properties and ROW, and manages inter-local agreements for engineering and construction projects. This department provides survey work for the County.

Parks and Recreation – represents expenditures associated with maintenance of the County parks, boat ramps, and beach cleaning.

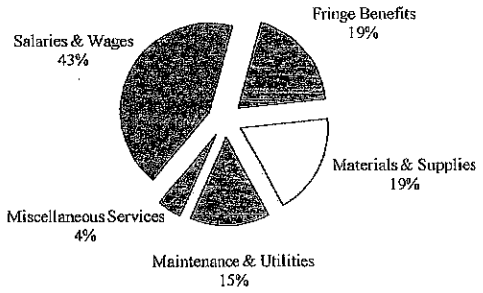
Service Center – represents expenditures associated with maintenance of all County owned vehicles.

MAINTENANCE - EQUIPMENT & STRUCTURES

DEPARTMENT SUMMARY

DEPARTMENTS	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
Courthouse & Annexes	$ 2,354,996	$ 2,431,568	$ 2,754,648
Port Arthur Buildings	578,375	608,181	746,362
Mid-County Buildings	181,829	183,399	217,228
Road & Bridge Pct. #1	1,390,788	1,487,043	1,565,779
Road & Bridge Pct. #2	1,544,993	1,605,900	1,591,393
Road & Bridge Pct. #3	1,415,477	1,549,313	1,751,562
Road & Bridge Pct. #4	1,744,662	1,837,011	2,021,214
Engineering	873,949	903,090	985,864
Parks & Recreation	147,077	162,638	197,532
Service Center	1,267,916	1,296,099	1,307,879
Total	$ 11,500,062	$ 12,064,242	$ 13,139,461

APPROPRIATIONS CATEGORY	APPROVED 2014-2015
Salaries & Wages	$ 5,669,130
Fringe Benefits	2,511,502
Materials & Supplies	2,448,781
Maintenance & Utilities	1,932,333
Miscellaneous Services	577,715
Total	$ 13,139,461



PERSONNEL SUMMARY

	Elected Official	Clerical, Administrative & Fiscal	Law Enforcement	Labor, Trades & Maintenance	Nursing & Public Health	Human & Social Services	Other Un-Classified or Contract	TOTAL
Courthouse & Annexes	-	2	-	13	-	-	-	15
Port Arthur Buildings	-	1	-	7	-	-	-	8
Mid-County Buildings	-	-	-	1	-	-	-	1
Road & Bridge Pct. #1	1	1	-	12	-	-	-	14
Road & Bridge Pct. #2	1	1	-	14	-	-	-	16
Road & Bridge Pct. #3	1	1	-	13	-	-	-	15
Road & Bridge Pct. #4	1	2	-	14	-	-	1	18
Engineering	-	2	-	8	-	-	-	10
Parks & Recreation	-	-	-	-	-	-	-	-
Service Center	-	-	-	4	-	-	-	4
Total	4	10	-	86	-	-	1	101

MAINTENANCE - EQUIPMENT & STRUCTURES
DIVISION SUMMARY

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
Courthouse & Annexes			
Salaries & Wages	$ 637,855	$ 595,380	$ 748,413
Fringe Benefits	261,191	253,428	332,018
Materials & Supplies	81,507	83,322	106,450
Maintenance & Utilities	1,046,226	1,163,524	1,218,681
Miscellaneous Services	328,217	335,914	349,086
Total	$ 2,354,996	$ 2,431,568	$ 2,754,648
Port Arthur Buildings			
Salaries & Wages	$ 279,621	$ 297,444	$ 385,439
Fringe Benefits	113,840	129,636	169,717
Materials & Supplies	11,793	15,897	13,076
Maintenance & Utilities	131,580	128,567	128,630
Miscellaneous Services	41,541	36,637	49,500
Total	$ 578,375	$ 608,181	$ 746,362
Mid-County Buildings			
Salaries & Wages	$ 64,789	$ 62,256	$ 72,212
Fringe Benefits	27,331	27,876	31,416
Materials & Supplies	3,963	2,719	5,000
Maintenance & Utilities	54,616	62,443	75,000
Miscellaneous Services	31,130	28,105	33,600
Total	$ 181,829	$ 183,399	$ 217,228
Road & Bridge Pct. #1			
Salaries & Wages	$ 701,194	$ 739,260	$ 786,636
Fringe Benefits	286,664	323,004	347,893
Materials & Supplies	323,434	335,013	334,700
Maintenance & Utilities	64,668	75,161	80,450
Miscellaneous Services	14,828	14,605	16,100
Total	$ 1,390,788	$ 1,487,043	$ 1,565,779
Road & Bridge Pct. #2			
Salaries & Wages	$ 829,958	$ 883,572	$ 907,637
Fringe Benefits	343,015	372,840	404,244
Materials & Supplies	280,117	284,621	199,750
Maintenance & Utilities	77,978	53,468	66,262
Miscellaneous Services	13,925	11,399	13,500
Total	$ 1,544,993	$ 1,605,900	$ 1,591,393
Road & Bridge Pct. #3			
Salaries & Wages	$ 751,627	$ 786,972	$ 847,117
Fringe Benefits	325,225	351,704	398,435
Materials & Supplies	263,182	329,857	396,300
Maintenance & Utilities	65,785	70,300	91,210
Miscellaneous Services	9,658	10,480	18,500
Total	$ 1,415,477	$ 1,549,313	$ 1,751,562

MAINTENANCE - EQUIPMENT & STRUCTURES
DIVISION SUMMARY

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
Road & Bridge Pct. #4			
Salaries & Wages	$ 855,493	$ 906,792	$ 1,028,137
Fringe Benefits	349,561	395,316	454,777
Materials & Supplies	389,558	417,978	415,700
Maintenance & Utilities	118,877	91,137	85,250
Miscellaneous Services	31,173	25,788	37,350
Total	$ 1,744,662	$ 1,837,011	$ 2,021,214
Engineering			
Salaries & Wages	$ 596,147	$ 612,732	$ 645,695
Fringe Benefits	235,873	249,684	277,926
Materials & Supplies	29,220	25,281	36,055
Maintenance & Utilities	2,126	1,760	2,730
Miscellaneous Services	10,583	13,633	23,458
Total	$ 873,949	$ 903,090	$ 985,864
Parks & Recreation			
Salaries & Wages	$ 58,037	$ 60,589	$ 38,206
Fringe Benefits	17,581	18,073	9,647
Materials & Supplies	19,782	31,339	63,650
Maintenance & Utilities	42,541	40,275	60,400
Miscellaneous Services	9,136	12,362	25,629
Total	$ 147,077	$ 162,638	$ 197,532
Service Center			
Salaries & Wages	$ 193,470	$ 202,428	$ 209,638
Fringe Benefits	68,740	80,940	85,429
Materials & Supplies	872,517	864,639	878,100
Maintenance & Utilities	120,401	138,079	123,720
Miscellaneous Services	12,788	10,013	10,992
Total	$ 1,267,916	$ 1,296,099	$ 1,307,879

CAPITAL OUTLAY

Capital Outlay is the detail of all capital equipment purchases approved by Commissioners' Court for the fiscal year. All capital equipment purchases not listed require a budget amendment approved by the Court.

CAPITAL OUTLAY
DEPARTMENT SUMMARY

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
DEPARTMENTS			
Tax Assessor-Collector	$ 1,187	$ 21,914	$ -
Human Resources	5,777	1,400	-
County Auditor	7,399	7,500	6,000
County Clerk	-	50,000	50,000
County Judge	2,109	-	-
Risk Management	4,368	-	-
County Treasurer	-	-	3,000
Printing	-	-	-
Purchasing Agent	2,889	-	-
General Services	-	60,000	60,000
Management Information Systems	142,882	145,610	227,260
Voters Registration Department	-	-	-
Elections Department	-	-	-
Veterans Services	-	-	-
District Attorney	-	36,000	21,000
District Clerk	-	-	-
District Courts	2,882	1,500	1,500
Jury Fund	-	-	-
Justice of the Peace	-	-	-
County Courts at Law	1,399	9,473	7,500
Court Master	-	-	-
Dispute Resolution Center	-	-	-
Juvenile Alternative School	-	-	-
Community Supervision	32,329	32,355	4,500
Sheriff	316,473	377,787	310,000
Crime Laboratory	-	-	149,500
Jail	14,228	98,189	334,066
Juvenile Probation	-	-	52,800
Juvenile Detention Home	6,585	-	-
Constables	17,189	150,882	134,718
County Morgue	-	-	-
Agricultural Extension Service	2,550	1,525	1,800
Health & Welfare Unit 1	-	4,800	50,736
Health & Welfare Unit 2	-	4,800	47,736
Nurse Practitioner	-	-	-
Environmental Control	-	-	32,273
Indigent Medical Services	-	3,860	3,000
Emergency Management	-	-	-
Mosquito Control	71,324	4,416	26,000
Courthouse & Annexes	-	-	-
Port Arthur Buildings	-	-	-
Mid-County Buildings	-	-	15,000
Road & Bridge Pct. #1	32,447	79,348	78,500
Road & Bridge Pct. #2	-	170,000	264,000
Road & Bridge Pct. #3	88,953	144,468	-
Road & Bridge Pct. #4	111,080	136,000	153,000
Engineering	6,366	25,574	-
Parks & Recreation	24,646	-	-
Service Center	1,486	-	-
Total Capital Outlay	$ 896,548	$ 1,567,401	$ 2,033,889

CAPITAL OUTLAY
DIVISION SUMMARY

County Auditor				
120-1013-415-60-02	3 - DESKTOP COMPUTERS	$ 4,500		
120-1013-415-60-02	1 - TABLET	1,500		
			$	6,000
County Clerk				
120-1014-415-60-01	RESTORATION OF PLATS - PHASE TWO	50,000		
				50,000
Treasurer Office				
120-1017-415-60-02	2 - DESKTOP COMPUTERS	3,000		
				3,000
General Services				
120-1024-419.60-35	VIDEO CONFERENCE EQUIPMENT	60,000		
				60,000
Management Information Systems				
120-1025-415-60-02	CORE SWITCH - UPGRADE TO 10GB SWITCH - REPLACE	68,900		
120-1025-415-60-02	SERVERS - REPLACEMENT SERVERS FOR TELEPHONE SYSTEM	25,000		
120-1025-415-60-02	SAN SUPPORT/MAINTENANCE - RENEWAL	8,400		
120-1025-415-60-02	LAPTOP - HIGHEND	2,245		
120-1025-415-60-02	4 - DESKTOP COMPUTERS	6,000		
120-1025-415-60-02	POWER EDGE 2950 SUPPORT RENEWAL - HARDWARE SUPPORT	2,250		
120-1025-415-60-02	POWER EDGE R610 SUPPORT RENEWAL - HARDWARE SUPPORT	3,000		
120-1025-415-60-02	2 - ALCATEL SWITCHES	5,000		
120-1025-415-60-02	WIRELESS ACCESS POINTS - NEW	2,000		
120-1025-415-60-02	2 - CISCO VOIP 2801 ROUTERS - NEW	5,060		
120-1025-415-60-02	1 - CISCO VOIP 3560-48 SWITCHES - NEW	4,120		
120-1025-415-60-02	WINDOWS 7 UPGRADES - RAM MEMORY - NEW	3,750		
120-1025-415-60-53	MICRO FOCUS (RUMBA) SITE LICENSE RENEWAL	1,300		
120-1025-415-60-53	HAWKEYE PATHFINDER - RENEW	650		
120-1025-415-60-53	NORTON ANTIVIRUS - 1000 LICENSED USERS - RENEW	18,000		
120-1025-415-60-53	LINOMA GOANYWHERE MAINTENANCE - RENEW	1,200		
120-1025-415-60-53	PREMIUM IMAIL ANTIVIRUS - RENEW	2,500		
120-1025-415-60-53	WATCHGUARD XTM1050 FIREWALL SW SUITE - RENEW	9,500		
120-1025-415-60-53	WINDOWS SERVER 2012 DATA CENTER - RENEW	1,600		
120-1025-415-60-53	4 - VNMARE VSPHERE ENTERPRISE LICENSES - RENEW	3,220		
120-1025-415-60-53	VNMARE VCENTER ENTERPRISE LICENSES - RENEW	1,400		
120-1025-415-60-53	SSL CERTIFICATE - RENEW	1,300		
120-1025-415-60-53	2 - SPOTLIGHT ON SQL SERVER ENTERPRISE - RENEW	3,840		
120-1025-415-60-53	PRE-ZIP ADDRESS VERIFICATION - RENEW	2,500		
120-1025-415-60-53	NORTON GHOST/ALTRIS LICENSES - 500 - RENEW	2,000		
120-1025-415-60-53	BACKUP EXEC SUPPORT/UPDATES - RENEW	1,300		
120-1025-415-60-53	SOLARWINDS SUPPORT/UPDATES - RENEW	800		
120-1025-415-60-53	PITNEY-BOWES ADDRESS VERIFICATION - RENEW	2,500		
120-1025-415-60-53	MS WINDOWS SERVER 2012 UPGRADES - NEW	22,300		
120-1025-415-60-53	RATIONAL DEVELOPER FOR WEBSPHERE - RENEW	650		
120-1025-415-60-53	MS VISUAL STUDIO - RENEW	1,400		
120-1025-415-60-53	PASSPORT ADVANTAGE - RENEW	625		
120-1025-415-60-53	PEERNET TIFF IMAGE PRINTER SOFTWARE - SERVER-RENEW	850		
120-1025-415-60-53	WINDOWS 7 UPGRADE SOFTWARE - UPGRADE WINDOWS XP OS TO WINDOWS 7 - NEW	12,100		
				227,260
District Attorney				
120-2030-412-60-02	14 - COMPUTERS	21,000		
				21,000
136th District Court				
120-2035-412-60-02	1 - DESKTOP COMPUTER FOR CHAMBERS	1,500		
				1,500
County Court at Law #3				
120-2053-412-60-02	5 - DESKTOP COMPUTERS	7,500		
				7,500
Community Supervision				
120-3058-424-60-02	3 - TABLETS	4,500		
				4,500

CAPITAL OUTLAY
DIVISION SUMMARY

Sheriff's Office			
120-3059-421-60-02	7 - DESKTOP COMPUTERS	10,000	
120-3059-421-60-07	7 - POLICE PACKAGE UNITS - TAHOE	224,000	
120-3059-421-60-07	2 - POLICE PACKAGE UNMARK UNITS - TAURUS	44,000	
120-3059-421-60-07	1 - POLICE PACKAGE UNMARK UNITS - TAHOE	32,000	
			310,000
Crime Laboratory			
120-3060-421-60-02	1 - DESKTOP COMPUTER	1,500	
120-3060-421-60-02	4 - TABLETS FOR ISO DOCUMENT CONTROL COMPLIANCE	3,000	
120-3060-421-60-07	1 - VAN	30,000	
120-3060-421-60-20	1 - GAS CHROMATOGRAPH-MASS SPECTROMETER	115,000	
			149,500
Jail			
120-3062-423-60-02	16 - DESKTOP COMPUTERS	24,000	
120-3062-423-60-07	1 - SUPER DUTY VAN	30,000	
120-3062-423-60-07	1 - FORD EXPEDITION	30,000	
120-3062-423-60-13	4 - AIR HANDLER UNITS	83,297	
120-3062-423-60-18	1 - DIESEL MOWERS	12,800	
120-3062-423-60-18	1 - STATIONARY KETTLE	14,469	
120-3062-423-60-18	UPGRADE PRIMARY NAVIGATION/COMMUNICATION RADIO - MU2 AIRPLANE	139,500	
			334,066
Juvenile Probation			
120-3063-424-60-07	2 - EIGHT PASSENGER VANS	52,800	
			52,800
Constable Pct 1			
120-3065-425-60-02	3 - COMPUTERS	4,500	
120-3065-425-60-02	1 - FORD EXPLORER POLICE PACKAGE VEHICLE WITH EQUIPMENT	28,218	
			32,718
Constable Pct 2			
120-3066-425-60-07	1 - POLICE PACKAGE VEHICLE	30,000	
			30,000
Constable Pct. 6			
120-3070-425-60-02	6 - DESKTOP COMPUTERS	9,000	
			9,000
Constable Pct. 7			
120-3071-425-60-07	1 - POLICE PACKAGE TAHOE	30,000	
			30,000
Constable Pct. 8			
120-3072-425-60-02	2 - DESKTOP COMPUTERS	3,000	
120-3072-425-60-07	1 - POLICE PACKAGE VEHICLE AND ACCESSORIES	30,000	
			33,000
Agriculture Extension Services			
120-4071-461-60-02	3 - DESKTOP COMPUTERS - COST SHARE	1,800	
			1,800
Health & Welfare I			
120-5074-441-60-02	17 - DESKTOP COMPUTERS	25,500	
120-5074-441-60-07	1 - EIGHT PASSENGER VAN	25,236	
			50,736
Health & Welfare II			
120-5075-441-60-02	15 - DESKTOP COMPUTERS	22,500	
120-5075-441-60-07	1 - EIGHT PASSENGER VAN	25,236	
			47,736
Environmental Control			
120-5078-446-60-02	5 - DESKTOP COMPUTERS	7,500	
120-5078-446-60-07	1 - F150 TRUCK	24,773	
			32,273

CAPITAL OUTLAY
DIVISION SUMMARY

Indigent Medical Services			
120-5079-442-60-02	2 - DESKTOP COMPUTERS	3,000	
			3,000
Mosquito Control			
124-5081-448-60-42	1 - 1/2 TON PICKUP WITH DUEL DRIVE CONVERSION	26,000	
			26,000
Mid-County Buildings			
120-6085-416-60-13	3 - A/C UNITS	15,000	
			15,000
Road & Bridge Pct. #1			
111-0109-431-60-42	1 - F750 FOD DUMP TRUCK	78,500	
			78,500
Road & Bridge Pct. #2			
112-0208-431-60-14	2600 SQ FOOT METAL BUILDING	25,000	
112-0208-431-60-14	PCT 2 SERVICE CENTER PARKING LOT	69,000	
112-0209-431-60-11	1- 60" & 1 - 48" X-MARK MOWER	20,000	
112-0209-431-60-11	2 - F-750 DUMP TRUCKS	150,000	
			264,000
Road & Bridge Pct. #4			
114-0409-431-60-02	2 - COMPUTERS	3,000	
114-0409-431-60-11	1 - ASPHALT POTHOLE PATCHER	64,700	
114-0409-431-60-11	1 - FREIGHTLINER 114SD CONVENTIONAL CHASSIS SET BACK AXLE - TRUCK	85,300	
			153,000
Total Capital Outlay			$ 2,033,889

SPECIAL PURPOSE FUNDING

Special Purpose Funding is used to account for expenditures that are non-operational or non-departmental in nature. Transfers to other funds include transfers to Special Revenue Funds, Capital Projects Funds, Jack Brooks Regional Airport Enterprise Fund, and to Ford Park Enterprise Fund to provide for improvements and operational expenditures. Contingency Appropriations are also noted here.

SPECIAL PURPOSE FUNDING
DEPARTMENT SUMMARY

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
DEPARTMENTS			
Contingency Appropriation			
General Fund	$ -	$ -	$ 350,000
Total Contingency Appropriation	$ -	$ -	$ 350,000
Transfers Out			
General Fund	$ 9,382,422	$ 6,435,441	$ 4,876,206
Total Transfers Out	$ 9,382,422	$ 6,435,441	$ 4,876,206

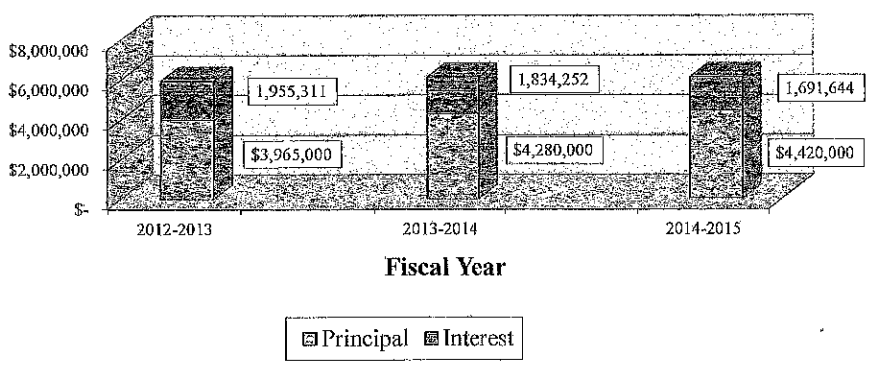
JEFFERSON COUNTY
TEXAS

DEBT SERVICE

DEBT SERVICE FUND
SUMMARY OF REVENUES AND EXPENDITURES

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
REVENUES			
Property Taxes	$ 6,112,782	$ 5,970,741	$ 5,992,867
Interest	10,908	10,899	8,865
Total Revenues	$ 6,123,690	$ 5,981,640	$ 6,001,732
OTHER SOURCES			
Transfers In	$ -	$ 11,423	$ -
Total Other Sources	$ -	$ 11,423	$ -
Total Revenues & Other Sources	$ 6,123,690	$ 5,993,063	$ 6,001,732
EXPENDITURES			
Principal Payments	$ 3,965,000	$ 4,280,000	$ 4,420,000
Interest Payments	1,955,311	1,834,252	1,691,644
Transaction Fees	5,225	4,855	12,000
Total Expenditures	$ 5,925,536	$ 6,119,107	$ 6,123,644
OTHER USES			
Transfers Out	$ -	$ 11,423	$ -
Total Other Uses	$ -	$ 11,423	$ -
Total Appropriations	$ 5,925,536	$ 6,130,530	$ 6,123,644
BEGINNING FUND BALANCE	$ 872,860	$ 1,071,014	$ 933,547
ENDING FUND BALANCE	$ 1,071,014	$ 933,547	$ 811,635
RESERVED FOR DEBT SERVICE	$ 1,071,014	$ 933,547	$ 811,635

Principal & Interest Payments



DEBT SERVICE FUND

SUMMARY OF ANNUAL DEBT SERVICE REQUIREMENTS

FISCAL YEAR	PRINCIPAL	INTEREST	TOTAL
2015	$ 4,420,000	$ 1,691,644	$ 6,111,644
2016	4,590,000	1,534,121	6,124,121
2017	4,690,000	1,410,930	6,100,930
2018	3,640,000	1,264,257	4,904,257
2019	3,450,000	1,158,000	4,608,000
2020	3,620,000	1,020,000	4,640,000
2021	3,745,000	857,700	4,602,700
2022	3,965,000	670,450	4,635,450
2023	4,170,000	472,200	4,642,200
2024	4,325,000	263,700	4,588,700
2025	4,465,000	133,950	4,598,950
	$ 45,080,000	$ 10,476,952	$ 55,556,952

DEBT SERVICE FUND
SUMMARY OF TOTAL INDEBTEDNESS

ISSUE	MATURITY DATE	ORIGINAL ISSUE	MATURITIES	OUTSTANDING 10/1/2014
2011 Refunding - General Obligation	2017	$ 5,550,000	$ 2,200,000	$ 3,350,000
2012 Refunding - General Obligation	2025	47,305,000	6,645,000	40,660,000
2013 Refunding - General Obligation	2018	1,340,000	270,000	1,070,000
Total				$ 45,080,000

COMPUTATION OF LEGAL DEBT MARGIN

Assessed Value of Real Property		$19,164,927,036
Assessed Value of All Taxable Property		$25,907,112,776

Bonds Issued Under Article III,
Section 52 of the Texas Constitution:

The County is authorized under Article III, Section 52 of the State Constitution to issue bonds payable from ad valorem taxes for the construction and maintenance of roads. There is no constitutional or statutory limit as to the rate on bonds issued pursuant to such constitutional provision. However, the amount of bonds which may be issued is limited to 25% of the assessed valuation of real property in the County.

Debt Limit, 25% of Real Property Assessed Value		$ 4,791,231,759
Amount of Debt Applicable to Constitutional Debt Limit:		
Total Bonded Applicable Debt	$ 45,080,000	
Less Amount Available in Debt Service Fund	933,547	44,146,453
LEGAL DEBT MARGIN, BONDS ISSUED UNDER ARTICLE III, SECTION 52 OF THE TEXAS CONSTITUTION		$ 4,747,085,306

Bonds Issued Under Article VIII, Section 9:

In addition to unlimited tax bonds, the County may issue statutorily authorized bonds payable from the proceeds of a limited ad valorem tax provided for in Article VII, Section 9 of the State Constitution. Such constitutional provision provides that a County is limited to an ad valorem tax rate of $0.80 per $100 of assessed valuation for general fund, permanent improvement fund, road and bridge fund, and jury fund purposes.

Certain of the County's bonds payable from such limited tax may be issued under the provisions of Government Code 1301.003 (c). The principal amount of all bonds which may be issued under the provision of such Code is limited in the aggregate to 5% of the assessed valuation. The debt limit under Government Code 1301.003 (c) is approximately $1,295,355,639 compared to applicable bonds outstanding at October 1, 2014 of $45,080,000.

DEBT SERVICE FUND

SCHEDULE OF CURRENT DEBT SERVICE REQUIREMENTS

ISSUE	BALANCE OUTSTANDING 10/1/2014	PRINCIPAL	INTEREST	FEES	TOTAL	BALANCE OUTSTANDING 10/1/2015
2011 Refunding - General Obligation	$ 3,350,000	$ 1,085,000	$ 100,500	$ 4,000	$ 1,189,500	$ 2,265,000
2012 Refunding - General Obligation	40,660,000	3,070,000	1,576,800	4,000	4,650,800	37,590,000
2013 Refunding - General Obligation	1,070,000	265,000	14,344	4,000	283,344	805,000
	$ 45,080,000	$ 4,420,000	$ 1,691,644	$ 12,000	$ 6,123,644	$ 40,660,000

SPECIAL REVENUE FUNDS

SPECIAL REVENUE FUNDS
SUMMARY OF REVENUES AND EXPENDITURES

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
REVENUES			
Sales Taxes	$ 1,015,651	$ 1,039,500	$ 1,000,000
Fees	1,067,639	1,314,938	1,335,300
Sales, Rentals & Services	88,427	165,300	100,000
Intergovernmental	2,680,055	2,890,255	3,327,303
Fines & Forfeitures	188,090	100,620	100,000
Interest	18,311	17,784	16,145
Contributions	4,600	4,006	4,000
Total Revenues	$ 5,062,773	$ 5,532,403	$ 5,882,748
OTHER SOURCES			
Transfers In	$ 440,000	$ 500,000	$ 510,000
Total Other Sources	$ 440,000	$ 500,000	$ 510,000
Total Revenues & Other Sources	$ 5,502,773	$ 6,032,403	$ 6,392,748
EXPENDITURES			
General Government	$ 542,089	$ 434,631	$ 484,813
Judicial & Law Enforcement	3,639,824	3,807,939	4,616,806
Education & Recreation	853,400	836,683	1,026,270
Maintenance - Equipment & Structures	27,332	24,858	216,000
Capital Outlay	588,658	562,651	641,500
Total Expenditures	$ 5,651,303	$ 5,666,762	$ 6,985,389
OTHER USES			
Transfers Out	$ 199,040	$ 120,000	$ 86,000
Total Other Uses	$ 199,040	$ 120,000	$ 86,000
Total Appropriations	$ 5,850,343	$ 5,786,762	$ 7,071,389
BEGINNING FUND BALANCE	$ 5,996,958	$ 5,649,388	$ 5,895,029
ENDING AVAILABLE FUND BALANCE	$ 5,649,388	$ 5,895,029	$ 5,216,388

SPECIAL REVENUE FUNDS
SUMMARY OF EXPENDITURES BY DIVISION

Department / Division	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
General Government			
County Clerk - Records Management	$ 153,616	$ 183,473	$ 130,000
County Clerk - Records Archive	343,258	199,192	286,523
County Records Management	33,141	35,256	40,280
Tax Office Auto Dealer	12,074	16,710	28,010
Total General Government	$ 542,089	$ 434,631	$ 484,813
Judicial & Law Enforcement			
Breath Alcohol Testing	$ 4,794	$ 13,520	$ 24,750
Security Fee	562,612	602,512	627,160
Bail Bond Board	10,845	-	-
Law Officer Training	5,991	12,161	65,113
SCAAP Grant	-	-	-
D.A.R.E. Contributions	3,678	3,678	8,300
Family Protection Fee Fund	18,000	18,000	15,000
Deputy Sheriff Education	16,462	25,000	25,000
Constable Pct 1 - Education	2,471	2,500	500
Constable Pct 2 - Education	595	600	1,205
Constable Pct 4 - Education	594	600	1,000
Constable Pct 6 - Education	1,200	1,200	1,800
Constable Pct 7 - Education	1,454	821	1,000
Constable Pct 8 - Education	687	837	3,564
J.P. Courtroom Technology Fee	1,254	1,254	20,000
District Clerk - Records Management	37,369	30,896	23,456
Justice Court Building Security	-	-	-
Child Abuse Prevention	-	-	500
D.A.'s Forfeiture	160,562	53,636	220,000
Sheriff's Forfeiture	122,485	183,328	202,525
D.A.'s Hot Check	100,467	28,782	36,000
Guardianship Fee	2,500	10,000	20,000
Juvenile Delinquency Prevention	-	-	5,000
County & District Court Technology Fund	-	1,200	2,400
District Court Records Technology Fund	-	-	-
Marine Division	1,839,906	1,974,477	2,319,081
ASAP - Constable Pct 8	745,898	741,486	809,657
Sheriff - Spindletop Health	-	101,451	183,795
Total Judicial & Law Enforcement	$ 3,639,824	$ 3,807,939	$ 4,616,806
Education & Recreation			
Law Library	$ 1,800	$ 1,800	$ 1,800
Hotel Occupancy Tax	851,600	834,883	1,024,470
Total Education & Recreation	$ 853,400	$ 836,683	$ 1,026,270
Maintenance - Equipment & Structures			
Lateral Road - Precinct 1	$ 27,213	$ 20,000	$ 60,000
Lateral Road - Precinct 2	-	-	-
Lateral Road - Precinct 3	-	-	140,000
Lateral Road - Precinct 4	119	4,858	16,000
	$ 27,332	$ 24,858	$ 216,000

SPECIAL REVENUE FUNDS
SUMMARY OF EXPENDITURES BY DIVISION

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
Capital Outlay	$ 588,658	$ 562,651	$ 641,500
Special Purpose Funding			
Transfers Out	$ 199,040	$ 120,000	$ 86,000
	$ 199,040	$ 120,000	$ 86,000
Total Special Fund Expenditures	$ 5,850,343	$ 5,786,762	$ 7,071,389

SPECIAL REVENUE FUNDS
SUMMARY OF CHANGES IN FUND BALANCE BY FUND

	ESTIMATED BALANCE 10/1/2014	REVENUES	EXPENDITURES	PROPOSED BALANCE 9/30/2015
Lateral Road - Precinct 1	$ 91,743	$ 8,299	$ 60,000	$ 40,042
Lateral Road - Precinct 2	53,091	7,594	50,000	10,685
Lateral Road - Precinct 3	196,574	7,198	140,000	63,772
Lateral Road - Precinct 4	18,666	8,761	16,000	11,427
Breath Alcohol Testing	23,604	10,085	24,750	8,939
Security Fee	22,205	641,000	647,160	16,045
Law Library	242	57,000	56,800	442
Bail Bond Board	-	-	-	-
Law Officer Training	271,978	25,200	65,113	232,065
County Clerk - Records Management	461,093	301,400	142,000	620,493
County Clerk - Records Archive	57,313	250,210	286,523	21,000
SCAAP Grant	50,458	30,100	33,000	47,558
County Records Management	470,063	169,400	132,980	506,483
D.A.R.E. Contributions	17,560	3,645	8,300	12,905
Family Protection Fee Fund	17,992	16,017	15,000	19,009
Deputy Sheriff Education	18,963	24,065	25,000	18,028
Constable Pct. 1 - Education	1,051	1,002	500	1,553
Constable Pct. 2 - Education	3,612	785	1,205	3,192
Constable Pct. 4 - Education	2,006	781	1,000	1,787
Constable Pct. 6 - Education	1,502	846	1,800	548
Constable Pct. 7 - Education	3,561	786	1,000	3,347
Constable Pct. 8 - Education	3,435	1,360	3,564	1,231
Tax Office Auto Dealer	150,308	6,425	98,010	58,723
J.P. Courtroom Technology Fee	510,680	51,425	60,000	502,105
Hotel Occupancy Tax	1,239,430	1,002,600	1,074,470	1,167,560
District Clerk - Records Management	3,773	20,300	24,056	17
Justice Court Building Security	84,365	12,210	50,000	46,575
Child Abuse Prevention	4,809	1,511	500	5,820
D.A.'s Forfeiture	231,013	80,400	300,000	11,413
Sheriff's Forfeiture	1,406,233	123,000	220,525	1,308,708
D.A.'s Hot Check	32,883	30,000	36,000	26,883
Guardianship Fee	164,355	25,470	20,000	169,825
Juvenile Delinquency Prevention	82,177	250	5,000	77,427
County & District Court Technology Fund	10,562	6,535	12,400	4,697
District Court Records Technology Fund	83,434	30,210	-	113,644
Marine Division	-	2,337,081	2,337,081	-
ASAP - Constable Pct 8	-	899,657	899,657	-
Sheriff - Spindletop Health	104,295	200,140	221,995	82,440
Total	$ 5,895,029	$ 6,392,748	$ 7,071,389	$ 5,216,388

SPECIAL REVENUE FUNDS - GENERAL GOVERNMENT
DIVISION SUMMARY

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
County Clerk - Records Management			
Salaries & Wages	$ -	$ -	$ -
Fringe Benefits	-	-	-
Materials & Supplies	-	-	-
Maintenance & Utilities	-	-	-
Miscellaneous Services	153,616	183,473	130,000
Total	$ 153,616	$ 183,473	$ 130,000
County Clerk - Records Archive			
Salaries & Wages	$ 47,535	$ 40,292	$ 109,000
Fringe Benefits	11,615	8,900	27,523
Materials & Supplies	1,890	-	-
Maintenance & Utilities	-	-	-
Miscellaneous Services	282,218	150,000	150,000
Total	$ 343,258	$ 199,192	$ 286,523
County Records Management			
Salaries & Wages	$ 18,536	$ 20,482	$ 21,661
Fringe Benefits	4,381	5,082	5,469
Materials & Supplies	4,402	4,130	4,000
Maintenance & Utilities	78	37	300
Miscellaneous Services	5,744	5,525	8,850
Total	$ 33,141	$ 35,256	$ 40,280
Tax Office Auto Dealer			
Salaries & Wages	$ -	$ -	$ 4,000
Fringe Benefits	-	-	1,010
Materials & Supplies	7,901	9,710	10,000
Maintenance & Utilities	-	-	-
Miscellaneous Services	4,173	7,000	13,000
Total	$ 12,074	$ 16,710	$ 28,010

SPECIAL REVENUE FUNDS - JUDICIAL & LAW ENFORCEMENT
DIVISION SUMMARY

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
Breath Alcohol Testing			
Salaries & Wages	$ -	$ -	$ -
Fringe Benefits	-	-	-
Materials & Supplies	67	2,020	7,550
Maintenance & Utilities	-	-	-
Miscellaneous Services	4,727	11,500	17,200
Total	$ 4,794	$ 13,520	$ 24,750
Security Fee			
Salaries & Wages	$ 434,666	$ 459,252	$ 472,404
Fringe Benefits	123,303	137,260	147,006
Materials & Supplies	4,643	6,000	7,750
Maintenance & Utilities	-	-	-
Miscellaneous Services	-	-	-
Total	$ 562,612	$ 602,512	$ 627,160
Bail Bond Board			
Salaries & Wages	$ 10,845	$ -	$ -
Fringe Benefits	-	-	-
Materials & Supplies	-	-	-
Maintenance & Utilities	-	-	-
Miscellaneous Services	-	-	-
Total	$ 10,845	$ -	$ -
Law Officer Training			
Salaries & Wages	$ -	$ -	$ 26,000
Fringe Benefits	-	-	6,563
Materials & Supplies	3,776	7,364	27,550
Maintenance & Utilities	-	-	-
Miscellaneous Services	2,215	4,797	5,000
Total	$ 5,991	$ 12,161	$ 65,113
SCAAP Grant			
Salaries & Wages	$ -	$ -	$ -
Fringe Benefits	-	-	-
Materials & Supplies	-	-	-
Maintenance & Utilities	-	-	-
Miscellaneous Services	-	-	-
Total	$ -	$ -	$ -
D.A.R.E. Contributions			
Salaries & Wages	$ -	$ -	$ -
Fringe Benefits	-	-	-
Materials & Supplies	3,678	3,678	8,300
Maintenance & Utilities	-	-	-
Miscellaneous Services	-	-	-
Total	$ 3,678	$ 3,678	$ 8,300

SPECIAL REVENUE FUNDS - JUDICIAL & LAW ENFORCEMENT
DIVISION SUMMARY

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
Family Protection Fee Fund			
Salaries & Wages	$ -	$ -	$ -
Fringe Benefits	-	-	-
Materials & Supplies	-	-	-
Maintenance & Utilities	-	-	-
Miscellaneous Services	18,000	18,000	15,000
Total	$ 18,000	$ 18,000	$ 15,000
Deputy Sheriff Education			
Salaries & Wages	$ -	$ -	$ -
Fringe Benefits	-	-	-
Materials & Supplies	-	-	-
Maintenance & Utilities	-	-	-
Miscellaneous Services	16,462	25,000	25,000
Total	$ 16,462	$ 25,000	$ 25,000
Constable Pct 1 - Education			
Salaries & Wages	$ -	$ -	$ -
Fringe Benefits	-	-	-
Materials & Supplies	-	-	-
Maintenance & Utilities	-	-	-
Miscellaneous Services	2,471	2,500	500
Total	$ 2,471	$ 2,500	$ 500
Constable Pct 2 - Education			
Salaries & Wages	$ -	$ -	$ -
Fringe Benefits	-	-	-
Materials & Supplies	-	-	-
Maintenance & Utilities	-	-	-
Miscellaneous Services	595	600	1,205
Total	$ 595	$ 600	$ 1,205
Constable Pct 4 - Education			
Salaries & Wages	$ -	$ -	$ -
Fringe Benefits	-	-	-
Materials & Supplies	-	-	-
Maintenance & Utilities	-	-	-
Miscellaneous Services	594	600	1,000
Total	$ 594	$ 600	$ 1,000
Constable Pct 6 - Education			
Salaries & Wages	$ -	$ -	$ -
Fringe Benefits	-	-	-
Materials & Supplies	-	-	-
Maintenance & Utilities	-	-	-
Miscellaneous Services	1,200	1,200	1,800
Total	$ 1,200	$ 1,200	$ 1,800

SPECIAL REVENUE FUNDS - JUDICIAL & LAW ENFORCEMENT
DIVISION SUMMARY

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
Constable Pct 7 - Education			
Salaries & Wages	$ -	$ -	$ -
Fringe Benefits	-	-	-
Materials & Supplies	-	-	-
Maintenance & Utilities	-	-	-
Miscellaneous Services	1,454	821	1,000
Total	$ 1,454	$ 821	$ 1,000
Constable Pct 8 - Education			
Salaries & Wages	$ -	$ -	$ -
Fringe Benefits	-	-	-
Materials & Supplies	-	-	-
Maintenance & Utilities	-	-	-
Miscellaneous Services	687	837	3,564
Total	$ 687	$ 837	$ 3,564
J.P. Courtroom Technology Fee			
Salaries & Wages	$ -	$ -	$ -
Fringe Benefits	-	-	-
Materials & Supplies	-	-	-
Maintenance & Utilities	-	-	-
Miscellaneous Services	1,254	1,254	20,000
Total	$ 1,254	$ 1,254	$ 20,000
District Clerk - Records Management			
Salaries & Wages	$ 24,426	$ 18,733	$ 12,500
Fringe Benefits	5,791	4,622	3,156
Materials & Supplies	-	-	-
Maintenance & Utilities	-	-	-
Miscellaneous Services	7,152	7,541	7,800
Total	$ 37,369	$ 30,896	$ 23,456
Justice Court Building Security			
Salaries & Wages	$ -	$ -	$ -
Fringe Benefits	-	-	-
Materials & Supplies	-	-	-
Maintenance & Utilities	-	-	-
Miscellaneous Services	-	-	-
Total	$ -	$ -	$ -
Child Abuse Prevention			
Salaries & Wages	$ -	$ -	$ -
Fringe Benefits	-	-	-
Materials & Supplies	-	-	-
Maintenance & Utilities	-	-	-
Miscellaneous Services	-	-	500
Total	$ -	$ -	$ 500

SPECIAL REVENUE FUNDS - JUDICIAL & LAW ENFORCEMENT
DIVISION SUMMARY

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
D.A. Forfeiture			
Salaries & Wages	$ 145,630	$ 44,623	$ 150,000
Fringe Benefits	5,524	-	-
Materials & Supplies	-	-	-
Maintenance & Utilities	6,967	6,761	35,000
Miscellaneous Services	2,441	2,252	35,000
Total	$ 160,562	$ 53,636	$ 220,000
Sheriff's Forfeiture			
Salaries & Wages	$ 581	$ 2,332	$ 10,000
Fringe Benefits	146	610	2,525
Materials & Supplies	3,853	43,000	25,000
Maintenance & Utilities	57,390	61,265	155,000
Miscellaneous Services	60,515	76,121	10,000
Total	$ 122,485	$ 183,328	$ 202,525
D.A.'s Hot Check			
Salaries & Wages	$ 98,183	$ 27,282	$ 30,000
Fringe Benefits	-	-	-
Materials & Supplies	837	-	2,000
Maintenance & Utilities	-	-	-
Miscellaneous Services	1,447	1,500	4,000
Total	$ 100,467	$ 28,782	$ 36,000
Guardianship Fee			
Salaries & Wages	$ -	$ -	$ -
Fringe Benefits	-	-	-
Materials & Supplies	-	-	-
Maintenance & Utilities	-	-	-
Miscellaneous Services	2,500	10,000	20,000
Total	$ 2,500	$ 10,000	$ 20,000
Juvenile Delinquency Prevention			
Salaries & Wages	$ -	$ -	$ -
Fringe Benefits	-	-	-
Materials & Supplies	-	-	-
Maintenance & Utilities	-	-	-
Miscellaneous Services	-	-	5,000
Total	$ -	$ -	$ 5,000
County & District Court Technology Fund			
Salaries & Wages	$ -	$ -	$ -
Fringe Benefits	-	-	-
Materials & Supplies	-	-	-
Maintenance & Utilities	-	-	-
Miscellaneous Services	-	1,200	2,400
Total	$ -	$ 1,200	$ 2,400

SPECIAL REVENUE FUNDS - JUDICIAL & LAW ENFORCEMENT

DIVISION SUMMARY

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
District Court Records Technology Fund			
Salaries & Wages	$ -	$ -	$ -
Fringe Benefits	-	-	-
Materials & Supplies	-	-	-
Maintenance & Utilities	-	-	-
Miscellaneous Services	-	-	-
Total	$ -	$ -	$ -
Marine Division			
Salaries & Wages	$ 1,075,963	$ 1,119,476	$ 1,252,680
Fringe Benefits	499,495	535,547	599,465
Materials & Supplies	172,314	175,928	287,204
Maintenance & Utilities	36,548	86,258	114,050
Miscellaneous Services	55,586	57,268	65,682
Total	$ 1,839,906	$ 1,974,477	$ 2,319,081
ASAP - Constable Pct 8			
Salaries & Wages	$ 518,595	$ 511,210	$ 540,198
Fringe Benefits	198,193	214,691	244,309
Materials & Supplies	6,147	5,785	10,600
Maintenance & Utilities	11,016	7,500	7,900
Miscellaneous Services	11,947	2,300	6,650
Total	$ 745,898	$ 741,486	$ 809,657
Sheriff - Spindletop Health			
Salaries & Wages	$ -	$ 71,128	$ 127,982
Fringe Benefits	-	26,355	51,313
Materials & Supplies	-	1,835	2,000
Maintenance & Utilities	-	-	-
Miscellaneous Services	-	2,133	2,500
Total	$ -	$ 101,451	$ 183,795

SPECIAL REVENUE FUNDS - EDUCATION & RECREATION
DIVISION SUMMARY

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
Law Library			
Salaries & Wages	$ -	$ -	$ -
Fringe Benefits	-	-	-
Materials & Supplies	-	-	-
Maintenance & Utilities	-	-	-
Miscellaneous Services	1,800	1,800	1,800
Total	$ 1,800	$ 1,800	$ 1,800
Hotel Occupancy Tax			
Salaries & Wages	$ 253,379	$ 236,633	$ 288,255
Fringe Benefits	99,898	101,524	128,436
Materials & Supplies	10,751	14,284	14,700
Maintenance & Utilities	41,017	32,951	38,500
Miscellaneous Services	446,555	449,491	554,579
Total	$ 851,600	$ 834,883	$ 1,024,470

SPECIAL REVENUE FUNDS - MAINTENANCE - EQUIPMENT & STRUCTURES
DIVISION SUMMARY

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
Lateral Road - Precinct 1			
Materials & Supplies	$ 27,213	$ 20,000	$ 60,000
Total	$ 27,213	$ 20,000	$ 60,000
Lateral Road - Precinct 2			
Materials & Supplies	$ -	$ -	$ -
Total	$ -	$ -	$ -
Lateral Road - Precinct 3			
Materials & Supplies	$ -	$ -	$ 140,000
Total	$ -	$ -	$ 140,000
Lateral Road - Precinct 4			
Materials & Supplies	$ 119	$ 4,858	$ 16,000
Total	$ 119	$ 4,858	$ 16,000

CAPITAL OUTLAY
DEPARTMENT SUMMARY

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
DEPARTMENTS			
County Clerk - Records Management	$ 6,308	$ 60,200	$ 12,000
County Clerk - Records Archive	-	-	-
County Records Management	29,967	83,000	92,700
Tax Office Auto Dealer	43,969	33,411	70,000
Breath Alcohol Testing	-	-	-
Security Fee	17,400	10,000	20,000
Bail Bond Board	-	-	-
Law Officer Training	-	-	-
SCAAP Grant	22,019	12,924	33,000
D.A.R.E. Contributions	-	-	-
Family Protection Fee Fund	-	-	-
Deputy Sheriff Education	-	-	-
Constable Pct 1 - Education	-	-	-
Constable Pct 2 - Education	-	-	-
Constable Pct 4 - Education	-	-	-
Constable Pct 6 - Education	-	-	-
Constable Pct 7 - Education	-	-	-
Constable Pct 8 - Education	-	-	-
J.P. Courtroom Technology Fee	22,504	6,000	40,000
District Clerk - Records Management	341	-	600
Justice Court Building Security	-	-	50,000
Child Abuse Prevention	-	-	-
D.A.'s Forfeiture	11,371	15,000	80,000
Sheriff's Forfeiture	269,302	75,978	-
D.A.'s Hot Check	-	-	-
Guardianship Fee	-	-	-
Juvenile Delinquency Prevention	-	-	-
County & District Court Technology Fund	-	4,800	10,000
District Court Records Technology Fund	-	-	-
Marine Division	-	41,724	-
ASAP - Constable Pct 8	-	26,014	90,000
Sheriff - Spindletop Health	-	34,344	38,200
Law Library	160,218	159,256	55,000
Hotel Occupancy Tax	5,259	-	-
Lateral Road - Precinct 1	-	-	-
Lateral Road - Precinct 2	-	-	50,000
Lateral Road - Precinct 3	-	-	-
Lateral Road - Precinct 4	-	-	-
Total Capital Outlay	$ 588,658	$ 562,651	$ 641,500

SPECIAL REVENUE FUNDS - SPECIAL PURPOSE FUNDING
DEPARTMENT SUMMARY

	ACTUAL 2012-2013	ESTIMATED 2013-2014	APPROVED 2014-2015
DEPARTMENTS			
Transfers Out			
Sheriff's Forfeiture	$ 121,082	$ 37,500	$ 18,000
Marine Division	27,958	32,500	18,000
Hotel Occupancy Tax	50,000	50,000	50,000
Total Transfers Out	$ 199,040	$ 120,000	$ 86,000

CAPITAL PROJECTS

CAPITAL PROJECTS
2014-2015

	BUDGETED 2014-2015	FYTD 2013-2014	ACTUAL 2012-2013	ACTUAL 2011-2012	ACTUAL 2010-2011
Courthouse Restoration	$ 6,409,418	$ 374,839	$ 16,233	$ 851,893	$ 5,271,457
Keith Lake Park	200,000	-	-	-	-
Keith Lake Fish Pass	2,039,507	-	-	-	-
Shoreline Protection Pleasure Island	250,000	-	-	-	-
Sabine to Galveston Six County Coalition	35,375	73	-	11,082	-
Sabine to Galveston Shoreline Protection	110,000	-	-	-	-
Beach Erosion and Dune Restoration	75,088	80,030	-	1,080	18,322
Labelle Road	1,200,000	-	43,301	30,835	280,737
Sulphur Plant Road	74,555	-	-	-	-
Island Park Bridge Replacement	86,470	-	-	10,000	-
Building Inspection Program	15,000	-	-	-	-
Storm Water Permitting	14,056	10,944	13,979	13,408	11,985
Landscaping	5,000	-	279	17,145	851
Mosquito Control Permits	30,534	5,065	9,382	8,228	-
Security Measures-Mid County/Port Arthur	40,000	-	-	-	-
Maintenance Projects	64,965	140,370	-	-	-
Voting Machine Building Renovation	46,000	-	-	-	-
Ford Park 2014/2015	51,050	-	-	-	-
Ford Park Parking Lot	200,000	-	-	-	-
Total Capital Projects	$ 10,947,018	$ 611,321	$ 83,174	$ 943,671	$ 5,583,352

CAPITAL PROJECTS
2014-2015

Courthouse Restoration

This project is part of the County's long term plan to restore the Historical Courthouse. The 2014-2015 funding of $6,409,418 is the estimate to repair the Courthouse interior and HVAC system. Additional phases to this restoration project will likely come from utilization of available fund balance.

The **Keith Lake Park** and the **Keith Lake Fish Pass** are related to the development of a County park for improving the quality of life for the citizens of Jefferson County. The County has broken this project into different projects in order to track separate funding sources for each phase of the park. The County completed the Keith Lake Boat Ramp project during the 2013-2014 budget year. The following is a breakdown of the remaining phases:

Keith Lake Park

This project consists of developing a parking lot for the boat ramps Keith Lake Park. This project is a carry-over from prior budgets and funds in the amount of $200,000 are available to complete this project.

Keith Lake Fish Pass

This phase of the Keith Lake Park project consists of construction of erosion control devices in the Keith Lake Fish Pass. Funding for this phase is from resources with the Texas Parks and Wildlife Department, Local Industry, and County funds. The balance of $2,039,507 will be utilized to complete this phase.

Shoreline Protection - The next four projects emphasize the County's commitment to Shoreline Projection for the County's natural resources. The County's shorelines are an important component to the natural resources that citizens and visitors of the County enjoy. The protection of freshwater marshes from saltwater intrusion is necessary for the marshes continued viability.

Shoreline Protection Pleasure Island

The Pleasure Island shoreline has suffered significant erosion as the result of shipping traffic along the inter-coastal canal. The storm surge from Hurricane Ike accelerated that erosion. This project consists of funding for the construction of bulkheads on Pleasure Island. This project is a carry-over from prior budgets with $250,000 available in funding.

Sabine to Galveston Six County Coalition

This project consists of travel and engineering expenses related to the Sabine to Galveston Shoreline Projection plan. A six county coalition made up of Jefferson, Orange, Chambers, Harris, and Brazoria, and Galveston County will be utilized to pursue Federal funding for beach erosion repairs for the upper Texas coastline. Funding in the amount of $35,375 is budgeted for 2014-2015.

Sabine to Galveston Shoreline Protection

Project consists of continued funding for the Sabine Pass to Galveston Shoreline Protection Feasibility Study. The County has partnered with Galveston and the Corps of Engineers, to study what steps are necessary to slow down erosion along the upper Texas Gulf Coast. The available funding for this project is $110,000 which comes from prior year transfers from the General Fund. This project is being put on hold until the effect of the storm surge from Hurricane Ike can be factored into the erosion models.

Beach Erosion and Dune Restoration

This project consists of engineering services to analyze the damages to the shoreline and dunes as a result of the storm surge from Hurricane Ike. Engineers will provide detailed analysis to aid the County in securing funding for large scale dune restoration from Sabine Pass to High Island. This project has carry-over funding in the amount of $75,088 to complete this analysis.

Labelle Road

The County has been acquiring right of way along Labelle Road from State Highway 124 to FM 365. This right of way acquisition is necessary for the widening and realignment of Labelle Road as it intersects with State Highway 124. The County will partner with Texas Department of Transportation to fund the reconstruction of this roadway. Funding of $1,200,000 is allocated to complete this project.

Sulphur Plant Road

This project consists of rehabilitation of Sulphur Plant road located in Precinct 4. Funds in the amount of $74,555 which were transferred from Road and Bridge Precinct # 4 in prior years are available to complete this project.

Island Park Bridge Replacement

This project consists of rebuilding the bridge on Island Park Road at Brakes Bayou. This project is 90% funded by the Texas Department of Transportation. The 10% local match of $86,470 has been funded by two local private entities and has been earmarked for this project.

Building Inspection Program

This project is for continuation of inspections of County buildings for environmental issues. The County has implemented a project to have all County buildings inspected for various health hazards. Prior year allocations of $15,000 from the General Fund are available to fund these inspections for various County buildings.

Storm Water Permitting

This project is for engineering cost associated with the Storm Water Permitting Project. This project will complete our Storm Water Pollution Plan to be approved by the State of Texas. Funding in the amount of $14,056 is available for 2014-2015.

Landscaping

This project consists of funds to enhance the exterior grounds of the Jefferson County Courthouse complex. Funds in the amount of $5,000 have been allocated for the 2014-2015 year.

Mosquito Control Permits

This project consists of ongoing cost to comply with the Federal mandate to monitor the discharge of pesticides that leave residue in the water. Funding allocated for this project is $30,534 for 2014-2015.

Security Measures-Mid County/Port Arthur

This project is for enhanced security measures at the Mid County and Port Arthur offices as part of the County's commitment to provide a safer work environment. Funding of $40,000 from prior year transfer from the General Fund is available for 2014-2015.

Maintenance Projects

The County maintenance projects consist of several repairs and upgrades for bullet proof glass, painting, and roof repairs to various County Annexes. All of the funding for these expenditures has already been transferred from the General Fund and will not require any additional funding for the 2014-2015 fiscal year. Funding in the amount of $64,965 is available for 2014-2015.

Voting Machine Building Renovation

This renovation will provide an additional 1,200 square feet of controlled climate work area for the delivery and storage of the electronic voting machines. All of the funding for these expenditures has already been transferred from the General Fund and will not require any additional funding for the 2014-2015 fiscal year. Funding in the amount of $46,000 is available for 2014-2015.

Ford Park 2014/2015

This project is will provide funding for repairs to seating and lighting in the Arena/Exhibit Hall and safety netting for the ball fields. All of the funding for these expenditures has already been transferred from the General Fund and will not require any additional funding for the 2014-2015 fiscal year. Funding in the amount of $51,050 is available for 2014-2015.

Ford Park Parking Lot

This project is estimated to create 550 additional parking spaces at Ford Park All of the funding for these expenditures has already been transferred from the General Fund and will not require any additional funding for the 2014-2015 fiscal year. Funding in the amount of $200,000 is available for 2014-2015.

JEFFERSON COUNTY
TEXAS

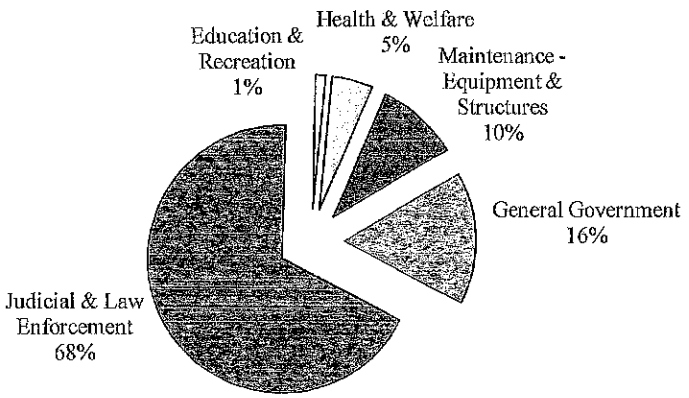
MISCELLANEOUS

PERSONNEL SCHEDULES

BUDGETED FUNDS - SUMMARY BY DEPARTMENT
FULL TIME AUTHORIZED POSITIONS

	Fiscal Year		
	2012-2013	2013-2014	2014-2015
GENERAL FUND			
General Government	160	159	160
Judicial & Law Enforcement	649	648	651
Education & Recreation	7	7	7
Health & Welfare	50	50	50
Maintenance - Equipment & Structures	102	102	101
	968	966	969
SPECIAL REVENUE FUNDS			
General Government	2	-	-
Judicial & Law Enforcement	28	28	28
Education & Recreation	5	5	5
Health & Welfare	-	-	-
Maintenance - Equipment & Structures	-	-	-
	35	33	33
TOTAL BUDGETED FUNDS			
General Government	162	159	160
Judicial & Law Enforcement	677	676	679
Education & Recreation	12	12	12
Health & Welfare	50	50	50
Maintenance - Equipment & Structures	102	102	101
	1,003	999	1,002

FY 2014-2015 Personnel



PERSONNEL SCHEDULES

COMPENSATION PLAN

Classified (CCG)

Grade	Minimum	Maximum
27	19,459	29,188
28	19,944	29,918
29	20,443	30,664
30	20,955	31,432
31	21,478	32,218
32	22,016	33,023
33	22,568	33,849
34	23,131	34,694
35	23,709	35,564
36	24,300	36,452
37	24,908	37,364
38	25,533	38,297
39	26,170	39,255
40	26,825	40,235
41	27,495	41,242
42	28,183	42,274
43	28,886	43,330
44	29,609	44,414
45	30,348	45,524
46	31,107	46,661
47	31,885	47,827
48	32,682	49,023
49	33,500	50,249
50	34,336	51,505
51	35,196	52,793
52	36,074	54,112
53	36,977	55,465
54	37,902	56,853
55	38,850	58,273
56	39,820	59,730
57	40,816	61,223
58	41,836	62,754
59	42,883	64,324
60	43,953	65,930
61	45,051	67,579
62	46,181	69,268
63	47,333	71,001
64	48,518	72,775
65	49,729	74,595
66	50,973	76,461
67	52,247	78,372
68	53,553	80,330
69	54,891	82,340
70	56,266	84,397
71	57,672	86,507
72	59,114	88,670
73	60,591	90,887
74	62,107	93,160
75	63,658	95,487
76	65,250	97,874
77	66,881	100,323
78	68,553	102,831
79	70,267	105,401
80	72,024	108,037
81	73,825	110,737
82	75,671	113,506
83	77,561	116,343
84	79,502	119,250
85	81,488	122,234
86	83,526	125,287
87	85,615	128,421
88	87,755	131,631
89	89,948	134,923
90	92,197	138,294

Classified (CCG) (continued)

Grade	Minimum	Maximum
91	94,501	141,751
92	96,863	145,297
93	99,287	148,928
94	101,767	152,651

Other Un-Classified (OTH)

Grade	Minimum	Maximum
1	10,000	175,000

Elected Official (ELE)

Grade	Minimum	Maximum
1	9,000	175,000

Constable's Contract per Hour (CON)

Step	Minimum	Maximum
1	23.6853	23.6853
2	25.0377	25.0377
3	26.1125	26.1125
4	27.1871	27.1871
5	28.1491	28.1491
6	29.1197	29.1197
7	29.9861	29.9861
8	30.8740	30.8740
10	36.5123	36.5123

Law Enforcement Contract per Hour (CLE)

Step	Minimum	Maximum
1	22.7073	22.7073
2	25.2100	25.2100
3	26.2939	26.2939
4	27.3775	27.3775
5	28.3377	28.3377
6	29.3159	29.3159
7	30.1974	30.1974
8	30.6466	30.6466
45	32.0830	32.0830
46	33.6512	33.6512
47	37.8631	37.8631
48	41.5377	41.5377
65	32.7247	32.7247
66	34.3242	34.3242

Detention Contract per Hour (CL2)

Step	Minimum	Maximum
1	16.6280	16.6280
2	18.9733	18.9733
3	20.2718	20.2718
4	21.2618	21.2618
5	22.7549	22.7549
6	23.2175	23.2175
7	23.9154	23.9154
8	24.2725	24.2725
45	29.5474	29.5474
46	30.9917	30.9917
47	34.8706	34.8706
48	38.2549	38.2549
65	30.1383	30.1383
66	31.6115	31.6115

PERSONNEL SCHEDULES

BUDGETED FUNDS - SUMMARY BY MAJOR FUNCTION
FULL TIME AUTHORIZED POSITIONS

	Grade		FTE
Elected Official	ELE	1	39
Clerical, Administrative & Fiscal			
OFFICE ASSISTANT	CCG	34	2
RECEPTIONIST/CLERK	CCG	34	8
OFFICE SPECIALIST	CCG	38	24
SENIOR OFFICE SPECIALIST	CCG	43	16
ADMINISTRATIVE OFFICE SPECIALIST	CCG	46	5
OFFICE MANAGER	CCG	51	1
ELECTIONS MANAGER	CCG	64	1
ADMINISTRATIVE OPERATIONS MANAGER	CCG	59	6
DEPUTY COUNTY CLERK	CCG	40	15
SENIOR DEPUTY COUNTY CLERK	CCG	43	9
ADMINISTRATIVE DEPUTY COUNTY CLERK	CCG	53	3
CHIEF DEPUTY COUNTY CLERK	CCG	65	1
COUNTY CLERK ADMINISTRATOR	CCG	61	1
SECRETARY	CCG	38	14
SENIOR SECRETARY	CCG	45	13
ADMINISTRATIVE SECRETARY	CCG	50	15
ACCOUNT CLERK	CCG	40	44
SENIOR ACCOUNT CLERK	CCG	43	8
ACCOUNTING TECHNICIAN	CCG	53	6
COURT CLERK	CCG	40	6
SENIOR COURT CLERK	CCG	43	14
ADMINISTRATIVE AID TO COUNTY JUDGE	CCG	53	1
COURT COORDINATOR	CCG	53	21
ASSOCIATE COURT ADMINISTRATOR	CCG	53	11
CHIEF APPELLATE/WRIT DIVISION ASSISTANT	CCG	53	1
COORDINATOR/INDIGENT DEFENSE	CCG	53	1
DEPUTY DISTRICT CLERK	CCG	40	15
ADMINISTRATIVE DEPUTY DISTRICT CLERK	CCG	53	3
CHIEF DEPUTY DISTRICT CLERK	CCG	65	1
SENIOR DEPUTY DISTRICT CLERK	CCG	43	2
SENIOR BUYER	CCG	49	3
ASSISTANT PURCHASING AGENT	CCG	61	1
PURCHASING AGENT	CCG	75	1
COMPUTER SERVICES TECHNICIAN/OPERATOR	CCG	49	1
PERSONAL COMPUTER TECHNICIAN	CCG	49	4
PERSONAL COMPUTER TECHNICIAN II	CCG	52	1
ANALYST/PROGRAMMER	CCG	62	2
PROGRAMMER/ANALYST	CCG	65	3
SENIOR PROGRAMMER/ANALYST	CCG	70	2

PERSONNEL SCHEDULES

BUDGETED FUNDS - SUMMARY BY MAJOR FUNCTION
FULL TIME AUTHORIZED POSITIONS

	Grade		FTE
COMPUTER SYSTEMS ADMINISTRATOR	CCG	68	3
SYSTEMS ANALYST	CCG	66	1
ASSISTANT DIRECTOR OF MIS	CCG	79	1
DIRECTOR OF MIS	CCG	86	1
FINANCIAL TECHNICIANS	CCG	48	6
FINANCIAL ANALYST	CCG	59	3
FINANCIAL MANAGER	CCG	71	4
CHIEF DEPUTY TAX ASSESSOR	CCG	69	1
CHIEF DEPUTY COUNTY TREASURER	CCG	54	1
1ST ASSISTANT COUNTY AUDITOR	CCG	79	1
COUNTY AUDITOR	CCG	91	1
BENEFITS MANAGER	CCG	69	1
SENIOR BENEFITS ANALYST	CCG	56	2
HUMAN RESOURCE ASSISTANT	CCG	45	1
EMP RELATIONS/COMPENSATION MGR	CCG	66	1
DIRECTOR OF HR & RISK MANAGEMENT	CCG	88	1
SENIOR PERSONNEL SPECIALIST	CCG	56	1
VOTING ASSISTANTS	CCG	41	2
Law Enforcement			
TELECOMMUNICATOR	CCG	42	9
SENIOR TELECOMMUNICATOR	CCG	46	1
TELECOMMUNICATION SENIOR SUPERVISOR	CCG	54	1
ASSISTANT EMERGENCY MANAGEMENT COORDINATOR	CCG	57	1
ASSISTANT CHIEF DEPUTY SHERIFF	CCG	71	1
CHIEF DEPUTY SHERIFF	CCG	77	4
JUVENILE DETENTION OFFICER	CCG	42	13
LEAD JUVENILE DETENTION OFFICE	CCG	50	4
JUVENILE DETENTION SUPERINTENDENT	CCG	70	1
COOK	CCG	31	1
CRIME LAB TECHNICIAN	CCG	48	2
FORENSIC SCIENTISTS	CCG	68	8
DIRECTOR OF CRIME LAB	CCG	72	1
Labor, Trades & Maintenance			
ASSISTANT BUILDING MAINTENANCE SUPERVISOR	CCG	54	1
SIGN FABRICATOR	CCG	42	1
PAINTER	CCG	46	3
CARPENTER	CCG	55	3
PLUMBER	CCG	56	2
HEATING, VENT & AC MECHANIC	CCG	57	3
WELDER	CCG	50	1

PERSONNEL SCHEDULES

BUDGETED FUNDS - SUMMARY BY MAJOR FUNCTION
FULL TIME AUTHORIZED POSITIONS

	Grade		FTE
ELECTRICIAN	CCG	58	1
LEAD PRINTER	CCG	49	1
UTILITY MAINT. WORKER/MULTICRAFT	CCG	40	9
UTILITY MAINT. WORKER - ST&HWY	CCG	44	4
MAINTENANCE TECHNICIAN	CCG	52	1
VAN DRIVER	CCG	36	2
EQUIP OPERATOR/MAINT. WORKER	CCG	47	11
SENIOR EQUIP OPERATOR/MAINT. WORKER	CCG	52	20
AUTOMOBILE MECHANIC	CCG	48	3
HEAVY EQUIPMENT MECHANIC	CCG	53	5
DIRECTOR OF SERVICE CENTER	CCG	59	1
ELECTIONS WAREHOUSE SUPERVISOR	CCG	56	1
GROUNDSKEEPER	CCG	32	1
BUILDING MAINTENANCE SUPERVISOR	CCG	58	2
SUPERINTENDENT OF BUILDING MAINTENANCE	CCG	62	1
DIRECTOR OF BUILDING MAINTENANCE	CCG	69	1
ROAD FOREMAN	CCG	56	6
ASSISTANT SUPERINTENDENT	CCG	58	3
PRECINCT ROAD SUPERINTENDENT	CCG	69	4
ENGINEERING SPECIALIST	CCG	62	6
ENGINEERING SUPERINTENDENT	CCG	71	1
DIRECTOR OF ENGINEERING	CCG	86	1
AIRCRAFT MECHANIC	CCG	62	1
PILOT/AIRCRAFT MECHANIC	CCG	63	2
CHIEF PILOT/AIRCRAFT MECHANIC	CCG	67	1
HERBICIDE APPL & MAINT WORKER	CCG	42	2
PESTICIDE APPL & MAINT WORKER	CCG	42	2
PESTICIDE APPL & VOTING MACHINE TECH	CCG	43	1
MOSQUITO CONTROL OPERATIONS FOREMAN	CCG	52	2
ENTOMOLOGIST	CCG	62	1
DIRECTOR OF MOSQUITO CONTROL	CCG	75	1
Nursing & Public Health			
PUBLIC HEALTH NURSE	CCG	63	4
ADMINISTRATIVE CLINICAL COORDINATOR/LVN	CCG	56	1
PUBLIC HEALTH NURSING SUPERVISOR	CCG	65	2
PHARMACIST	CCG	89	1
NURSE PRACTITIONER	CCG	80	1
MEDICAL ASSISTANT	CCG	41	1
PHARMACY TECHNICIAN	CCG	36	1
CONTRACT MONITOR/HEALTH SERVICES ADMINISTRATOR	CCG	52	1
ADMINISTRATIVE DIRECTOR OF H&W	CCG	72	1

PERSONNEL SCHEDULES

BUDGETED FUNDS - SUMMARY BY MAJOR FUNCTION
FULL TIME AUTHORIZED POSITIONS

	Grade		FTE
ENVIRONMENTAL HEALTH INSPECTOR	CCG	52	2
DIRECTOR OF ENVIRONMENTAL CONTROL	CCG	66	1
Human & Social Services			
JUVENILE PROBATION OFFICER	CCG	51	9
JUVENILE CASEWORK SUPERVISOR	CCG	61	4
JUVENILE CASEWORK MANAGER	CCG	67	2
WELFARE CASEWORKER	CCG	49	6
WELFARE CASEWORK SUPERVISOR	CCG	58	2
VETERANS SERVICE SUPERVISOR	CCG	49	1
VETERANS COUNTY SERVICE OFFICER	CCG	60	1
DIRECTOR OF JUV PROB & DETENTION	CCG	85	1
DIRECTOR OF VISITOR'S CENTER	CCG	62	1
SENIOR MEDIATION SUPERVISOR/CASE MANAGER	CCG	53	1
CASE COORDINATOR	CCG	38	1
DIRECTOR OF DISPUTE RESOLUTION	CCG	69	1
Other Un-Classified or Contract			
DETENTION OFFICER	CL2	1-8	221
BAILIFF	CLE	1-8	7
SHERIFF'S DEPUTY	CLE	1-8	78
UNION ADMIN ASSISTANT	CLE	45	7
SERGEANT	CL2/CLE	45	18
LIEUTENANT	CL2/CLE	46	18
CAPTAIN	CL2/CLE	47	7
MAJOR	CL2/CLE	48	3
CONSTABLE DEPUTY	CON	1-10	23
GRAND JURY BAILIFF	OTH	1	1
ATTORNEY	OTH	1	29
FORENSIC ACCOUNTANT	OTH	1	1
INVESTIGATOR ASSISTANT	OTH	1	1
INVESTIGATOR	OTH	1	4
EXECUTIVE ASSISTANT	OTH	1	2
ASSISTANT TO COUNTY JUDGE	OTH	1	1
COURT REPORTER	OTH	1	14
EMERGENCY MANAGEMENT COORDINATOR	OTH	1	1
AGRICULTURE EXTENSION AGENT	OTH	1	4
Total			1,002

JEFFERSON COUNTY, TEXAS
MISCELLANEOUS STATISTICS

ELECTED COUNTY OFFICIALS

Commissioners' Court	Length of Service	Term Expires
Jeff Branick, County Judge	3 Years	12/31/2014
William "Eddie" Arnold, Commissioner, Pct. 1	9 Years	12/31/2016
Brent Weaver, Commissioner, Pct. 2	3 Years	12/31/2014
Michael "Shane" Sinegal, Commissioner, Pct. 3	5 Years	12/31/2016
Everette "Bo" Alfred, Commissioner, Pct. 4	11 Years	12/31/2014

OTHER ELECTED COUNTY OFFICIALS

Name	Position	Length of Service	Term Expires
Carolyn Guidry	County Clerk	9 Years	12/31/2014
Cory Crenshaw	District Attorney	< 1 Year	12/31/2014
Terry Wuenschel	Tax Assessor Collector	< 1 Year	12/31/2016
Jonathan "Tim" Funchess	County Treasurer	3 Years	12/31/2014
George "Mitch" Woods	Sheriff	17 Years	12/31/2016
Susan "Jane" Birge	District Clerk	< 1 Year	12/31/2014
Kenneth Dollinger	Justice of the Peace Pct. 1 Pl. 1	17 Years	12/31/2016
Nancy Beaulieu	Justice of the Peace Pct. 1 Pl. 2	3 Years	12/31/2014
Marcus DeRouen	Justice of the Peace Pct. 2	3 Years	12/31/2014
Ray Chesson	Justice of the Peace Pct. 4	17 Years	12/31/2014
Ransom "Duce" Jones	Justice of the Peace Pct. 6	7 Years	12/31/2014
James Burnett	Justice of the Peace Pct. 7	11 Years	12/31/2014
Tom Gillam	Justice of the Peace Pct. 8	12 Years	12/31/2014
Coley "Nick" Saleme	Constable Pct. 1	1 Year	12/31/2016
Christopher Bates	Constable Pct. 2	1 Year	12/31/2016
James Trahan	Constable Pct. 4	9 Years	12/31/2016
Dana Baker	Constable Pct. 6	1 Year	12/31/2016
Jeffrey Greenway	Constable Pct. 7	17 Years	12/31/2016
Eddie Collins	Constable Pct. 8	21 Years	12/31/2016
Gerald Eddins	Judge, County Court at Law #1	1 Year	12/31/2016
Guadalupe "Lupe" Flores	Judge, County Court at Law #2	11 Years	12/31/2014
Langston Adams	Judge, County Court at Law #3	< 1 Year	12/31/2014
John Stevens	Judge, Criminal District Court	7 Years	12/31/2014
Lindsey Scott	Judge, 252nd District Court	< 1 Year	12/31/2014
Thomas Rugg	Judge, 58th District Court	< 1 Year	12/31/2014
James "Gary" Sanderson	Judge, 60th District Court	36 Years	12/31/2016
Milton Shuffield	Judge, 136th District Court	19 Years	12/31/2016
Donald Floyd	Judge, 172nd District Court	30 Years	12/31/2014
Jeffrey "Randy" Shelton	Judge, 279th District Court	7 Years	12/31/2014
Lawrence Thorne	Judge, 317th District Court	15 Years	12/31/2014

JEFFERSON COUNTY, TEXAS
MISCELLANEOUS STATISTICS

APPOINTED OFFICIALS

Name	Position	Length of Service	Term Expires
James "Patrick" Swain	County Auditor	18 Years	12/31/2014
Deborah Clark	Purchasing Agent	5 Years	12/31/2014
Don Rao	Engineering	3 Years	
Starla Garlick	Agricultural Extension Service	6 Years	
Alex Rupp	Airport	1 Year	
Robert "David" Fontenot	Service Center	25 Years	
John "David" Knight	Buildings Maintenance - Beaumont	1 Year	
Mark Benard	Buildings Maintenance - Port Arthur	17 Years	
Larry Gist	Court Master	17 Years	
Paul Helegda	MIS	16 Years	
Kara Hawthorn	Dispute Resolution Center	3 Years	
Gregory Fountain	Emergency Management	7 Years	
Michael Melancon	Environmental Control	18 Years	
Dr. A.C. Walkes	Health and Welfare Units	25 Years	
Leslie Little	Nurse Practitioner	3 Years	
Cary Erickson	Human Resources & Risk Management	21 Years	
Edward Cockrell	Juvenile Probation & Detention	3 Years	
Kevin Sexton	Mosquito Control	4 Years	
Hilary Guest	Veterans Services Offices	12 Years	

CONSULTANTS AND ADVISORS

Certified Public Accountants	Pattillo, Brown & Hill, LLP Waco, Texas
Co-Bond Counsel	Creighton, Fox, Johnson & Mills PLLC and Germer Gertz, L.L.P. Beaumont, Texas
Financial Advisor	U.S. Capital Advisors, Houston, Texas

JEFFERSON COUNTY, TEXAS

MISCELLANEOUS STATISTICS

Date of Creation 1836

Date of Organization 1837

Location
Upper Texas Coast
Component of Beaumont-Port Arthur MSA

County Seat
Beaumont, Texas

Economy Base
Petroleum refining
Production and processing of petrochemicals
Fabrication of steel and steel products
Shipping activity
Manufacture of wood, pulp, food, and feed products
Agriculture
Health care services

Land Area (A)	876.3 square miles
Maintained Roads	369.6
Bond Rating	"Aa2" Moody's Investors Service, Inc. "AA-" Standard & Poor's Ratings Services

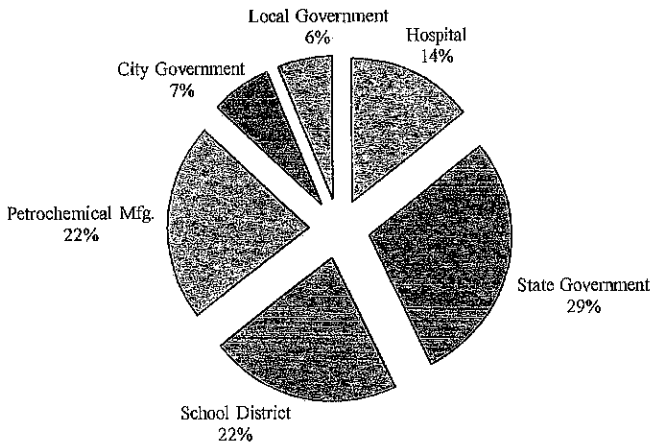
JEFFERSON COUNTY, TEXAS
MISCELLANEOUS STATISTICS

Employment Statistics (A)

Fiscal Year	Civilian Labor Force	Total Employment	Total Unemployment	Percent Unemployment
2005	111,802	103,155	8,647	7.7%
2006	111,762	104,985	6,777	6.1%
2007	111,950	105,780	6,170	5.5%
2008	113,702	106,049	7,653	6.7%
2009	116,010	105,031	10,979	9.5%
2010	120,029	106,880	13,149	11.0%
2011	121,684	108,143	13,541	11.1%
2012	119,919	107,009	12,910	10.8%
2013	116,922	104,670	12,252	10.5%
2014 (B)	115,111	105,292	9,819	8.5%

Top Ten Major Employers County (C)

Company	Industry	Employees
State of Texas	State Government	5,500
Beaumont ISD	School District	2,976
Exxon Mobil Oil Corporation	Petrochemical Mfg.	2,000
Christus Health Southeast Texas	Hospital	1,530
Motiva Enterprises	Petrochemical Mfg.	1,475
City of Beaumont	City Government	1,335
Memorial Hermann Baptist Hospital	Hospital	1,232
Jefferson County	Local Government	1,184
Port Arthur ISD	School District	1,170
Valero	Petrochemical Mfg.	833



(A) Source: Labor Market Statistics - Texas Workforce Commission

(B) Average through end of July, 2014 (not finalized).

(C) Source: Local surveys

JEFFERSON COUNTY, TEXAS
MISCELLANEOUS STATISTICS

Population (A)

Year	County	City of Beaumont	City of Port Arthur	Beaumont-Port Arthur MSA
1960	245,659	119,175	66,676	306,016
1970	246,402	117,548	57,371	347,568
1980	250,938	118,102	61,195	375,497
1990	239,397	114,323	58,724	361,226
2000	252,051	113,866	57,755	385,090
2010	252,273	118,296	53,818	388,745
Current Estimate	252,358	117,796	54,135	390,732

Demographics

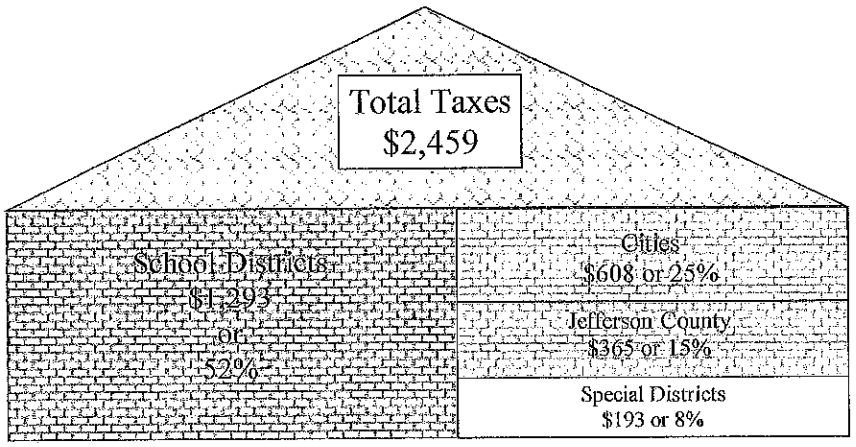
Fiscal Year	Population (a)	Per Capita Personal Income (b)	Median Age (a)	School Enrollment (a)
2006	247,571	$ 27,689	36.5	62,002
2007	243,914	$ 29,324	36.4	59,776
2008	241,975	$ 31,756	36.7	62,290
2009	242,142	$ 33,795	36.5	61,721
2010	252,273	$ 33,071	35.6	62,433
2011	252,273	$ 37,139	36.0	63,371
2012	252,802	$ 38,712	35.9	63,371
2013	251,813	$ 38,357	36.0	63,433

(A) Source: http://www.census.gov

(B) Source: Texas Workforce Commission

JEFFERSON COUNTY, TEXAS
MISCELLANEOUS STATISTICS

Property Tax Analysis for a $100,000 Home in Tax Year 2013 (A)



County taxes for fiscal year 2013-2014 and fiscal year 2014-2015 for a $100,000 home would be $365.00 based on the property tax rate of .365¢ per $100 valuation.

Ten Year History of Abated Property Tax Values (B)

Tax Year	# of Companies	Value Loss Due to Abatement	Tax Loss	Tax Rate
2004	12	1,034,344,310	$ 4,395,963	0.00425
2005	12	1,380,269,700	5,866,146	0.00425
2006	12	1,616,254,070	6,465,016	0.00400
2007	14	1,814,398,530	7,076,154	0.00390
2008	15	2,129,196,020	7,771,565	0.00365
2009	12	923,906,330	3,372,258	0.00365
2010	13	790,191,580	2,884,199	0.00365
2011	11	766,817,130	2,798,883	0.00365
2012	9	1,196,539,640	4,367,370	0.00365
2013	9	1,877,188,020	6,851,736	0.00365
			$ 51,849,290	

(A) Source: http://www.jcad.org
(B) Source: http://www.jcad.org/reports_abate.aspx

GLOSSARY OF TERMS

Accrual Basis—A basis of accounting in which transactions are recognized at the time they are incurred, as opposed to when cash is received or spent.

Actual - Final audited revenue or expenditure data for the fiscal year indicated.

Ad Valorem Tax — A tax levied against the value of real or personal property. Valuations are assessed by Jefferson County Appraisal District.

Allocation—Component of an appropriation earmarking expenditures for a specific purpose and/or level of organization.

Appropriation—A legal authorization to incur obligations and to make expenditures for specific purposes.

Appraisal Value – To make an estimate of value for the purpose of taxation.

Appraisal District – An independent governmental entity responsible for appraising property within a county. The Appraisal District certifies the county assessed valuations.

Assessed Valuation—The valuation set upon real estate and certain personal property by the Assessor as a basis for levying property taxes.

Asset—Resources owned or held by a government which have monetary value.

Available Fund Balance—The portion of a fund's balance that is not restricted for a specific purpose and may be used for general appropriation.

Balanced Budget – According to GAAP a balanced budget is one in which the total expenditures do not exceed the total resources, or total estimated revenues plus reserves.

Bond—A written promise to pay to things: 1) a principle amount on a specified date, and 2) a series of interest payments for the term of the bond.

Bond Rating—Organizations like Standard and Poor's and Moody's rate the riskiness of government-issued securities and gives each security a bond rating.

Bonded Indebtedness – The total amount of principle and interest due on bonds which have been sold to finance capital projects such as streets, bridges, and buildings. The most prevalent types of bonds are general obligation or revenue bonds.

Bond Refunding—The payoff and re-issuance of bonds, to obtain better interest rates and/or bond conditions.

GLOSSARY OF TERMS

Budget—A plan of financial activity for a specified period of time (fiscal year or biennium) indicating all planned revenues and expenses for the budget period.

Budget Amendment – A change in the authorized level of funding for an organization or line item account code that increases the total budget. Ideally, amendments increase total revenues and total expenditures by an equal amount. Amendments are made only with Commissioners' Court approval.

Budgetary Basis—This refers to the basis of accounting used to estimate financing sources and uses in the budget. These generally take one of three forms: GAAP, cash, or modified accrual.

Budget Calendar—The schedule of key dates, which a government follows in the preparation and adoption of the budget.

Budgetary Control—The control or management of a government in accordance with the approved budget for the purpose of keeping expenditures within the limitations of available appropriations and resources.

Callable – A financing term referring to debt service bonds which means the bonds can be retired, or paid off, earlier than the due date without penalty.

Capital Expenditures – Includes all purchases that will be capitalized, both items purchased within individual departments and purchased with capital project funds. Also includes items formerly classified as capital whose purchase amount is between $5,000 and $9,999.99 for content insurance purposes.

Capital Outlay—(Also known as capital assets) - Fixed assets which meets the estimated useful life and monetary cost criteria and warrants capitalization in the financial statements. All items owned by an organization can rightfully be considered assets, but as a practical matter, organizations do not capitalize all of them. Jefferson County's monetary criteria is $10,000 or more and with a useful life of more than one year.

Capital Project—Major construction, acquisition, or renovation activities which add value to a government's physical assets or significantly increases their useful life. Also called capital improvements.

Capital Project Fund – A fund used to account for the financial resources designated for major capital acquisitions of construction. Separate funds are required for each capital project per GAAP.

Capitalization – An accounting treatment whereby an item is recorded as an asset on the balance sheet rather than as an expense of the current period.

Cash Basis—A basis of accounting in which transactions are recognized only when cash is increased or decreased.

GLOSSARY OF TERMS

Categorical – A method of accounting for expenditures in summary format (i.e. salaries & wages, fringe benefits, materials & supplies, maintenance & utilities, & miscellaneous services).

Certificates of Obligation – Debt instruments, similar to bonds, sold to the public to finance the county's capital projects. This type of debt is usually repaid in annual installments over a period of 5 – 25 years.

Charges for Services – see Fees of Office.

Contingency—A budgetary reserve set-aside for emergencies or unforeseen expenditures not otherwise budgeted.

Contractual Services—Services rendered to a government by private firms, individuals, or other governmental agencies. Examples include rent, maintenance agreements, and professional consulting services.

Current Taxes – Taxes that are levied and collected prior to being delinquent. The tax year begins October 1st. Taxes are delinquent on February 1st, after which time penalty and interest charges accrue.

Debt Service—The cost of paying principal and interest on borrowed money according to a predetermined payment schedule.

Debt Service Fund – A fund used to account for the accumulation and disbursement of resources associated with the county's debt obligations. Statutorily separate funds are required for each debt obligation.

Delinquent Taxes – Taxes that remain unpaid at February 1st. Taxes are delinquent on February 1st, after which time penalty and interest charges accrue. Attorney fees are assessed beginning July 1st.

Department (Organization) – The organizational unit which is functioning separately in its delivery of service.

Disbursement—The expenditure of monies from an account.

Employee (or Fringe) Benefits—Contributions made by a government to meet commitments or obligations for employee fringe benefits. Included are the government's share of costs for Social Security and the various pensions, medical, and life insurance plans.

Encumbrance—The commitment of appropriated funds to purchase an item or service. To encumber funds means to set aside or commit funds for a specified future expenditure.

Estimated Revenue – The amount of projected revenue for the fiscal cycle. Projections are generally based on prior experiences or increased fees.

GLOSSARY OF TERMS

Expenditure—The payment of cash on the transfer of property or services for the purpose of acquiring an asset, service, or settling a loss.

Expense—Charges incurred (whether paid immediately or unpaid) for operations, maintenance, interest, or other charges.

Fees (Fees of Office) – Revenue charged or charged for services by various county departments to provide a service to the public or another governmental entity.

Fines and Forfeitures – Revenue generated through fines assessed by various courts. Forfeitures are payment as penalty assessed by the Courts through bail bond and property forfeitures.

Fiscal Policy—A government's policies with respect to revenues spending and debt management as these relate to government services, programs, and capital investment. Fiscal policy provides an agreed-upon set of principles for the planning and programming of government budgets and their funding.

Fiscal Year—A twelve-month period designated as the operating year for accounting and budgeting, and financial reporting purposes. Jefferson County's fiscal year is October 1st through September 30th.

Fund—A fiscal entity with revenues and expenses, which are segregated for the purpose of carrying out a specific purpose or activity.

Fund Balance - The excess of the assets of a fund over its liabilities, reserves, and carryover.

Generally Accepted Accounting Principles (GAAP) – Uniform minimum standards for financial accounting and recording, encompassing the conventions, rules, and procedures that define accepted accounting principles.

General Obligation Bond—This type of bond is backed by the full faith, credit, and taxing power of the government.

Goal – A statement of broad direction, purpose, or intent based on the needs of the community. A goal is general and timeless.

Grants – A contribution by a government agency or other organization to support a particular function. Grants may be classified as either operational or capital and they are restricted for specific purposes. Because grants are presented to the Commissioners' Court throughout the year, the grant budgets and accountings are maintained separately from this document.

Hourly—An employee who fills a temporary or short-term position. Such employees provide contingency staffing for government operations during peak workloads or to address temporary staffing needs. Hourly employees are paid on a per-hour basis and receive limited benefits.

GLOSSARY OF TERMS

Interfund Transfers – The movement of monies between funds of the same governmental entity.

Intergovernmental Revenue – Funds received from federal, state, and local government sources in the form of grants and shared revenues.

Levy—To impose taxes for the support of government activities.

Line-Item Budget—A budget prepared along departmental lines that focuses on what is to be bought.

Long-Term Debt—Debt with a maturity of more than one year after the date of issuance.

Mandate – A formal order from State authorities to County government to make mandatory.

Maintenance and Utilities— Expenditures made for maintenance of buildings, vehicles and equipment, and utilities such as electricity, water, and gas necessary to conduct departmental operations.

Materials and Supplies—Expendable materials and operating supplies necessary to conduct departmental operations.

Modified Accrual Basis – Revenues are recognized in the accounting period in which they become available and measurable. Expenditures are recognized in the accounting period in which the fund liability is incurred.

Non-callable – A financing term referring to debt service bonds which means the bonds cannot be retired, or paid off, earlier than the due date.

Objective—Something to be accomplished in specific, well-defined, and measurable terms and that is achievable within a specific time frame.

Obligations—Amounts which a government may be legally required to meet out of its resources. They include not only actual liabilities, but also encumbrances not yet paid.

Operating Revenue---Funds that the government receives as income to pay for ongoing operations. It includes such items as taxes, fees from specific services, interest earnings, and grant revenues. Operating revenues are used to pay for day-to-day services.

Operating Expenses—The cost for personnel, materials, and equipment required for a department to function.

Output Indicators – A unit of work accomplished, without reference to the resources required to do the work. Output indicators do not reflect the effectiveness or efficiency of the work performed.

GLOSSARY OF TERMS

Other Financing Sources – Includes transfers from other funds, sale of capital assets, insurance proceeds, bond proceeds, and other funding that is not considered to be revenue according to GAAP.

Other Financing Uses – Includes transfers to other funds and other funding that is not considered expenditures according to GAAP.

Pay-as-you-go Basis – A term used to describe a financial policy by which capital outlays are purchased from current resources rather than through borrowing.

Performance Indicators – Specific quantitative and/or qualitative measures of work performed as an objective of specific departments or programs. Data is collected to establish trend patterns concerning workloads and/or determine how effective or efficient a program is in achieving its objectives.

Personal Services—Expenditures for salaries, wages, and fringe benefits of a government's employees.

Program—A group of related activities performed by one or more organizational units for the purpose of accomplishing a function for which the government is responsible.

Records Management – This term applies to the management of county records and government documents. Fees are budgeted for collection and expenses for the safeguarding of records according to the Texas Records Management Act.

Reserve—An account used either to set aside budgeted revenues that are not required for expenditure in the current budget year or to earmark revenues for a specific future purpose.

Resolution – A special or temporary order of a legislative body; an order of a legislative body requiring less legal formality than an ordinance or statute.

Resources—Total amounts available for appropriation including estimated revenues, fund transfers, and beginning balances.

Revenue—Sources of income financing the operations of government.

Salaries & Wages – The cost of all labor related expenses required for a department to function, including but not limited to salaries, merit, cost of living adjustments, etc.

Source of Revenue—Revenues are classified according to their source or point of origin.

Special Revenue Funds – These funds are set up to keep track of segregated revenue activities.

Statute – A law enacted by the legislative assembly.

Tax Rate – A percentage applies to all taxable property to raise general revenues.

GLOSSARY OF TERMS

Tax Rate Limit – The maximum rate at which a government may levy a tax. The limit may apply to taxes raised for a particular purpose, or to taxes imposed for all purposes, and may apply to a single government, to a class of governments, or to all governments operating in a particular area. Overall tax rate limits usually restrict levies for all purposes and of all governments, state, and local, having jurisdiction in a given area.

Tax Levy—The resultant product when the tax rate per one hundred dollars is multiplied by the tax base.

Taxes—Compulsory charges levied by a government for the purpose of financing services performed for the common benefit of the people. This term does not include specific charges made against particular persons or property for current or permanent benefit, such as special assessments.

Transfers In/Out—Amounts transferred from one fund to another to assist in financing the services for the recipient fund.

Unencumbered Balance – The amount of an appropriation that is neither expended nor encumbered. It is essentially the amount of money still available for future purposes.

Unreserved Fund Balance—The portion of a fund's balance that is not restricted for a specific purpose and is available for general appropriation.

User Charges—The payment of a fee for direct receipt of a public service by the party who benefits from the service.

GLOSSARY OF TERMS

ACROYNMS

AC - Air Conditioning

ADA - American with Disabilities Act

ASAP - Absent Student Assistance Project

BMT - Beaumont

CAFR - Comprehensive Annual Financial Report

CCTV - Close Circuit Television

CD - Compact Disc

CEPRA - Coastal Erosion Planning and Response Account

CI - Criminal Investigation

COLA - Cost of Living Increase

CPI - Consumer Price Index

DA - District Attorney

DARE - Drug Abuse Resistance Education

DR - Doctor

DVD - Digital Versatile Disk

FAA - Federal Aviation Administration

FTE - Full-time Equivalent

GAAP - General Accepted Accounting Principles

GC/MC - Gas chromatograph/mass spectrometer

GFOA - Government Finance Officer Association

HP - Hewlett Packard

GLOSSARY OF TERMS

ACROYNMS - continued

HP - Horse Power

HR - Hour

HR - Human Resources

H&W - Health & Welfare

HWY - Highway

IA - Internal Affairs

IBM - International Business Machines

ID - Identification

ISD - Independent School District

JC - Jefferson County

JP - Justice of the Peace

LGC - Local Government Code

LNG - Liquified Natural Gas

LT - Lieutenant

MB - Megabyte

MFG - Manufacturing

MIS - Management Information Systems

MSA - Metropolitan Statistical Area

NO - Number

PA - Port Arthur

PCT - Precinct

GLOSSARY OF TERMS

ACROYNMS - continued

RAM – Random Access Memory

RFP - Request for Proposal

ROW – Right of Way

RTV - Rugged Terrain Vehicle

SCAAP - State Criminal Alien Assistance Program

ST - State

SUV - Sports Utility Vehicle

TXDOT - Texas Department of Transportation

UHF - Ultra High Frequency

US - United States

VOIP - Voice over Internet Protocol

JEFFERSON COUNTY SHERIFF'S OFFICE

SHERIFF G. MITCH WOODS

CHIEF TIM SMITH
LAW ENFORCEMENT

CHIEF GEORGE MILLER
CORRECTIONS

CHIEF MARK DUBOIS
SERVICES

CHIEF RON HOBBS
NARCOTICS

MEMORANDUM

RECEIVED
SEP 17 2014

DATE: September 17, 2014

TO: Honorable Judge Jeff Branick
Commissioner Eddie Arnold
Commissioner Brent Weaver
Commissioner Michael Sinegal
Commissioner Everette Alfred

FROM: Mark Dubois
Deputy Chief, Services Division

RE: Donations for First Responders

Please consider and possibly approve donations from the Brewster Procurement Group on behalf of Shell Pipeline and Motiva Enterprises. They have requested that the money would be used for Emergency Responders to educate on topics such as pipeline awareness precautions, pipeline markers and signs, potential hazards, etc. The amount of this donation is $1,000.00.

Should you require further information please call.

INTERLOCAL CONTRACT

SOUTHEAST TEXAS AUTO THEFT TASK FORCE

STATE OF TEXAS §
COUNTY OF JEFFERSON §

This Interlocal Contract, ("**Contract**") is entered into between the City of Beaumont, a municipal corporation situated in Jefferson County, Texas, ("**Beaumont**"), the City of Port Arthur, a municipal corporation situated in Jefferson County, Texas ("**Port Arthur**") , Jefferson County, a political subdivision of the State of Texas ("**Jefferson County**") , Hardin County, a political subdivision of the State of Texas ("**Hardin County**"), Jasper County, a political subdivision of the State of Texas ("**Jasper County**"), and Orange County, a political subdivision of the State of Texas ("**Orange County**") pursuant to the Interlocal Cooperation Act, Tex. Gov't Code Ann. Sec. 791.001 - 791.027 (Vernon 1997).

WITNESSETH

Whereas, Beaumont, Port Arthur, Hardin County, Jasper County, Jefferson County, and **Orange County**, collectively herein after referred to as "**Parties**", seek to contract or agree with each other to perform certain governmental functions and services in a joint cooperative agency which is known as the Southeast Texas Auto Theft Task Force ("**Task Force**"); and

Whereas, the **Parties** are each independently authorized, pursuant to Tex. Gov't. Code Ann. Sec. 791.001 to enter into a joint contract to provide a governmental function or service which each party to the Contract is authorized to perform individually; and

Whereas, the **Parties** wish to file a joint application for grant funding (FY2015) with the Automobile Burglary and Theft Prevention Authority of the State of Texas ("**Authority**") in the amount of $564,338.00; and

Whereas, the **Parties** believe it to be in the best interest of the **Parties** to continue the operation of the **Task Force** based upon positive results of prior operations of the **Task Force** which include, but are not limited to, demonstrated decreases in the number of reported auto thefts; and

Whereas, there are approximately 406,752 registered motor vehicles in Jefferson, Hardin, Jasper, and Orange Counties combined; and

Whereas, since the inception of the **Task Force** in 1993 officers in the **Task Force** have made approximately 2,189 arrests, filed approximately 4,057 auto related criminal cases with prosecuting authorities, recovered more than 41,785 vehicles valued at an estimated $46,155,150 along with other property estimated at $5,228,394; and

Whereas, the **Parties** have agreed to provide $ 569,906 in funding (personnel services, equipment, vehicle supplies, salaries, benefits, and insurance) to be used to match the funding sought from the **Authority**; and

Whereas, the **Parties** believe that it is in their mutual interest to enter into this **Contract** to carry-out operations of the **Task Force**; and

Whereas, the **Parties** agree to abide by all pertinent federal, state and local laws and regulations;

NOW, THEREFORE, IT IS HEREBY AGREED AS FOLLOWS:

ARTICLE I.

1.01 The purpose of this **Contract** is to continue the operation of the **Task Force** pursuant to a joint application filed with the **Authority** for FY 2015 grant funding of the **Task Force**. (See Exhibit "A" which is attached hereto and incorporated herein.)

1.02 The **Parties** to this **Contract** hereby mutually agree to cooperate to whatever extent is

necessary to carry out the work plan set forth in the grant application.

ARTICLE II.

2.01 The term of this **Contract** shall be for a period of one (1) year from and after the date of August 31, 2014 subject to other termination rights of the **Parties** as established in this document.

ARTICLE III.

3.01 As a condition and part of this **Contract,** the **Parties** agree to contribute a total of $569,906 in match funding for operation of the **Task Force** in the following amounts:

Match by the City of Beaumont	$ 485,456
Match by the City of Port Arthur	$ 33,850
Match by Jefferson County	$ 26,552
Match by Hardin County	$ 24,048
Match by Jasper County	-0-
Match by Orange County	-0-

ARTICLE IV.

4.01 The expenditure of funds, including the anticipated receipt of $564,338.00 from the **Authority** is set out in Exhibit "B" which is attached hereto and incorporated herein.

ARTICLE V.

5.01 **Beaumont** is designated as the primary agency ("**GRANTEE**") for purposes of this **Contract** and for purposes of receipt and disbursement of all funds received from the **Authority**. **Beaumont** shall designate an officer of the Beaumont Police Department to serve as the coordinator for the **Task Force** who shall be authorized to establish rules, regulations, directives, etc. for operation of the **Task Force** and the administration of funding for the **Task Force**.

ARTICLE VI.

6.01 Upon termination of this **Contract**, right, title and ownership of non-expendable property acquired pursuant to this **Contract** will revert to the individual party for which it was acquired, subject to the statutes of the State of Texas and approval of the **Authority.**

ARTICLE VII.

7.01 **Beaumont, Port Arthur, Hardin County, Jasper County, Jefferson County**, and **Orange County** as political subdivisions, are governed by the Texas Tort Claims Act, Chapter 101.001 et seq., Civil Practice and Remedies Code. **Beaumont, Port Arthur, Hardin County, Jasper County, Jefferson County** and **Orange County** warrant and represent to each other that they are self-insured or commercially insured for all claims falling within the Texas Tort Claims Act.

7.02 Each party to this **Contract** agrees that it shall have no liability whatsoever for acts or omissions of an individual employed by another party regardless of where the individuals' actions occurred. Each party is solely responsible for the action and/or omissions of it's employees and officers.

ARTICLE VIII.

8.01 The **Parties** certify that the **Task Force** is a program which meets all the requirements of the **Authority** program, that the information set forth in this **Contract** is correct, and that the **Parties** will comply with the appropriate provisions of the **Authority**.

8.02 The **Parties** assure and certify that they will comply with the regulations, policies, guidelines, and requirements set forth in the "assurances" section of the 2014 Grant Application and the Administrative Guide issued by the **Authority** pursuant to the acceptance and use of any federal funds. If any of the provisions of the "assurances" are applicable pursuant to statutes of the State of Texas, the **Parties** will comply with those pertinent parts.

8.03 The **Parties** assure and certify to the **Authority** that they are in compliance with Subtitle A, Title II of the Americans with Disabilities Act (A.D.A.), 42 U.S.C. 12131-12134, and Department of Justice implementing regulation 28 C.F.R., Part 35.

8.04 Attached as Exhibit "C" is a digest representing the Authority's approved budget summary for grant 2015-T01-City of-00014. The Parties agree that they shall be responsible for determining, prior to expenditure of funds, that:

1. Salaries are in accordance with local policy of participating agencies.
2. Personnel are classified in accordance with the needed qualification for the position.
3. Fringe benefits are in accordance with local policy of the participating agencies.
4. Travel policy is in accordance with the travel policy of the City of Beaumont.

ARTICLE IX.

9.01 This **Contract** may only be amended by mutual agreement of the **Parties** hereto in writing and any amendments shall be attached to and incorporated into this **Contract**.

ARTICLE X.

10.1 In case any one or more of the provisions contained in this **Contract** shall be held to be invalid, illegal or unenforceable in any aspect, such invalidity, illegality or unenforceability shall not affect any other provision of the **Contract,** and this **Contract** shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

ARTICLE XI.

11.01 This **Contract** supersedes any and all other agreements, either oral or in writing, between the **Parties** hereto with respect to the subject matter hereof, and no other agreement, statement or promise relating to the subject matter of this agreement which is not contained herein shall be valid or binding.

EXECUTED by the City of Beaumont this 9th day of September, 2014.

CITY OF BEAUMONT, TEXAS

By: _____
Kyle Hayes, City Manager

EXECUTED by Jefferson County this 8th day of SEPTEMBER, 2014.

JEFFERSON COUNTY, TEXAS

By: _____
Jeff Branick, County Judge

EXECUTED by the City of Port Arthur this 26th day of August, 2014.

CITY OF PORT ARTHUR

By: John A Comeaux, P.E.
John Comeaux, Interim City Manager

EXECUTED by Orange County this 11th day of August, 2014.

ORANGE COUNTY, TEXAS

By: _____
Carl K. Thibodeaux, County Judge

EXECUTED by Hardin County this 13th day of August, 2014.

HARDIN COUNTY, TEXAS

By: _____
Billy Caraway, County Judge

EXECUTED by Jasper County this 13 day of August, 2014.

JASPER COUNTY, TEXAS

By: _____

Mark Allen, County Judge

EXHIBIT A

Automobile Buglary & Theft Prevention Authority
Application for State Assistance

1. **Applicant Information**

a. **Legal Name:** City of Beaumont

b. **Address**

Street or P.O. Box: P.O. Box 3827 **City:** Beaumont

County: Jefferson **State:** Texas **Zip Code:** 77704

c. **Organizational Unit:** Beaumont Police Department

d. **Contact Person:** Lt. Chris Schuldt

Telephone Number: (409) 654-3600

2. **State Payee ID Number:** 740002789

3. **Type of Applicant** Municipal

If "Other", please specify:

4. **Type of Application:**

New ✔ Continuation Revision

If Revision, check appropriate box(es).

Increase Award Decrease Award Other (specify)

Increase Duration Decrease Duration

If "Other", please specify:

5. **Title of Project:** Southeast Texas Auto Theft Task Force

6. **Areas of Project Activities (Cities, Counties, States, etc.):** Jefferson, Orange, Hardin and Jasper Counties

Select a County:

Hardin County
Jasper County
Jefferson County
Orange County

7. **Proposed Project:** **Start Date:** 9/1/2014 **Ending Date:** 8/31/2015

8. Is application subject to review by state executive order 12372 process?

YES, this application was made available to the Texas Review and Comment System (TRACS) for review on

Program is not covered by E. O. 12372

Program has not been selected by state for review

✔ NO

9. **Funding Summary:**

Total State Grant Funds Requested (ABPTA) $660,286

Automobile Buglary & Theft Prevention Authority
Application for State Assistance

Cash Match:	$191,494
In-Kind Match:	$311,404
Total:	$1,163,184

10. Is the applicant delinquent on any federal debt?

YES If "YES" attach an explanation ✔ NO

11. To the best of my knowledge and belief, all data in this application is true and correct. The document has been duly authorized by the governing body of the applicant and the applicant will comply with the attached assurances if the assistance is awarded.

a. **Authorized Official:** Kyle Hayes
b. **Title:** City Manager
c. **Telephone Number:** (409) 880-3708

Signature of Authorized Official K H Date 4-22-14

Automobile Buglary & Theft Prevention Authority
Application for State Assistance

Item 1.
Does this assistance request require state, local, regional, or other priority rating?
Yes ✔ No
If "Yes" please complete
Name of Governing Body:
Priority Rating:

Item 2.
Does this assistance require state, or local advisory, education, or health clearance?
Yes ✔ No
If "Yes" please complete
Name of Agency or Board:

Item 3.
Does this assistance request require state, local, regional, or other planning approval?
✔ Yes No
If "Yes" please complete
Name of Approving Agency: A.B.T.P.A.

Item 4.
Will the assistance requested serve a federal installation?
Yes ✔ No
If "Yes" please complete
Name of Federal Installation:
Federal Population Benefiting from Project:

Item 5.
Will the assistance requested have an impact on the enviornment?
Yes ✔ No

Item 6.
Will the assistance requested cause the displacement of individuals, families, businesses or farms?
Yes ✔ No
If "Yes" please complete
Number of Individuals:
Families:
Businesses:
Farms:

Item 7.
Is there other related assistance on this project (previous, pending, or anticipated)?
Yes ✔ No
If "Yes" Explain:

Automobile Burglary & Theft Prevention Authority

Organization: City of Beaumont

2015-T01-City of -00014

Budget Summary

	Budget Categories	ABTPA Funds	Cash Match	In-Kind Match	Total
A	Personnel (Salaries/Overtime)	$450,601	$5,112	$213,722	$669,435
A	Personnel (Fringe Benefits)	$55,688	$121,726	$84,025	$261,439
B	Contractual	$0	$0	$0	$0
C	Travel	$10,796	$0	$0	$10,796
D	Equipment	$50,600	$12,000	$0	$62,600
E	Supplies & Direct Operating Exp.	$92,601	$52,656	$13,657	$158,914
F	Indirect Costs	$0	$0	$0	$0
	Totals (Sum of 7-8)	**$660,286**	**$191,494**	**$311,404**	**$1,163,184**

Source of Match	Amount
Beaumont Police	$139,237
Port Arthur Police	$18,264
Jefferson County S.O.	$19,945
Source of Match Total	**$191,494**

Program Income	Amount

Schedule	In Kind Match	Amount
A	Beaumont Police	$297,747
B		$0
C		$0
D		$0
E	Beaumont Police	$13,657
	In Kind Match Total	**$311,404**

Automobile Burglary & Theft Prevention Authority

Organization: City of Beaumont

2015-T01-City of -00014

Personnel

Title or Position	% of Salary	ABTPA Funds	Cash Match	In-Kind	Total
Project Director	98.8%	$90,345	$1,104	$0	$91,449
Task Force Supervisor	0%	$0	$0	$79,237	$79,237
Crime Prevention Officer	98.5%	$74,100	$1,104	$0	$75,204
Inspections Officer	98.3%	$65,792	$1,104	$0	$66,896
Beaumont Police Investigator	0%	$0	$0	$65,372	$65,372
Beaumont Police Investigator	0%	$0	$0	$69,113	$69,113
Port Arthur Police Investigator	97.5%	$70,395	$1,800	$0	$72,195
Hardin County S.O. Investigator	100%	$76,571	$0	$0	$76,571
Jefferson County S.O. Investigator	100%	$58,734	$0	$0	$58,734
	%				$0
	%				$0
	%				$0
Total Direct Salaries		**$435,937**	**$5,112**	**$213,722**	$654,771
Total Requested Amounts					

Narrative

Project Director: The Director will supervise all operations of the Task Force, oversee fiscal matters relating to the grant, be responsible for the preparation and submittal of all reports required, and insure the proper filing of documentation regarding efforts to meet stated goals. The Project Director will report to a board of directors comprised of the department heads for each of the agencies contributing personnel to the Task Force. The position will be funded with ABTPA funds equaling 98.8%. Clothing allowance, clothing maintenance and all fringe benefits will be cash matched. The Project Director will spend 100% of work hours on auto crime/grant related activities.

Task Force Supervisor: The Supervisor will be responsible for supervising the operations of the Task Force as directed by the Project Director, analyze and disseminate information as trends develop in order to direct efforts of personnel, review reports and make appropriate case assignments, oversee special projects relating to enforcement and covert operations and perform other duties consistent with those listed for the investigators pertaining to case investigation. The Supervisor will hold the rank of Sergeant with the Beaumont Police Department. The salary and benefits for this position are shown as an in-kind match and are based on actual figures.

Crime Prevention Officer: This officer will prepare and maintain ABTPA Public Awareness Activity Sheets, develop and present crime prevention and awareness programs, conduct media interviews related to Task Force accomplishments and programs, assist Task Force investigators on criminal investigations and covert operations, maintain all surveillance equipment and assist with its use during investigations and covert operations, and conduct follow-up investigations as assigned by the Supervisor or Project Director.

Personnel

This position will be funded with ABTPA funds, equaling 98.5%, with clothing allowance, clothing maintenance, and all fringe benefits cash matched. This investigator will spend 100% of the time on auto crime/grant related activities.

Inspections Officer: This officer will coordinate the inspection of salvage dealers and repair shops within the scope of the Task Force's jurisdiction, monitor local auctions where insurance totaled vehicles are sold, coordinate covert sting operations as needed to identify salvage dealers and repair shop owners who are operating illegally, coordinate VTR-68A inspections for our office and conduct follow-up investigations as assigned by the Supervisor or Project Director. This position will be funded with ABTPA funds, equaling 98.3%, with clothing allowance, clothing maintenance, and all fringe benefits cash matched. This investigator will be devoted 100% of the time to auto crime/grant related activities.

Beaumont Police Investigator: This investigator will: conduct investigations on Beaumont Police Department auto related cases as assigned, prepare and present completed cases to the D.A., identify and develop suspects, make recommendations on special projects based on identifiable trends, forward information on suspects and trends to the Crime Prevention Officer, assist with special projects and operations when available and assist with inspections of salvage yards and repair shops as needed. This position's salary and benefits are shown as an in-kind match.

Beaumont Police Investigator: This investigator will conduct investigations on Beaumont Police Department auto related cases as assigned, prepare and present completed cases to the D.A., identify and develop suspects, make recommendations on special projects based on identifiable trends, forward information on suspects and trends to the Crime Prevention Officer, assist with special projects and operations when available and assist with inspections of salvage yards and repair shops as needed. This position's salary and benefits are shown as an in-kind match.

Port Arthur Police Investigator: This investigator will conduct investigations on Port Arthur Police Department auto related cases as assigned by that department, prepare and present completed cases to the D.A., identify and develop suspects, make recommendations on special projects based on identifiable trends, forward information on suspects and trends to the Crime Prevention Officer, assist with special projects and operations when available and assist with inspections of salvage yards and repair shops as needed. This position will be funded with ABTPA funds, equaling 97.5%. This investigator will be devoted 100% of the time to auto crime/grant related activities.

Hardin County S.O. Investigator: This investigator will: conduct investigations on Port Arthur Police Department auto related cases as assigned by that department, prepare and present completed cases to the D.A., identify and develop suspects, make recommendations on special projects based on identifiable trends, forward information on suspects and trends to the Crime Prevention Officer, assist with special projects and operations when available and assist with inspections of salvage yards and repair shops as needed. This position will be funded with ABTPA funds, equaling 100%. This investigator will be devoted 100% of the time to auto crime/grant related activities.

Jefferson County S.O. Investigator: This investigator will conduct investigations on Jefferson County auto related cases as assigned by that department, prepare and present completed cases to the D.A., identify and develop suspects, make recommendations on special projects based on identifiable trends, forward information on suspects and trends to the Crime Prevention Officer, assist with special projects and operations when available and assist with inspections of salvage yards and repair shops as needed. This

Personnel

position will be funded with ABTPA funds, equaling 100%. This investigator will be devoted 100% of the time to auto crime/grant related activities.

Fringe/Overtime

Fringe Benefits	% or $ Rate	ABTPA Funds	Cash Match	In-Kind	Total
Overtime	47	$14,664	$0	$0	$14,664
Total Overtime		**$14,664**	**$0**	**$0**	**$14,664**

Narrative

In order to effectively combat auto related crimes it is often necessary for personnel to work more than their scheduled hours. With the restrictive overtime budgets of participating agencies, ensuring that investigators are able to give the highest quality service whenever it is needed is already difficult. Budgeted overtime would ease this burden and also allow for planned operations that would not otherwise be possible.

1. Funded overtime will be used:
- To conduct after hours surveillance on known criminals or suspected crime locations,
- To perform special operations after hours such as "stings", undercover, or bait vehicle activities,
- To complete limited follow-up on investigations that require after hours interviews or investigation
- To present a limited number of public awareness activities that take place outside normal hours of operation, and
- To respond to after hours call outs of investigators to assist with or conduct follow-up on auto crimes.

2. Need is based on an average of six hours per week for the entire task force. The average overtime rate of investigators is approximately $47.00 per hour.
6 hours per week x 52 weeks = 312 hours
312 hours x $47 = $14,664

Note: Your Total ABTPA Funds for Fringe Benefits may only be a maximum of 25% of your Total ABTPA Direct Salaries.

Fringe Benefits	% or $ Rate	ABTPA Funds	Cash Match	In-Kind	Total
FICA		$15,308	$3,418	$1,918	$20,644
Retirement		$0	$80,808	$44,607	$125,415
Insurance		$32,193	$37,500	$37,500	$107,193
Other (Explain)					
Workers Comp		$6,805	$0	$0	$6,805
Other (Explain)					
Unemployment		$44	$0	$0	$44
Other (Explain)					
Terminating Pay		$1,338	$0	$0	$1,338
Total Fringe Benefits		$55,688	$121,726	$84,025	$261,439
Total Fringe/Overtime Budget		$70,352	$121,726	$84,025	$276,103

Narrative

Fringe benefits include FICA, retirement withholdings, and health insurance for all four agencies represented by the Task Force, Workers Comp and TEC figures for Jefferson and Hardin Counties and the

Fringe/Overtime

City of Port Arthur, and Terminating Pay for the Port Arthur investigator. The City of Beaumont withholds FICA at a rate of 1.45% (except for Sgt. Karr who was hired before April 1, 1986 and has no funds withheld for FICA) while the other agencies withhold at 7.65%. Retirement withholdings are taken out at the following rates: City of Beaumont – 20.42%, Jefferson County – 17.6 %, City of Port Arthur – 13.9% and Hardin County – 10.6%. Health insurance is also set by each agency. Worker's Compensation, TEC and terminating pay are not associated with the total expense of Beaumont officers and only Port Arthur figures in for terminating pay (figured at 2%). Workers Comp and TEC are figured together for Jefferson County and the City of Port Arthur at 5% and 3.48% respectively. Hardin County figures Workers Comp at 1.74% and TEC at 0.08%.

Upload additional information:

Grant Staff Only:

Check to disable 25% match error check.

Automobile Burglary & Theft Prevention Authority

Organization: City of Beaumont

2015-T01-City of -00014

Professional and Contractual Services

Description of Service	ABTPA Funds	Cash Match	In-Kind Match	Total
				$0
				$0
				$0
				$0
				$0
				$0
				$0
Total Professional & Contractual Services	**$0**	**$0**	**$0**	**$0**

Briefly describe any anticipated contractual arrangement and work products expected.
Describe basis for arriving at the cost of each line item.
Professional services (such as consultants, trainers, counselors, evaluators, etc.)
should be described by type of service, number of hours, rate per hour, and travel costs.
No services of this nature are anticipated.

Upload additional information:

Travel

We are following our City / County Travel Policy

In-State Travel

Purpose	Destination	ABTPA Funds	Cash Match	In-Kind Match	Total
ABTPA Conference	Fort Worth, Texas	$4,872	$0	$0	$4,872
ABTPA Board Meeting	Austin, Texas	$218	$0	$0	$218
ABTPA Grant Workshop and Board Meeting	Austin, Texas	$1,576	$0	$0	$1,576
TAVTI Conference	San Marcus, Texas	$4,130	$0	$0	$4,130
		$0	$0	$0	$0
		$0	$0	$0	$0
		$0	$0	$0	$0
		$0	$0	$0	$0
		$0	$0	$0	$0
In-State Travel Total		**$10,796**	**$0**	**$0**	**$10,796**

Out-of-State Travel

Purpose	Destination	ABTPA Funds	Cash Match	In-Kind Match	Total
		$0	$0	$0	$0
		$0	$0	$0	$0
		$0	$0	$0	$0
Out-of-State Travel Total		**$0**	**$0**	**$0**	**$0**

Total Travel Budget	**$10,796**	**$0**	**$0**	**$10,796**

Briefly describe the applicant's travel policy (i.e., mileage rates and per diem rates). Specify Purposes for each item of travel. Break out costs of each in-state and each out-of-state trip to separately show the specific costs of transportation and per diem.
The City Of Beaumont's Travel Policy provides for mileage expense of $0.565 per mile for use of personal vehicles and variable maximum federal guideline per diem rates. The regular rate is $46 and will be used unless otherwise noted. The per diem rate will be utilized for all Task Force members regardless of agency. Mileage expenses for personal vehicle use are not expected. Unless otherwise noted, hotel rates are figured based on $109 per night, plus 15% tax – totaling ($125.35) $126 per night. This figure was used since it has been a common government rate that the ABTPA has secured in the past.

This year it is anticipated, that as in the past, one of the ABTPA Board Meetings will be held in conjunction with the TAVTI conference in San Marcus, Texas and another in conjunction with the annual ABTPA summit in Fort Worth. Attendance at the Board Meetings is vital to staying informed of new policies and initiatives. In addition to representing our Task Force and the ABTPA, attending the conference and summit will provide our investigators with updated training, as well as an opportunity to network with other regional vehicle crime investigators.

Travel

• ABTPA Conference, Board Meeting and Grant Review: Based on 7 people attending for six days and five nights – including travel time.
Hotel: $126 x 5 nights x 4 rooms = $2,520
Per Diem: $56/ day x 6 days x 7 = $2,352
Based on the rate of $71.00 for the Fort Worth area.
Total: $4,872

• ABTPA Board Meeting: Based on one person attending a Board Meeting and Grant Advisory Board Meeting or Border Solutions Meeting held in conjunction with it. Trip is figured as an overnight stay and given per diem covering lunch and dinner on the first day, and per diem covering breakfast and lunch on the return day which ends up being one day plus lunch.
Hotel: $126 x 1 nights = $126
Per Diem: $71/day + $21/lunch = $ 92
Based on the rate of $71.00 for the Austin area.
Total: $218

• ABTPA Grant Application / Public Awareness workshop and Board Meeting: Based on three people attending the Workshop, two Task Force members and a representative from the Finance Office. Task force members will stay a third night to attend the Board Meeting the following day.
Hotel: $126 x 3 nights x 2 = $756
$126 x 2 nights x 1 = $252
Per Diem: $71/day x 3 days x 2 = $426
$71/day x 2 days x 1 = $142

Based on the rate of $71.00 for the Austin area.
Total: $1,576

• TAVTI conference and ABTPA Board Meeting in San Marcus, TX: Based on seven persons attending for five days and four nights – including travel time. Registration is addressed in Schedule E.
Hotel: $126 x 5 nights x 4 = $2,520
Per Diem: $46/ day x 5 days x 7 = $1,610
Total: $4,130

Grand Total: $ 10,796

Upload additional information:

Equipment

Equipment Name or Description and Quantity (Do not List Brand Names)	ABTPA Funds	Cash Match	In-Kind Match	Total
3/4 Ton Truck	$27,660	$6,000		$33,660
1/2 Ton Truck	$22,940	$6,000		$28,940
				$0
				$0
				$0
				$0
				$0
				$0
				$0
				$0
Total Equipment Purchases	**$50,600**	**$12,000**	**$0**	**$62,600**

Briefly describe the use of equiptment and the cost of each line item.

Vehicle – full size ¾ Ton 4-door 4X4 truck Cost: $ 33,660

One full size ¾ Ton 4-door truck will be driven by investigator for surveillance and investigative purposes within the project area. The vehicle will also be used to tow heavier trailers seized or used by the Task Force and driven out of town for approved investigations, ABTPA events and approved training. As part of our vehicle rotation, this vehicle will replace a 2006 Ford, with approximately 130,000 miles, which will be sold at auction for program income. Program income will be used for the $5,000 cash match on this new vehicle significantly deferring the cost of this new unit, and reducing our overall monthly cost to operate vehicles. Cost estimate is based on current State of Texas Term Contract and may be subject to increase on next model year vehicles. Any additional funds required for purchase will be provided through Program Income as an additional cash match.

Vehicle – full size 4-door 4X4 truck Cost: $ 28,940

One full size 4-door 4X4 truck will be used similarly as the vehicle listed above. This vehicle will replace a 2007 Ford, with approximately 135,000 miles, which is currently assigned to the Hardin County Investigator and is regularly used in a more rural setting. That vehicle will be sold at auction for program income. Program income will be used for the $5,500 cash match on this unit as with the vehicle listed above. Cost estimate is based on current State of Texas Term Contract and may be subject to increase on next model year vehicles. Any additional funds required for purchase will be provided through Program Income as an additional cash match.

Upload additional information:

Supplies and DOE

Directly Charged Supplies and Other Operating Expenses	ABTPA Funds	Cash Match	In-Kind Match	Total
Office Lease	$52,650			$52,650
Office and Field Supplies	$4,500			$4,500
Office Maintenance	$3,425			$3,425
Office Utilities	$5,000			$5,000
Office Phone Service	$7,040			$7,040
Public Awareness Advertising	$9,000			$9,000
Monitoring Fees	$2,660			$2,660
Cell Phone Service	$6,180			$6,180
Vehicle Insurance	$1,046			$1,046
Postage	$50			$50
Registration Fees - TAVTI Conference	$1,050			$1,050
Vehicle Lease			$7,200	$7,200
Fuel and Vehicle Maintenance		$51,656	$6,457	$58,113
Confidential Funds		$1,000		$1,000
				$0
Total Supplies and Direct Operating Expenses	**$92,601**	**$52,656**	**$13,657**	**$158,914**

Briefly describe the basis for arriving at the cost of each line item and the use of each other item.
Office Lease Cost: $52,650
Lease is for office space for investigators and warehouse space to house the Task Force's vehicle lift and storage of seized property. Price based on current payments of $4,387.50 per month.

Office & Field Supplies Cost: $4,500
These funds are used to purchase office supplies such as copy and photo paper, storage media, backup tapes, copier and fax toner and repair, ink cartridges, presentation / binding materials, etc. They also cover field supplies such as hand cleaner, paper towels, degreaser, paint, paint stripper, sanding material, acid restoration materials, disposable gloves, etc as well as expendable items such as flashlight batteries and task force work shirts. The cost is based on an estimate using current year expenditures.

Office Maintenance Cost: $3,425
The cost of cleaning and maintaining the office and warehouse is based on the current price of $250 per month plus $425 to strip and wax the floors.

Office Utilities Cost: $5,000
The cost is based upon the electricity and water bills over the last 12 months and the anticipated cost of providing these utilities to the additional warehouse space.

Office Phone Service Cost: $ 7,040
Office phone service is made up of two charges. The first charge is for the cost of office phones. Office phone expense for the year is estimated at $5,000. This amount is based on the phone bills for the last twelve months. The second cost is for a data line for communication with city and county computers. Cost for the data line has been a recurring charge of $170 per month, for a yearly cost of $2,040.

Public Awareness - Advertising Cost: $9,000

Supplies and DOE

In order to increase public awareness the task force maintains one highway billboard sign. The sign is periodically moved to different locations within the project area providing the coverage area with a constant reminder to be wary of auto thieves and burglars. Depending on the location of its placement the sign generates an estimated 800,000 to 1.8 million impressions per month. The monthly cost of displaying the sign is $500 per month. The task force also maintains a kiosk display at one of the area malls at a rate of $250 per month. The kiosk features a static display of items associated with auto related crimes along with posters, signs and other material focused on prevention of these crimes. It also serves as a distribution point for pamphlets. The kiosk is estimated to create approximately 10,000 impressions a day based on Mall attendance.

Monitoring Fees Cost: $2,660

Bait vehicle system monitoring fees include monthly GPRS communication (air time), which costs $40 per month for 12 months equaling $480 and call center monitoring at an annual rate of $1,220. These costs are an estimated based on current charges for the same service. Additionally, the Task Force operates a camera system that can be used with or separately from the bait system. Charges for monthly air time are currently $40 per month leading to a yearly total of $480. A similar air time fee is paid for the use of our portable tracking device also at a rate of $40 per month for a yearly total of $480. These four monitoring fees total $2,660.

Cellular Phone Service Cost: $6,180

Service cost is based upon the current agency allowance prices for phones for each of the nine investigators. These average just over $57 per month, per person.

Vehicle Insurance Cost: $1,046

This is the unit cost paid by Hardin County for insurance on the vehicle driven by their investigator. Each of the other participating agencies is self insured and provides their own coverage.

Postage Cost: $50

These funds are used to pay fees from the US Postal Service and other delivery services such as UPS for transmittal of documents and packages. Many of our required reports to ABTPA are time sensitive and occasionally have to be sent with priority delivery. The cost is estimated based on sending four mailings to ABTPA at $7.12 each and one mailing with priority delivery at $22 each – totaling $50.00.

TAVTI Conference Registration Cost: $1050

The registration fee for the annual Conference put on by the Texas Association of Auto Theft Investigators is $150 per attendee. Total cost is based on seven officers attending.

Vehicle Lease Cost: $7,200

The cost of vehicle lease is figured for one vehicle at $600/month or $7200/year based upon the estimate from a local dealer operating a statewide leasing program to law enforcement agencies. The Beaumont Police Department is currently providing one vehicle for investigators. Because the provision of this vehicle was previously budgeted by the Beaumont Police Department, it's cost is shown as an in-kind match.

Fuel, Oil, & Maintenance Cost: $58,113

Fuel costs are estimated based on 18,000 miles per year, 14 miles per gallon x $3.00 per gallon, totaling $3,857 per vehicle per year. Oil changes and other maintenance costs are estimated at $2,600 per vehicle per year for expendables such as tires, brakes, shocks, as well as other needed repairs. This amount is

Supplies and DOE

based on the current average yearly maintenance costs for the same vehicles. Adding the fuel and maintenance costs give an average cost per vehicle of $6,457 per year x 9 vehicles, which totals $58,113. The $6,457 shown for one of the budgeted vehicles from the Beaumont Police Department is listed as an in-kind match, while the $51,656 for the remaining eight vehicles used by the Task Force is shown as a cash match.

Confidential Funds Cost: $1,000
This is the estimated amount needed for undercover purchases and operations. It is shown as a cash match and will be funded with Program Income funds.

Upload additional information:

Indirect Cost

	ABTPA Funds	Cash Match	In-Kind Match	Total
Indirect Costs				$0
Total Indirect Costs				**$0**

Currently ABTPA does not fund indirect costs, except for the Council of Government agencies. Applicants my not use option (A) without having an official cost allocation plan developed in accordance with OMB Circular No. A-87. The amount may be entered as ABTPA funds or cash match for those applicants having such an approved plan.

N/A

Problem Statement & Historical Information

a. Provide an assessment of the auto theft and burglary problem in the areas of coverage and existing activities that address the problem. Identify the target population and the geographical target area.

The Task Force provides a multi-agency effort to reduce auto related crimes within Jefferson, Orange, Hardin and Jasper Counties. The counties have a combined population of 432,103 with more than half of the residents living in Jefferson County. The Task Force is staffed with personnel from the Beaumont and Port Arthur Police Departments and the Jefferson and Hardin County Sherriff's Offices.

According to TxDOT there are 406,752 vehicles registered in the four counties in 2013. As with population, more than half were in Jefferson County which is primarily urban and suburban areas. Orange County accounts for more than one fifth of the total and is primarily suburban and rural in nature. Jasper and Hardin Counties split the remaining vehicles registered and are markedly more rural with most areas being heavily wooded.

The Task force has been actively combating auto thefts since it was formed. Through thorough investigation, development of suspects, crime prevention awareness and education along with the use of surveillance, covert patrol, bait vehicle operations and the inspection of salvage operations and repair shops Task Force personnel have done their best to impact auto related crimes.

Despite these efforts, auto related crimes continue to be a major problem with a significant economic impact. There were still over 800 vehicles stolen and more than 2500 vehicles burglarized in 2013 within the project area.

b. Describe the extent to which this project will duplicate or overlap existing activities, and why that (if any) is necessary.

No other auto theft grant program operates within our coverage area. As such, this project will not duplicate any existing activities.

c. Describe and document trends of the problem and the need that makes this grant necessary.

Despite a steady decline in auto thefts since 1993, the crime continues to have a significant impact on the local economy. A decreased sense of security and increased insurance premiums are two areas directly affected by auto crimes.

Unfortunately many stolen vehicles are not recovered; some are leaving the area; others are sold for scrap. Increased value of recycled metal has forced us to look more closely at the industry. With a large number of recyclers in the area, considerable time must be devoted to dealing with these businesses and coordinating with other law enforcement and regulatory agencies.

While fewer vehicles are stolen, the number taken with keys left in them seems to rise. Public awareness and education are the best tools to impact this problem and are the same tools

used to combat auto burglaries. Our efforts to increase awareness and education must be sustained, fortified and improved.

Auto burglaries and thefts are still significant problems that require an organized response that is preemptive as well as responsive. By investigating reported crime, developing suspects, arresting and prosecuting offenders, together with innovative public awareness and education initiatives, creative bait and covert operations and tenacious attention to scrap yards, salvage operators and repair shops the Task Force can impact auto related crimes in a positive way.

d. Using the spreadsheet below, provide accurate statistical data for problem in project area. (e.g. cite 3 years of UCR data) Please provide all data that is available for your agency or agencies:

Vehicle Theft Data	Year 1	Year 2	Year 3
	2011	2012	2013
Number of Stolen Vehicles	827	848	804
Number of Recovered Vehicles	243	246	147
Number of Arrests	92	109	59
Number of Auto Theft Training Classes	0	1	1
Number of (other)			

Theft from a Motor Vehicle Data	Year 1	Year 2	Year 3
	2011	2012	2013
Number of Burglaries of a Vehicle	3225	2376	2590
Number of Recovered Items	77	27	5
Number of Arrests	14	13	7
Number of (other)			
Number of (other)			

Other Motor Vehicle Crimes	Year 1	Year 2	Year 3
	2011	2012	2013
68A Inspections	240	174	808
Salvage Inspections	33	34	31
Number of Stolen Vehicle Inquiries	2868	2478	2980
Number of (other) Repair Shop Inspections	76	76	80

Proposed Objectives

a. Select the standard goal and describe the specific objectives of the project. Include any quantifiable data by which activities measure.

Auto Theft Goal

GOAL 1: REDUCE THE INCIDENT OF MOTOR VEHICLE THEFT.

- Objective 1: Initiate eighteen (18) special operations (also listed in Goals 2 and 5).
- Objective 2: Conduct thirty (30) inspections of salvage yards and enforce related laws.
- Objective 3: Conduct seventy-five (75) inspections of repair shops and enforce related laws.

Auto Burglary Goal

GOAL 2: REDUCE THE INCIDENT OF THEFT FROM A MOTOR VEHICLE.

- Objective 1: Initiate eighteen (18) special operations (also listed in Goals 1 and 5).
- Objective 2: Perform six (6) Report Card (Mock Citation) Initiatives (included in Goal 3).
- Objective 3: Participate in information sharing by coordinating with patrol, CID, or intelligence units of law enforcement agencies within coverage area weekly (52).

Public Awareness Goal

GOAL 3: PUBLIC AWARENESS METHODS USED TO EDUCATE THE CITIZENS OF TEXAS AND TRAINING OF QUALIFIED PERSONNEL IN THE DETECTION AND PREVENTION OF AUTO BURGLARY & THEFT.

- Objective 1: Offer one (1) eight hour training class for law enforcement officers and provide local agencies with the materials for roll call training sessions a minimum of four (4) times.
- Objective 2: Conduct twenty-six (26) media events including the monthly display of the Task Force billboard and web site as well as a minimum of two (2) press releases.
- Objective 3: Conduct twenty (20) public awareness events including presentations to various community groups, working public awareness events (also listed in Goals 7 and 8), participating in at least six Report Card Initiatives (also listed in Goal 2), displaying an informational kiosk and initiating mass mailings (also listed in Goal 6).

Grantee Goals

GOAL 4: HELP INCREASE THE RECOVERY RATE OF STOLEN MOTOR VEHICLES.

- Objective 1: Utilize the Task Force's license plate reader on a monthly (12) basis.
- Objective 2: Conduct 1500 vehicle inspections including 68-A inspections, those conducted while inspecting salvage yards and repair shops or through traffic stops or follow-up investigations (also listed in Goal 7).
- Objective 3: Conduct four (4) sweeps of locations such as commonly used for dumping stolen vehicles.

Grantee Goals

GOAL 5: THE NUMBER OF PERSONS ARRESTED FROM MOTOR VEHICLE THEFT.

- Objective 1: Initiate eighteen (18) special operations (also listed in Goals 1 and 2).
- Objective 2: Check the Task Force offender database quarterly (4) to ensure that it is being continually updated.
- Objective 3: Conduct two (2) "Warrant Roundups" for auto theft and auto burglary suspects.

Grantee Goals

GOAL 6: THE CLEARANCE RATE OF MOTOR VEHICLE THEFTS.

- Objective 1: Conduct twelve (12) reviews of uncleared cases ensure that proper follow-up was conducted and that all leads have been exhausted.
- Objective 2: Solicit new leads on inactive cases by contacting complainants via twelve (12) mass

mailings (included in Goal 3).

• Objective 3: Participate in information sharing by coordinating with patrol, CID, or intelligence units of law enforcement agencies within coverage area weekly (52).

Grantee Goals

GOAL 7: PREVENT THE INCIDENT OF FRAUDULENT TITLES AND REGISTRATION OF STOLEN VEHICLES.

• Objective 1: Conduct 1500 vehicle inspections including 68-A inspections, those conducted while inspecting salvage yards and repair shops or through traffic stops or follow-up investigations (also listed in Goal 4).

• Objective 2: Maintain good working relationship with area Tx DMV/TxDOT personnel and meet with them at least four (4) times.

• Objective 3: Conduct twenty (20) public awareness events (included in Goals 3 and 8) including presentations to various community groups, working public awareness events, participating in at least two Report Card Initiatives, displaying an informational kiosk and initiating mass mailings (also listed in Goal 6).

Grantee Goals

GOAL 8: REDUCE THE INCIDENT OF AUTOMOBILE INSURANCE FRAUD.

• Objective 1: Conduct twenty (20) public awareness events (included in Goals 3 and 7) including presentations to various community groups, working public awareness events, participating in at least two Report Card Initiatives, displaying an informational kiosk and initiating mass mailings (also listed in Goal 6).

• Objective 2: Assist with identification of burned vehicles and/or collaborate with local arson investigators at least four (4) times.

• Objective 3: Include insurance fraud detection training and awareness in one (1) eight hour class for local law enforcement and two (2) public awareness presentations.

b. Describe how the project will impact the stated problem.

The project will impact the stated problem by providing specific activities aimed at the reduction and prevention of auto related crimes.

• Public awareness and crime prevention activities, including billboard advertising, are meant to educate the public about to how to prevent vehicle crimes. These efforts should make the public more wary of criminals and less likely to be victimized.

• Public awareness presentations are also designed to educate the public on the prevention of crime as well as to identify ways that the public can assist law enforcement in combating these crimes.

• Our website and Facebook page will continue to make the Task Force more accessible to the public and help disseminate information on auto theft and burglary prevention.

• Bait vehicle operations, surveillance and sting details aim to apprehend criminals in the act and provide for effective prosecution of those arrested.

• Conducting salvage and repair inspections will educate those operating in these areas and encourage them to obey related laws. We believe that this will minimize opportunities for criminals to profit from auto related crimes. These inspections are also likely to lead to the location of stolen property which in turn could lead to the development of suspects, arrests and prosecution of criminals.

• Utilizing the Task Force's license plate reader will directly lead to the location of stolen vehicles. Those stolen vehicles located while in use are likely to produce suspects and arrests.

• Actively participating in information sharing will lead to the identification of trends and areas to be targeted with responses.

Proposed Objectives

- Mailings sent to victims of auto crimes that have been inactivated will use promotional material to inform them of ways to avoid being victimized in the future as well as provide one last request for leads.
- Sweeps of locations commonly used as dump sites for stolen vehicles such as canals, canal banks, trails, alleys and wooded areas directly lead to locating stolen vehicles and dissuading future criminal use of the area.

c. Describe proposed plan for auto theft crime prevention, education and training.

Crime prevention, education and training can be broken down into efforts to educate the public through media, efforts to educate the public through direct contact, and training of law enforcement personnel. The Task Force's Public Awareness Officer will direct Task Force efforts to impact these three areas. He will act as liaison to members of the press and actively seek opportunities to spread the Task Force's crime prevention message; he will energetically pursue opportunities to reach the public through speaking engagements and personal appearances at community events; and he will enthusiastically teach law enforcement officers to hone their skills with regard to recognizing stolen vehicles, boats and heavy equipment. The Task Force will also maintain the www.watchyourcars.com website, the Task Force Facebook page, a highway billboard displaying an ABTPA endorsed sign and an informational kiosk at a local mall.

Functions Of Proposed Project

The functions of the project should:
Identify the service needs to be met by the project and the applicant's experience or qualifications.
Describe how this project will cooperate/coordinate activities with other appropriate agencies/projects.
Describe in what way (if any) is this project innovative and what methods taken to assure that the project demonstrates cross-cultural awareness in all project activities and in its staffing and training.

The public relies on police for investigation of crimes, identification and arrest of suspects, and crime prevention. Through investigation, surveillance, bait and sting operations combined with public awareness and education this task force provides these services as they relate to auto crimes. We also provide the primary resource for 68-A inspections within the coverage area as well as to several surrounding counties.

In addition to the services provided directly to the public, the Task Force regularly provides assistance to local law enforcement agencies, insurance investigators and DMV and TxDOT personnel. Whether assisting arson investigators identifying burned vehicles, inspecting vehicles with suspicious looking VINs for patrol officers or helping other detectives serve warrants on crossover investigations, Task Force Investigators are always willing to lend their expertise and support.

The Task Force has been on the leading edge of the fight against auto related crimes since its inception being one of the first to host a comprehensive web site and to have a Facebook page. The Task Force embraces training and strives to give every member of the community fair and culturally sensitive service. Additionally, most information disseminated is provided in a multilingual format. Further, project activities are based on problems identified through thorough analysis allowing for easy recognition of culturally sensitive issues.

Evaluation Design

The program evaluation should indicate how the applicant will assess the sucess of the project and the extent to which the strategy achieved the project's goals and objectives.

a. Describe the design of a plan for local evaluation of this project.

The local evaluation process establishes accountability and measurement of progress through collection of data and information throughout the chain of command. Investigators are required to keep activity logs and submit monthly reports to the Project Director. In addition to these reports the Task Force's Public Awareness Officer submits a monthly Activity Report to the Project Director for review while the Inspections Officer submits detailed reports on all salvage and repair shop inspections. The Task Force Supervisor reviews cases and monitors the activities of investigators. The Project Director maintains records of all activity and spending and reports periodically to the Task Force's Board of Directors, which is comprised of the department heads of the participating agencies.

b. Cite relevant data that will be used to measure the effectiveness of this project.

UCR data for all agencies within the project area will be closely monitored to determine the overall impact of Task Force efforts. Personal activity logs and specific reports will be maintained to log progress on stated objectives. These include information detailing such things as the number of bait operations, inspections and public awareness initiatives performed. They will also record other items like arrests made, cases filed and vehicles recovered.

c. Describe the mechanism to evaluate the programs progress.

Progress of the program will be evaluated monthly. Each investigator will complete a monthly report based on ABTPA reporting categories and the specific objectives of this grant. Each report will be accompanied by documentation supporting the information given. The Project Director will then compile that information into the monthly Progress Report submitted to the ABTPA. The Project Director will also periodically report on the programs progress to the Task Force Board of Directors.

Designation of Grant Officials

Project Title: Southeast Texas Auto Theft Task Force

Organization Name City of Beaumont

Address PO Box 3827
Beaumont, TX 77704
Phone: (409) 654-3600
Fax: (409) 842-2835

Federal Tax ID 17460002789000

ABTPA Funds Requested $672,286

New ✓ Continuation

Project Director
Prefix Mr. First Name: Chris Last Name: Schuldt
Title Lieutenant Business Address: 2430 West Cardinal Drive Suite C
City Beaumont State: Texas Zip: 77705
Phone (409) 654-3600 Fax: (409) 842-2835 E-Mail: gcschuldt@gmail.com
Alternate Signature Name
Phone (409) 656-9168

Project Manager
Prefix Mr. First Name: Kenneth Last Name: Karr
Title Sergenat Business Address 2430 West Cardinal Drive Suite C
City Beaumont State Texas Zip 77705
Phone (409) 730-4450 Fax: (409) 842-2835 E-Mail: kkarr@ci.beaumont.tx.us
Alternate Signature Name
Phone

Financial Officer
Prefix Ms. First Name Laura Last Name Clark
Title Chief Financial Officer Business Address P.O. Box 3827
City Beaumont State Texas Zip 77704
Phone (409) 880-3789 Fax (409) 880-3132 E-Mail lclark@ci.beaumont.tx.us
Alternate Signature Name
Phone

Authorized Official
Prefix Mr. First Name Kyle Last Name Hayes
Title City Manager Business Address P.O.Box 3827
City Beaumont State Texas Zip 77704
Phone (409) 880-3708 Fax (409) 880-3112
E-Mail khayes@ci.beaumont.tx.us
Alternate Signature Name
Phone

Americans w/ Disabilities Act (ADA)

The Grantee hereby assures and certifies compliamce with Subchapter II, Part A of the Americans with Disabilities Act (ADA), 42 U.S.C., Sections 12131-12134, and Department of Justice ADA regulations, 28 CFR Part 35.

✔ I have read and understood the instructions provided.

Non-Supplanting Certification

I certify that the programs proposed in this application meet all the requirements of the Texas Civil Statutes, Article 4413(32a), §6(a)(7), (a) Texas Civil Statutes, Article 4413(32a), §6(a)(7), requires that state funds provided by this Act shall not be used to supplant state or local funds. Public Law 98-473 requires that federal funds provided by that Act shall not be used to supplant state or local funds.

I further certify that ABTPA funds have not been used to replace state or local funds that would have been available in the absence of ABTPA funds. The certification shall be incorporated in each grantee's report of expenditure and status of funds referred to under §57.3(6) of this title (relating to Adoption by Reference).

✔ I have read and understood the instructions provided.

Automobile Burglary & Theft Prevention Authority

Organization: City of Beaumont

2015-T01-City of -00014

Compliances

The attached digest of your grant application represents the Automobile Burglary & Theft Prevention Authority Board's approved amount. The digest represents budgeted amounts only and does not approve any items that conflict with the participating agency's personnel, procurement, travel, or local government code policies and procedures.

The grantee will be responsible in determining that the following requirements are being met prior to the release of funds:

1. Salaries are in accordance with local policy of the participating agencies.

2. Personnel are classified in accordance with the needed qualification for the position.

3. Fringe Benefits are in accordance with local policy of the participating agencies.

4. Travel Policy is in accordance with the travel policy of the participating agencies.

✔ I have read and understand the instructions provided.

Equal Employment Opportunities (EEO)

Agencies that employ fewer than 50 people are not required to file an equal opportunity program in accordance with 28 CFR 42.301 etseq., Subpart E.

Agencies that employ 50 or more people and has received or applied to the Automobile Burglary & Theft Prevention Authority for total funds in excess of $25.000 are considered to have formulated an equal employment opportunity program in accordance with 28 CFR 42.301 et seq.

This agency employs fewer than 50 people.
✔ No Yes

If yes above, please provide the office of record.

Name
Title
Address
City
State **Zip Code**

Assurances

ASSURANCES CERTIFICATION

I certify that the programs proposed in this application meet all the requirements of the Texas Automobile Burglary & Theft Prevention Authority Program, that all the information presented is correct, and that the applicant will comply with the provisions of the Automobile Burglary & Theft Prevent Authority and all other federal and state laws, regulations, and guidelines. By appropriate language incorporated in each grant, subgrant, or other document under which funds are to be disbursed, the undersigned shall assure that the applicable conditions above apply to all recipients of assistance.

✔ I have read and understand the instructions provided.

Independent Annual Audit Certification

The grantee assures compliance by itself and its applicable sub-recipients (contractors) with the Single Audit Act Amendments of 1996, P.L. 104 - 156 and, particularly, with the requirements of OMB Circular A-133 as follows (check one):

1. Grant(s) expenditures of $300,000 or more in federal funds-
   An annual single audit by an independent auditor made in accordance with the Single Audit Act Amendments of 1996 and OMB Circular A-133.

✔ 2. Grant(s) expenditures of $300,000 or more in state funds-
   An annual single audit by an independent auditor made in accordance with the Uniform Grant and Contract Management Standards (UGCMS).

3. Grant(s) expenditures of less than $300,000 in federal funds-
   Exempt from the Single Audit Act. However, ABTPA may require a limited scope audit as defined in OMB Circular A-133.

4. Grant(s) expenditures less than $300,000 but $50,000 or more in state funds. A program-specific audit.

5. Grant(s) expenditures less than a total of $50,000 in state funds-
   Financial Statements audited in accordance with Generally Accepted Audited Standards (GAAS).

***NOTE:* Grantees exempt from the Single Audit Act requirements (i.e. those expending less than $300,000 in total federal financial assistance) are prohibited from charging the cost of a Single Audit to a Federal award.**

Regardless of items checked above, the grantee should, within 60 days following the date of the grant award, furnish the following information:

1. The identity of the organization conducting the audit.

2. Approximate time audit will be conducted.

3. Audit coverage to be provided.

EXHIBIT B

Watch Your Car
TEXAS AUTO BURGLARY & THEFT PREVENTION AUTHORITY

BOARD OF DIRECTORS

Chief Carlos Garcia
Board Chair
Law Enforcement Representative
Port of Brownsville
Brownsville, Texas

Steven C. McCraw
Ex Officio Member of the Board
Major Wynn Reynolds
Texas Department of Public Safety
Austin, Texas

Chief Deputy Mark Wilson
Law Enforcement Representative
Hill County Sheriff's Dept.
Hillsboro, Texas

Linda Kinney
Consumer Representative
Dripping Springs, Texas

Ken Ross
Insurance Representative
State Farm Insurance
Houston, Texas

Ashley Hunter
Insurance Representative
HM Risk Group
Austin, Texas

Jerry Wright
Consumer Representative
El Paso, Texas

Staff

Ginny Booton
Interim Director

Anna Mallett
Grant Coordinator

Rachel Snell
Public Affairs Coordinator

Mary Dominguez
Grant Coordinator

Barbara Matthys
Administrative Assistant

July 16, 2014

Lt. Chris Schuldt
P.O. Box 3827
Beaumont, Texas 77704

Re: GRANT NBR: 2015-T01-City of-00014 YEAR OF FUNDING: 23
APPLICATION: City of Beaumont
TITLE: Southeast Texas Auto Theft Task Force
AMOUNT: $ 564,338

Dear Lt. Schuldt:

I am pleased to inform you that the above referenced grant is approved in the amount indicated. The grant award must be accepted within 30 days by completing and returning the enclosed grantee acceptance notice to the Texas Automobile Burglary & Theft Prevention Authority.

I look forward to working with you to ensure the success of your program. Any questions relating to the administration of this grant should be directed to our office by calling the Grant Coordinator, Mary Dominguez at (512) 465-1383.

Sincerely,

Ginny Booton
Interim Director

Texas Department of Motor Vehicles
4000 Jackson Avenue – Austin, Texas 78731 – 512/465-4011 – Fax 512/465--3775
www.txwatchyourcar.com

Watch Your Car
TEXAS AUTO BURGLARY & THEFT PREVENTION AUTHORITY

Texas Automobile Burglary and Theft Prevention Authority
Statement of Grant Award

Grant Number: 2015-T01-City of -00014
Grantee Name: City of Beaumont
Project Title: Southeast Texas Auto Theft Task Force
Grant Period: 09/01/2014 - 08/31/2015

ABTPA Award:	$ 564,338
Grantee Cash:	$ 258,502
Grantee In-Kind:	$ 311,404
Total Project Cost:	$ 1,134,244

The Texas Automobile Burglary and Theft Prevention Authority (ABTPA) have awarded the above-referenced grant. The approved budget is reflected in the attached Approved Budget Summary. This grant is subject to and conditioned upon acceptance of the ABTPA Grant Administrative Guide promulgated for this specific program fund (referenced above) through the Automobile Burglary and Theft Prevention Authority a listing of applicable special conditions are listed below. Total project costs must be accounted for in accordance with the Uniform Grant and Contract Management Standards and the Administrative Guide.

GRANTEE REQUEST FOR FUNDS

All Grantee request for funds shall be submitted to ABTPA in accordance with the instructions provided by ABTPA and shall be in the form required by ABTPA. Requests for funds will not be honored until all special conditions outlined on the Statement of Grant Award and action required on the part of the grantee have been satisfied.

GRANT ADJUSTMENTS

Grantee shall submit written requests for grant adjustments, as required by the applicable ABTPA Rule contained in the Grant Administrative Guide for this specific program fund.

Special Conditions and Requirements:

Non-Supplanting Certification

July 16, 2014

for: Ginny Booton, Interim Director

Texas Automobile Burglary and Theft Prevention Authority
4000 Jackson Avenue, Austin, Texas 78731 512/465-4011

TEXAS AUTOMOBILE BURGLARY AND THEFT PREVENTION AUTHORITY
GRANTEE ACCEPTANCE NOTICE

AGREEMENT:

That whereas City of Beaumont, hereinafter referred to as Grantee, has heretofore submitted a grant application to the Automobile Burglary and Theft Prevention Authority, State of Texas, entitled Southeast Texas Auto Theft Task Force, and further identified by grant number 2015-T01-City of-00014; and

Whereas, the Automobile Burglary and Theft Prevention Authority has approved the grant application as evidenced by the Statement of Grant Award from the Automobile Burglary and Theft Prevention Authority dated 07-16-14, certain special requirements; and

Whereas, the Grantee desires to accept the grant award, the Uniformed Grant and Contract Management Standards, and special requirements as evidenced by the Statement of Grant Award;

Now, therefore, the Grantee accepts the aforementioned Statement of Grant Award, the Uniformed Grant and Contract Management Standards and special requirements in the grant application and the Statement of Grant Award as evidenced by the agreement, executed by the project director, the financial officer, and the official authorized to sign the original grant application, or the official's successor, as presiding officer of and on behalf of the governing body of this grantee; and

Now, therefore, the Grantee shall designate either the project director or the financial officer to coordinate and be solely responsible for submission of adjustments pertaining to both program and financial elements of the application, and the POSITION authorized to submit adjustments is PROJECT DIRECTOR.

NON-LOBBYING CERTIFICATION:

We, the undersigned, certify that none of the grant funds, regardless of their source or character, including local cash assumption of cost funds, shall be used in any manner to influence the outcome of any election or the passage or defeat of any legislative measure.

A finding that a grantee has violated the certification shall result in the immediate termination of funding of the project and the grantee shall not be eligible for future funding from the Automobile Burglary and Theft Prevention Authority.

Certified By:

Date: 7-23-14 KH

Signature of Project Director

CHRIS SCHULDT - LIEUTENANT
Name & Title(must print or type)

2430 WEST CARDINAL DR. SUITE C
Official Agency Address(street or post office box)

BEAUMONT, TX 77705 (409) 654-3600
City/Zip Code/Telephone Number

KH

Signature of Project Manager

Name & Title(must print or type)

Official Agency Address(street or post office box)

City/Zip Code/Telephone Number

Signature of Authorized Official

KYLE HAYES - CITY MANAGER
Name & Title (must print or type)

P.O. BOX 3827
Official Agency Address (street or post office box)

BEAUMONT, TX 77704 (409) 880-3709
City/Zip Code/Telephone Number

Laura Clark CFO

Signature of Financial Officer

LAURA CLARK - CHIEF FINANCIAL OFFICER
Name & Title (must print or type)

PO. BOX 3827
Official Agency Address (street or post office box)

BEAUMONT, TX 77704 (409) 880-3789
City/Zip Code/Telephone Number

Watch Your Car
TEXAS AUTO BURGLARY & THEFT PREVENTION AUTHORITY

Texas Automobile Burglary and Theft Prevention Authority
Approved Budget Summary

Grant Number: 2015-T01-City of -00014
Grantee: Beaumont
Project Title: Southeast Texas Auto Theft Task Force
Grante Period: 09/01/2014 to 08/31/2015
Funding Source: Auto Burglary and Theft Prevention Authority

Region:
Date: 7/17/2014

		ABTPA	Cash Match	In-Kind	TOTAL
A.	Personnel	$435,937.00	$19,776.00	$213,722.00	$669,435.00
A.	Fringe	$23,495.00	$153,919.00	$84,025.00	$261,439.00
B.	Contractual	$0.00	$0.00	$0.00	$0.00
C.	Travel	$8,404.00	$2,392.00	$0.00	$10,796.00
D.	Equipment	$3,901.00	$29,759.00	$0.00	$33,660.00
E.	Supplies & DOE	$92,601.00	$52,656.00	$13,657.00	$158,914.00
F.	Indirect Funds				$0.00
	Totals	$564,338.00	$258,502.00	$311,404.00	$1,134,244.00

EXHIBIT C

SOUTHEAST TEXAS AUTO THEFT TASK FORCE
GRANT SUMMARY FY 2015

	Beaumont Police	Port Arthur Police	Jefferson County	Hardin County	TOTAL	ATPA Funds	Cash Match	In-Kind Match
Schedule A	$636,600	$106,812	$105,859	$81,603	$930,874	$459,432	$173,695	$297,747
Schedule B	$0	$0	$0	$0	$0	$0		$0
Schedule C	$10,796	$0	$0	$0	$10,796	$8,404	$2,392	$0
Schedule D	$33,660		$0	$0	$33,660	$3,901	$29,759	$0
Schedule E	$135,917	$6,937	$7,357	$8,703	$158,914	$92,601	$52,656	$13,657
Schedule F	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL BY AGENCY	**$816,973**	**$113,749**	**$113,216**	**$90,306**				
TOTAL GRANT					**$1,134,244**	**$564,338**	**$258,502**	**$311,404**

	Beaumont Police	Pt. Arthur Police	Jefferson County	Hardin County	TOTAL
Total Department Budget	**$816,973**	**$113,749**	**$113,216**	**$90,306**	**$1,134,244**
ABTPA Funding	**$331,517**	**$79,899**	**$86,664**	**$66,258**	**$564,338**
Cash Match	**$174,052**	**$33,850**	**$26,552**	**$24,048**	**$258,502**
In-Kind Match	**$311,404**	**$0**	**$0**	**$0**	**$311,404**
	$816,973	$113,749	$113,216	$90,306	$1,134,244

SCHEDULE A, SALARIES FY 2015

	Beaumont Police	Port Arthur Police	Jefferson County	Hardin County	TOTAL	ABTPA FUNDS	Cash Match	In-Kind Match
BPD Lt. Sculdt	$91,449				**$91,449**	$90,345	$1,104	$0
BPD Sgt. Karr	$79,237				**$79,237**	$0	$0	$79,237
BPD Investigator Ross	$75,204				**$75,204**	$74,100	$1,104	$0
BPD Investigator Stevens	$66,896				**$66,896**	$65,792	$1,104	$0
BPD Investigator English	$65,372				**$65,372**	$0	$0	$65,372
BPD Investigator Dupree	$69,113				**$69,113**	$0	$0	$69,113
PAPD Invest Boudreaux		$72,195			**$72,195**	$70,395	$1,800	$0
JCSO Invest Pipkin			$76,571		**$76,571**	$76,571	$0	$0
HCSO Invest Roberts				$58,734	**$58,734**	$58,734	$0	$0
Overtime	$14,664				**$14,664**	$0	$14,664	$0
TOTAL SALARIES	**$461,935**	**$72,195**	**$76,571**	**$58,734**	**$669,435**	**$435,937**	**$19,776**	**$213,722**
FICA/ Sworn	$5,336	$5,117	$5,927	$4,264	**$20,644**	$15,308	$3,418	$1,918
Retirement/ Sworn	$94,329	$10,007	$13,488	$7,591	**$125,415**	$0	$80,808	$44,607
Insurance	$75,000	$15,586	$6,607	$10,000	**$107,193**	$0	$69,693	$37,500
Workers Comp.	$0	$2,569	$3,266	$970	**$6,805**	$6,805	$0	$0
TEC (Unemployment)	$0	$0	$0	$44	**$44**	$44	$0	$0
Terminating pay	$0	$1,338	$0	$0	**$1,338**	$1,338	$0	$0
TOTAL BENEFITS	**$174,665**	**$34,617**	**$29,288**	**$22,869**	**$261,439**	**$23,495**	**$153,919**	**$84,025**
TOTAL BY AGENCY	**$636,600**	**$106,812**	**$105,859**	**$81,603**				
TOTAL SCHEDULE A					**$930,874**	**$459,432**	**$173,695**	**$297,747**

	Beaumont Police	Pt. Arthur Police	Jefferson County	Hardin County	TOTAL
Total Department Budget	**$636,600**	$106,812	$105,859	$81,603	$930,874
ABTPA Funding	$230,237	$79,419	$85,764	$64,012	$459,432
Cash Match	$108,616	$27,393	$20,095	$17,591	$173,695
In-Kind Match	$297,747	$0	$0	$0	$297,747

SCHEDULE C, TRAVEL FY 2015

	Beaumont Police	Port Arthur Police	Jefferson County	Hardin County	TOTAL	ABTPA Funds	Cash Match	In-Kind Match
ABTPA Conference	$4,872	$0	$0	$0	$4,872	$3,570	$1,302	$0
ABTPA Board Meetngs	$218	$0	$0	$0	$218	$218	$0	$0
ABTPAGrant Workshop	$1,576	$0	$0	$0	$1,576	$1,576	$0	$0
TAVTI conference	$4,130	$0	$0	$0	$4,130	$3,040	$1,090	$0
		$0	$0	$0	$0	$0	$0	$0
		$0	$0	$0	$0	$0	$0	$0
		$0	$0	$0	$0	$0	$0	$0
TOTAL BY AGENCY	**$10,796**	**$0**	**$0**	**$0**	$10,796	$8,404	$2,392	$0
TOTAL SCHEDULE C					**$10,796**	**$8,404**	**$2,392**	**$0**

	Beaumont Police	Pt. Arthur Police	Jefferson County	Hardin County	TOTAL
Total Department Budget	$10,796	$0	$0	$0	$8,404
ABTPA Funding	$8,404	$0	$0	$0	$8,404
Cash Match	$2,392	$0	$0	$0	$2,392
In-Kind Match	$0	$0	$0	$0	$0

1200

SCHEDULE D, EQUIPMENT FY 2015

	Beaumont Police	Port Arthur Police	Jefferson County	Hardin County	TOTAL	ATPA Funds	Cash Match	In-Kind Match
Truck	$33,660	$0	$0	$0	**$33,660**	$3,901	$29,759	$0
Truck	$0	$0	$0	$0	**$0**	$0	$0	$0
		$0	$0	$0	**$0**	$0	$0	$0
		$0	$0	$0	**$0**	$0	$0	$0
		$0	$0	$0	**$0**	$0	$0	$0
		$0	$0	$0	**$0**	$0	$0	$0
TOTAL BY AGENCY	$33,660	$0	$0	$0	$33,660	$3,901	$29,759	$0
TOTAL SCHEDULE D					**$33,660**	**$3,901**	**$29,759**	**$0**

	Beaumont Police	Pt. Arthur Police	Jefferson County	Hardin County	TOTAL
Total Department Budget	$33,660		$0	$0	$33,660
ABTPA Funding	$3,901	$0	$0	$0	$3,901
Cash Match	$29,759	$0	$0	$0	$29,759
In-Kind Match	$0	$0	$0	$0	$0

1201

SCHEDULE E, OPERATING EXPENSES FY 2015

	Beaumont Police	Port Arthur Police	Jefferson County	Hardin County	TOTAL	ATPA Funds	Cash Match	In-Kind Match
Vehicle Lease	$7,200	$0	$0	$0	$7,200	$0	$0	$7,200
Fuel, Oil, and Maintenance	$38,742	$6,457	$6,457	$6,457	$58,113	$0	$51,656	$6,457
Vehicle Insurance	$0	$0	$0	$1,046	$1,046	$1,046	$0	$0
Office Lease	$52,650	$0	$0	$0	$52,650	$52,650	$0	$0
Office Maintenance	$3,425	$0	$0	$0	$3,425	$3,425	$0	$0
Office Utilities	$5,000	$0	$0	$0	$5,000	$5,000	$0	$0
Office Phone Service	$5,000	$0	$0	$0	$5,000	$5,000	$0	$0
Office Phone Frame Relay	$2,040	$0	$0	$0	$2,040	$2,040	$0	$0
Bait vehicle mon. fees phone	$480	$0	$0	$0	$480	$480	$0	$0
Bait vehicle mon. fees BSM	$1,220	$0	$0	$0	$1,220	$1,220	$0	$0
Bait vehicle mon. fees tire	$480	$0	$0	$0	$480	$480	$0	$0
Bait vehicle camera mon. fees	$480	$0	$0	$0	$480	$480	$0	$0
Office and Field Supplies	$4,500	$0	$0	$0	$4,500	$4,500	$0	$0
Postage	$50	$0	$0	$0	$50	$50	$0	$0
Cellular Phone Service	$3,600	$480	$900	$1,200	$6,180	$6,180	$0	$0
Media/TV advertising	$9,000	$0	$0	$0	$9,000	$9,000	$0	$0
TAVTI Registration	$1,050	$0	$0	$0	$1,050	$1,050	$0	$0
Confidential Funds	$1,000	$0	$0	$0	$1,000	$0	$1,000	$0
TOTAL BY AGENCY	**$135,917**	**$6,937**	**$7,357**	**$8,703**	**$158,914**	**$92,601**	**$52,656**	**$13,657**
TOTAL SCHEDULE E					**$158,914**	**$92,601**	**$52,656**	**$13,657**

	Beaumont Police	Pt. Arthur Police	Jefferson County	Hardin County	TOTAL
Total Department Budget	$135,917	$6,937	$7,357	$8,703	**$158,914**
ABTPA Funding	$88,975	$480	$900	$2,246	**$92,601**
Cash Match	$33,285	$6,457	$6,457	$6,457	**$52,656**
In-Kind Match	$13,657	$0	$0	$0	**$13,657**

ADDENDUM

Cooperative Working Agreement

This is to certify that the objectives of the Southeast Texas Auto Theft Task Force grant application for fiscal year 2015 funding by the Automobile Burglary and Theft Prevention Authority have been reviewed and that it is mutually agreed to cooperate to whatever extent is necessary in carrying out the work plan described in that application.

Additionally, Jefferson County is cognizant of the rules and regulations governing the operation of the grant and agrees to abide by any and all such rules or special conditions relating to the application.

Signed: _____

Kyle Hayes, City Manager

City of Beaumont

Date: 9/9/2014

Signed: _____

Jeff Branick, County Judge

Jefferson County

Date: 9/8/2014

Cooperative Working Agreement

This is to certify that the objectives of the Southeast Texas Auto Theft Task Force grant application for fiscal year 2015 funding by the Automobile Burglary and Theft Prevention Authority have been reviewed and that it is mutually agreed to cooperate to whatever extent is necessary in carrying out the work plan described in that application.

Additionally, the City of Port Arthur is cognizant of the rules and regulations governing the operation of the grant and agrees to abide by any and all such rules or special conditions relating to the application.

Signed: _____

Kyle Hayes, City Manager

City of Beaumont

Date: 9/9/2014

Signed: John G. Comeaux, P.E.

John Comeaux, Interim City Manager

City of Port Arthur

Date: August 26, 2014

Cooperative Working Agreement

This is to certify that the objectives of the Southeast Texas Auto Theft Task Force grant application for fiscal year 2015 funding by the Automobile Burglary and Theft Prevention Authority have been reviewed and that it is mutually agreed to cooperate to whatever extent is necessary in carrying out the work plan described in that application.

Additionally, Hardin County is cognizant of the rules and regulations governing the operation of the grant and agrees to abide by any and all such rules or special conditions relating to the application.

Signed: _____

Kyle Hayes, City Manager

City of Beaumont

Date: 9/9/2014

Signed: _____

Billy Caraway, County Judge

Hardin County

Date: August 13, 2014

AUTOMOBILE BURGLARY AND THEFT PREVENTION AUTHORITY

DISTRICT ATTORNEY CONTRACT

WHEREAS, the office of the District Attorney of Jefferson County, Texas and the Southeast Texas Auto Theft Task Force are desirous of entering into a contract between the parties regulating the disposition of property and monies (as defined by law) seized by the Task Force pursuant to civil and criminal statutes of the State of Texas; and

WHEREAS, the parties to this contract are identified as the District Attorney of Jefferson County, Texas (hereafter referred to as the District Attorney) and the Southeast Texas Auto Theft Task Force, being that group organized pursuant to a grant by and through the Automobile Burglary and Theft Prevention Authority (hereinafter referred to as the Task Force); and

WHEREAS, the District Attorney has the duty to represent the State of Texas regarding forfeitures of property pursuant to various civil and criminal statutes; and

WHEREAS, the Task Force has the duty to provide law enforcement service with particular emphasis on auto theft related offenses; and

NOW, THEREFORE, it is mutually agreed by and between the District Attorney and the Task Force, as follows:

1. The District Attorney shall diligently pursue all Forfeiture actions which arise from operations initiated and investigated by the District Attorney and the Task Force, as follows:

   a. Upon seizure of funds or property by the Task Force under the provisions of law, the Task Force shall provide for the custody property until final disposition of

the Forfeiture action; and the District Attorney shall provide for the custody of seized funds per Chapter 59.03 of the Code of Criminal Procedure.

b. Upon final disposition of the Forfeiture action, all funds and all property attributable to the efforts of the Task Force shall be awarded to the Task Force.

2. All property and funds awarded to the Task Force under the forfeiture action represent Program Income (see page 7 of the "ABTPA Grant Application and Administration Guidelines"). Up to the total grant amount of $564,338.00 these funds shall be added to the funds committed to the project in accordance with the Uniform Grant Management Standards, Subpart C, Section 25, Paragraph (g) (2). Any program income (forfeiture, etc.) in excess of the total grant award amount may be retained by the grantee with ABTPA approval and must be used for purposes that further the objectives of the project.

3. This agreement shall be in effect for the term of the Task Force grant award dates, September 1, 2014 to August 31, 2015.

It is Agreed and Noted.

Witness our hands this 2nd day of September, 2014.

Cory Crenshaw
District Attorney
Jefferson County, Texas

Chris Schuldt
Grant Project Director
Southeast Texas Auto Theft Task Force

SPECIAL CONDITION

DISTRICT ATTORNEY CONTRACT

WHEREAS, the office of the District Attorney of Hardin County, Texas and the Southeast Texas Auto Theft Task Force are desirous of entering into a contract between the parties regulating the disposition of property and monies (as defined by law) seized by the Task Force pursuant to civil and criminal statutes of the State of Texas; and

WHEREAS, the parties to this contract are identified as the District Attorney of Hardin County, Texas (hereafter referred to as the District Attorney) and the Southeast Texas Auto Theft Task Force, being that group organized pursuant to a grant by and through the Automobile Burglary and Theft Prevention Authority (hereinafter referred to as the Task Force); and

WHEREAS, the District Attorney has the duty to represent the State of Texas regarding forfeitures of property pursuant to various civil and criminal statutes; and

WHEREAS, the Task Force has the duty to provide law enforcement service with particular emphasis on auto theft related offenses; and

NOW, THEREFORE, it is mutually agreed by and between the District Attorney and the Task Force, as follows:

1. The District Attorney shall diligently pursue all Forfeiture actions which arise from operations initiated and investigated by the District Attorney and the Task Force, as follows:

   a. Upon seizure of funds or property by the Task Force under the provisions of law, the Task Force shall provide for the custody of the seized funds or property until final disposition of the Forfeiture action.

b. Upon final disposition of the Forfeiture action, all funds and all property attributable to the efforts of the Task Force shall be awarded to the Task Force.

2. All property and funds awarded to the Task Force under the forfeiture action represent Program Income (see page 7 of the "ABTPA Grant Application and Administration Guidelines"). Up to the total grant amount of $564,338.00 these funds shall be added to the funds committed to the project in accordance with the Uniform Grant Management Standards, Subpart C, Section 25, Paragraph (g) (2). Any program income (forfeiture, etc.) in excess of the total grant award amount may be retained by the grantee with ABTPA approval and must be used for purposes that further the objectives of the project.

3. This agreement shall be in effect for the term of the Task Force grant award dates, September 1, 2014 to August 31, 2015.

It is Agreed and Noted.

Witness our hands this 28th day of August, 2014.

David Sheffield
District Attorney
Hardin County, Texas

Chris Schuldt
Grant Project Director
Southeast Texas Auto Theft Task Force

SPECIAL CONDITION

DISTRICT ATTORNEY CONTRACT

WHEREAS, the office of the District Attorney of Orange County, Texas and the Southeast Texas Auto Theft Task Force are desirous of entering into a contract between the parties regulating the disposition of property and monies (as defined by law) seized by the Task Force pursuant to civil and criminal statutes of the State of Texas; and

WHEREAS, the parties to this contract are identified as the District Attorney of Orange County, Texas (hereafter referred to as the District Attorney) and the Southeast Texas Auto Theft Task Force, being that group organized pursuant to a grant by and through the Automobile Burglary and Theft Prevention Authority (hereinafter referred to as the Task Force); and

WHEREAS, the District Attorney has the duty to represent the State of Texas regarding forfeitures of property pursuant to various civil and criminal statutes; and

WHEREAS, the Task Force has the duty to provide law enforcement service with particular emphasis on auto theft related offenses; and

NOW, THEREFORE, it is mutually agreed by and between the District Attorney and the Task Force, as follows:

1. The District Attorney shall diligently pursue all Forfeiture actions which arise from operations initiated and investigated by the District Attorney and the Task Force, as follows:

   a. Upon seizure of funds or property by the Task Force under the provisions of law, the Task Force shall provide for the custody of the seized funds or property until final disposition of the Forfeiture action.

b. Upon final disposition of the Forfeiture action, all funds and all property attributable to the efforts of the Task Force shall be awarded to the Task Force.

2. All property and funds awarded to the Task Force under the forfeiture action represent Program Income (see page 7 of the "ABTPA Grant Application and Administration Guidelines"). Up to the total grant amount of $564,338.00 these funds shall be added to the funds committed to the project in accordance with the Uniform Grant Management Standards, Subpart C, Section 25, Paragraph (g) (2). Any program income (forfeiture, etc.) in excess of the total grant award amount may be retained by the grantee with ABTPA approval and must be used for purposes that further the objectives of the project.

3. This agreement shall be in effect for the term of the Task Force grant award dates, September 1, 2014 to August 31, 2015.

It is Agreed and Noted.

Witness our hands this 11th day of August, 2014.

John Kimbrough
District Attorney
Orange County, Texas

Chris Schuldt
Grant Project Director
Southeast Texas Auto Theft Task Force

SPECIAL CONDITION

DISTRICT ATTORNEY CONTRACT

WHEREAS, the office of the District Attorney of Jasper County, Texas and the Southeast Texas Auto Theft Task Force are desirous of entering into a contract between the parties regulating the disposition of property and monies (as defined by law) seized by the Task Force pursuant to civil and criminal statutes of the State of Texas; and

WHEREAS, the parties to this contract are identified as the District Attorney of Jasper County, Texas (hereafter referred to as the District Attorney) and the Southeast Texas Auto Theft Task Force, being that group organized pursuant to a grant by and through the Automobile Burglary and Theft Prevention Authority (hereinafter referred to as the Task Force); and

WHEREAS, the District Attorney has the duty to represent the State of Texas regarding forfeitures of property pursuant to various civil and criminal statutes; and

WHEREAS, the Task Force has the duty to provide law enforcement service with particular emphasis on auto theft related offenses; and

NOW, THEREFORE, it is mutually agreed by and between the District Attorney and the Task Force, as follows:

1. The District Attorney shall diligently pursue all Forfeiture actions which arise from operations initiated and investigated by the District Attorney and the Task Force, as follows:

   a. Upon seizure of funds or property by the Task Force under the provisions of law, the Task Force shall provide for the custody of the seized funds or property until final disposition of the Forfeiture action.

b. Upon final disposition of the Forfeiture action, all funds and all property attributable to the efforts of the Task Force shall be awarded to the Task Force.

2. All property and funds awarded to the Task Force under the forfeiture action represent Program Income (see page 7 of the "ABTPA Grant Application and Administration Guidelines"). Up to the total grant amount of $564,338.00 these funds shall be added to the funds committed to the project in accordance with the Uniform Grant Management Standards, Subpart C, Section 25, Paragraph (g) (2). Any program income (forfeiture, etc.) in excess of the total grant award amount may be retained by the grantee with ABTPA approval and must be used for purposes that further the objectives of the project.

3. This agreement shall be in effect for the term of the Task Force grant award dates, September 1, 2014 to August 31, 2015.

It is Agreed and Noted.

Witness our hands this 28th day of August, 2014.

Steve Hollis
District Attorney
Jasper County, Texas

Chris Schuldt
Grant Project Director
Southeast Texas Auto Theft Task Force

JEFFERSON COUNTY SHERIFF'S OFFICE

SHERIFF G. MITCH WOODS

CHIEF TIM SMITH
LAW ENFORCEMENT

CHIEF GEORGE MILLER
CORRECTIONS

CHIEF MARK DUBOIS
SERVICES

CHIEF RON HOBBS
NARCOTICS

To: Honorable Judge Jeff R. Branick
Commissioner Eddie Arnold
Commissioner Brent Weaver
Commissioner Michael Sinegal
Commissioner Everette Alfred

From: G. Mitch Woods, Sheriff

Subject: Retiring Corrections Officer Dorothy H. Dean

Date: September 18, 2014

Please place the following item on the Commissioners' Court agenda for Monday, September 22, 2014.

Consider and possible adopt a Resolution recognizing Dorothy H. Dean for 17 years and 10 months of dedicated service as a Corrections Officer for the Jefferson County Sheriff's Office and to the citizens of Jefferson County and wishing her well in her retirement.

Sincerely,

G. Mitch Woods, Sheriff
Jefferson County, Texas

Resolution

STATE OF TEXAS § COMMISSIONERS COURT
§
COUNTY OF JEFFERSON § OF JEFFERSON COUNTY, TEXAS

BE IT REMEMBERED at a meeting of Commissioners Court of Jefferson County, Texas, held on the _____ day of _____, 2014, on motion made by _____, Commissioner of Precinct No. ____, and seconded by _____, Commissioner of Precinct No. ____, the following Resolution was adopted:

WHEREAS, ***DOROTHY H. DEAN***, has devoted 17 years and 10 months of her life serving the people of Jefferson County with pride and professionalism; and

WHEREAS, ***DOROTHY H. DEAN***, has dedicated her talents and pledged her services as a Classification Officer and a Transfer Officer at the Jefferson County Correctional Facility; and

WHEREAS, ***DOROTHY H. DEAN***, has pledged her services as a Corrections Officer at the Jefferson County Correctional Facility; and

WHEREAS, through hard work and commitment to excellence, ***DOROTHY H. DEAN,*** has earned the respect of her colleagues and the citizens of Jefferson County; and

WHEREAS, having made a significant contribution to the Jefferson County Sheriffs' Office, ***DOROTHY H. DEAN,*** is recognized for her unselfish devotion to the common good and welfare of the citizens of Jefferson County; and will always be missed by her friends and co-workers.

NOW THEREFORE, BE IT RESOLVED that the Jefferson County Commissioners Court does hereby honor and commend ***DOROTHY H. DEAN,*** for her dedicated service as a valuable employee of Jefferson County and wishes her well in her retirement.

SIGNED this _____ day of _____, 2014.

_____
JUDGE JEFF R. BRANICK
County Judge

_____
COMMISSIONER EDDIE ARNOLD
Precinct No. 1

_____
COMMISSIONER MICHAEL S. SINEGAL
Precinct No. 3

_____
COMMISSIONER BRENT A. WEAVER
Precinct No. 2

_____
COMMISSIONER EVERETTE D. ALFRED
Precinct No. 4

Special, September 22, 2014

There being no further business to come before the Court at this time, same is now here adjourned on this date, September 22, 2014