



JEFFERSON COUNTY PURCHASING DEPARTMENT

Deborah L. Clark, Purchasing Agent

1149 Pearl Street, 1st Floor, Beaumont, TX 77701 409-835-8593 Fax 409-835-8456

LEGAL NOTICE

Advertisement for Invitation for Bids

January 14, 2019

Notice is hereby given that sealed bids will be accepted by the Jefferson County Purchasing Department for IFB 19-003/JW, Demolition of Hangar No. 3 at Jack Brooks Regional Airport. Specifications for this project may be obtained from the Jefferson County website <https://www.co.jefferson.tx.us/Purchasing/> 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 or box. Bidders shall forward an original and three (3) 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: Demolition of Hangar No. 3 at Jack Brooks Regional Airport

BID NO: IFB 19-003/JW

DUE DATE/TIME: 11:00 AM CT, February 12, 2019

MAIL OR DELIVER TO: Jefferson County Purchasing Department
1149 Pearl Street, 1st Floor
Beaumont, Texas 77701

There will be a pre-bid conference and walk-through at 10:00 AM CT on Tuesday, January 29, 2019, in the Airport Administration Conference Room at 5000 Jerry Ware Blvd., 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.

Any questions relating to these requirements should be directed to Jamey West, Assistant Purchasing Agent, at 409-835-8593 or jwest@co.jefferson.tx.us

Jefferson County encourages Disadvantaged Business Enterprises to participate in the bidding process. Jefferson County does not discriminate on the basis of race, color, national origin, sex, religion, age or disability in employment or the provisions of services. Individuals requiring special accommodations are requested to contact our office at 409-835-8593 to make arrangements no later than seven (7) calendar days prior to the submittal deadline. Jefferson County reserves the right to accept or reject any or all proposals, to waive technicalities and to take whatever action is in the best interest of Jefferson County.

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.

A handwritten signature of Deborah L. Clark in black ink.

Deborah L. Clark, Purchasing Agent
Jefferson County, Texas

Publish: Beaumont Enterprise & Port Arthur News – January 16, 2019 & January 23, 2019

IFB 19-003/JW

Demolition of Hangar No. 3 at Jack Brooks Regional Airport

Bids due: 11:00 AM CT, Tuesday, February 12, 2019

Table of Contents

Table of Contents	1
Instructions to Bidders	2
General Conditions of Bidding and Terms of Contract	6
Special Requirements/Instructions.....	16
Minimum Specifications.....	20
Bidder Information Form.....	28
Offer to Contract Form	29
Acceptance of Offer Form.....	30
Bid Form	31
Vendor References	32
Signature Page.....	33
Conflict of Interest Questionnaire	34
Local Government Officer Conflict Disclosure Statement Forms (OFFICE USE ONLY).....	35
Good Faith Effort Determination Checklist	36
Notice of Intent.....	37
HUB Subcontracting Participation Declaration Form	38
Residence Certification/Tax Form.....	42
House Bill 89 Verification.....	43
Senate Bill 252 Certification	44
Bid Affidavit.....	45
Sample Contract	47
Technical Specifications (Scope of Work)	49

Bid Submissions:

Bidder is responsible for submitting:

- One (1) *original* bid copy to include a completed copy of this specifications packet, in its entirety.
- Three (3) numbered bid *copies* to include at a minimum all pages requiring completion and/or marked with instructions to be returned with bid submission and any other documentation requested within these specifications.

Additionally, Bidder must monitor the Jefferson County Purchasing Department Website (below) to see if addenda or additional instructions have been posted. Failure to return all required forms could result in a response being declared as non-responsive.

<https://www.co.jefferson.tx.us/Purchasing/>

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
1149 Pearl Street, 1st 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.

Bidder shall submit bid in a tightly sealed opaque envelope or box, plainly marked "SEALED BID." The outside of the envelope or box shall also include 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. Bid Submissions During Time of Inclement Weather, Disaster, or Emergency

In case of inclement weather or any other unforeseen event causing the County to close for business on the date of a bid/proposal/statement of qualifications submission deadline, the closing will automatically be postponed until the next business day that County offices are open to the public. Should inclement weather conditions or any other unforeseen event cause delays in courier service operations, the County may issue an addendum to all known vendors interested in the project to extend the deadline. It will be the responsibility of the vendor to notify the county of their interest in the project should these conditions impact their ability to submit a bid/proposal/statement of qualifications submission before the stated deadline. The County reserves the right to make the final judgement call to extend any deadline.

Should an emergency or unanticipated event interrupt normal County processes, and bid/proposal/statement of qualifications submissions cannot be received by the Jefferson County Purchasing Department's office by the exact time specified in the IFB and urgent County requirements preclude amendment to the IFB, the time specified for receipt of bids will be deemed to be extended to the same time of day specified in the solicitation on the first business day on which normal County processes resume.

3. 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.

4. Preparation of Bids

The bid shall be legibly printed in ink or typed.

The County requests that bid submissions NOT be bound by staples or glued spines.

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.

5. 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.

6. County Holidays – 2019:

January 1	Tuesday	New Year's
January 21	Monday	Martin Luther King, Jr. Day
February 18	Monday	President's Day
April 19	Friday	Good Friday
May 27	Monday	Memorial Day
July 4	Thursday	Independence Day
September 2	Monday	Labor Day
November 11	Monday	Veteran's Day
November 28 & 29	Thursday & Friday	Thanksgiving
December 24 & 25	Tuesday & Wednesday	Christmas
January 1, 2020	Wednesday	New Year's

7. 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.

8. Emergency/Declared Disaster Requirements

In the event of an emergency or if Jefferson County is declared a disaster area, by the County, State, or Federal Government, this Acceptance of Offer may be subjected to unusual usage. Contractor shall service the county during such an emergency or declared disaster under the same terms and conditions that apply during non-emergency/disaster conditions. The pricing as specified in this Acceptance of Offer shall apply to serving the County's needs regardless of the circumstances. If Contractor is unable to supply the services under the terms of the Acceptance of Offer, then Contractor shall provide proof of such disruption and a copy of the invoice from Contractor's supplier(s). Additional profit margin as a result of supplying services during an emergency or declared disaster shall not be permitted. In the event that additional equipment, supplies, and materials are required during the declared disaster, additional shipping, handling and drayage fees may apply.

9. 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.

10. 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.

11. 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.

12. 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.

13. 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.

14. 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.

15. 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.

16. 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.

17. 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.

18. Currency

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

19. 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.

20. Notice to Proceed/Purchase Order

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

21. 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.

22. Definitions

“County” – Jefferson County, Texas.

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

23. 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 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 Confidential/Proprietary Information

If any material in the bid submission is considered by Bidder to be confidential or proprietary information (including manufacturing and/or design processes exclusive to the Bidder), Bidder **must** clearly mark the applicable pages of Bidder's bid submission to indicate each claim of confidentiality. Additionally, Bidder must include a statement on company letterhead identifying all Bid Submission section(s) and page(s) that have been marked as confidential. Jefferson County will protect from public disclosure such portions of a bid, unless directed otherwise by legal authority, including existing open records acts. Merely making a blanket claim that the entire bid submission is protected from disclosure because it contains some proprietary information is not acceptable, and will make the entire bid submission subject to release under the Texas Public Information Act.

By submitting a bid, Bidder agrees to reproduction by Jefferson County, without cost or liability, of any copyrighted portions of Bidder's bid submission or other information submitted by Bidder.

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," commonly 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 the 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 receipt 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 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.

4.3 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.

4.4 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.

4.5 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.

4.6 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.

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

4.8 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.

4.9 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.

4.10 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.

4.11 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.

4.12 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.

5. Federal Emergency Management Agency (FEMA) Mandated Contract Clauses

If applicable to the work and services being performed by CONTRACTOR under the parties' AGREEMENT, the following provisions are adopted and form part of this AGREEMENT:

(A) DAMAGES, 2 CFR §200.326 Appendix II to Part 200 (A)

(1) All work to be performed under this AGREEMENT shall be timely commenced. A breach of this AGREEMENT by Contractor would cause substantial delay in the completion of the required services affecting the safety and welfare of the public.

(2) In the event of Contractor's breach of its performance obligations, County shall have all rights and remedies against Contractor as provided by law.

(B) TERMINATION RIGHTS, 2 CFR §200.326 Appendix II to Part 200 (B)

Termination for Convenience: Whenever the interests of the County so require, County may terminate the parties' Agreement, in whole or in part, for the convenience of the County. County shall give Contractor thirty (30) days prior written notice of termination specifying the portions of the Agreement to be terminated and when such termination will become effective. If only portions of the parties' agreement are terminated, Contractor has the right to withdraw from the parties' Agreement, without adverse action or claims. In the event of a termination for convenience by County, Contractor shall be entitled to payment for all work and services performed by it up to the effective date of such termination.

Termination for Cause: The County may, by written notice of default to Contractor, terminate the parties' Agreement, in whole or in part, if the Contractor fails to satisfactorily perform any provisions of the parties' agreement after a period of ten (10) following Contractor's receipt of a Notice of Deficiency provided by County.

(C) EQUAL EMPLOYMENT OPPORTUNITY CLAUSE (2 CFR §200.326 Appendix II to Part 200 (C))

If applicable to the work and services performed by CONTRACTOR under the AGREEMENT, during the performance of the AGREEMENT, CONTRACTOR shall comply with the Equal Employment Opportunity Clause (41 CFR 60-1.4(b)):

(1) CONTRACTOR will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. 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. AGREEMENTOR 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) 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) CONTRACTOR will send to each labor union or representative of workers with which it has a collective bargaining agreement or other agreement 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) 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) 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 for purpose 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 AGREEMENT or with any of the said rules, regulations or orders, this AGREEMENT 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) CONTRACTOR will include the portion of the sentence immediately preceding paragraph (1) and the provisions of subparagraphs 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 contractor. 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 CONTRACTOR becomes involved in, or is threatened with, litigation with a subcontractor or contractor 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 interest of the United States.

D. DAVIS-BACON ACT AND COPELAND “ANTI-KICKBACK” ACT, 2 CFR §200.326 Appen. II to Part 200 (D)

If applicable to the work and services performed by CONTRACTOR under the parties' AGREEMENT:

(1) Bacon-Davis Act: Applicable to construction or repair of public buildings or public works. see FEMA Public Assistance Program and Policy Guide, Ch.2(V)(G)(2), page 32 (FP 104-009-2/January 2016);

(2) Copeland “Anti-Kickback” Act: In contracts subject to the Davis-Bacon Act, CONTRACTOR shall comply with the Copeland “Anti-Kickback” Act (40 U.S.C. §3145), as supplemented by Department of Labor regulations (29 CFR Part 3, “Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States”). The Act provides that the contractor and subcontractor must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The GOVERNMENT must report all suspected or reported violations to the appropriate Federal agency.

If applicable to the work and services performed by CONTRACTOR under the parties' AGREEMENT:

(a) CONTRACTOR shall comply with 18 U.S.C. § 874, 40 U.S.C. § 3145, and the requirements of 29 C.F.R. pt. 3 as may be applicable, which are incorporated by reference into this AGREEMENT.

(b) CONTRACTOR or subcontractor shall insert in any subcontract the clause above and such other clauses as FEMA may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The CONTRACTOR shall be responsible for the compliance by any subcontractor or lower tier subcontract with all of these contract clauses.

(c) A breach of the AGREEMENT clause above may be grounds for termination of the AGREEMENT, and for debarment as a contractor and subcontractor as provided in 29 C.F.R. §5.12.

E. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT, 2 CFR §200.326 Appendix II to Part 200 (E) (40 U.S.C. 3701-3708)

Contracts in excess of \$100,000 that involve the employment of mechanics or laborers shall comply with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, each contractor and its subcontractors shall compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week.

(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 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-halftimes 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) of this section 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) of this section, 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) of this section.

(3) Withholding for unpaid wages and liquidated damages. The GOVERNMENT 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 moneys 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) of this section.

(4) The contractor and subcontractor shall insert in any subcontract the clauses set forth in paragraphs (1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts.

F. RIGHTS TO INVENTIONS MADE UNDER A CONTRACT OR AGREEMENT, 2 CFR §200.326 Appendix II to Part 200 (F)

If applicable to the work and services performed by CONTRACTOR under the parties' AGREEMENT and if the Federal award meets the definition of "funding agreement" under 37 CFR §401.2 (a) and the GOVERNMENT wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the GOVERNMENT must comply with the requirements of 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business."

G. CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT, 2 CFR §200.326 Appendix II to Part 200 (G)

CONTRACTOR shall comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).

CONTRACTOR shall include the foregoing requirements in each subcontract exceeding \$100,000.

H. ENERGY EFFICIENCY AND CONSERVATION, 2 CFR §200.326 Appendix II to Part 200 (H)

If applicable to the work and services performed by CONTRACTOR under the parties' AGREEMENT, CONTRACTOR shall comply with the mandatory standards and policies of the state regulation promulgated in accordance with the Energy Policy and Conservation Act (42 U.S.C. § 6201).

I. DEBARMENT AND SUSPENSION, 2 CFR §200.326 Appendix II to Part 200 (I)

(1) This AGREEMENT is a covered transaction for purposes of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such, the CONTRACTOR is required to verify that none of the contractor, its principals (defined at 2 C.F.R. § 180.995), or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935).

(2) The CONTRACTOR must comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.

(3) This certification is a material representation of fact relied upon by GOVERNMENT. If it is later determined that the CONTRACTOR did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to GOVERNMENT, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.

(4) The CONTRACTOR agrees to comply with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C AGREEMENT is valid and throughout the period of performance. The CONTRACTOR further agrees to include a provision requiring such compliance in its lower tier covered transactions.

J. BYRD ANTI-LOBBYING AMENDMENT, 2 CFR §200.326 Appendix II to Part 200 (J)

CONTRACTOR must file with the GOVERNMENT the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award. If not provided with the bid response, CONTRACTOR must complete and submit the Certification Regarding Lobbying Form.

K. PROCUREMENT OF RECOVERED MATERIALS, 2 CFR §200.326 Appendix II to Part 200 (K) and 2 CFR §200.322)

(1) In the performance of this contract, the Contractor shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired-

- (a) Competitively within a timeframe providing for compliance with the contract performance schedule;
- (b) Meeting contract performance requirements; or
- (c) At a reasonable price.

(2) Information about this requirement is available at EPA's Comprehensive Procurement Guidelines web site, <http://www.epa.gov/cpg/>. The list of EPA-designate items is available at <http://www.epa.gov/cpg/products/htm>.

L. AGREEMENTING WITH SMALL AND MINORITY BUSINESSES, WOMEN'S BUSINESS ENTERPRISES, AND LABOR SURPLUS AREA FIRMS (2 CFR §200.321)

Should the CONTRACTOR subcontract any of the work under this AGREEMENT, CONTRACTOR shall take the following affirmative steps: place qualified small and minority businesses and women's business enterprises on solicitation lists; assure that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources; divide total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises; establish delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises; and use the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce.

M. ACCESS TO RECORDS

(1) CONTRACTOR agrees to provide GOVERNMENT, the FEMA Administrator, the Comptroller General of the United States, or any of their authorized representatives' access to any books, documents, papers, and records of the Contractor which are directly pertinent to this AGREEMENT for the purposes of making audits, examinations, excerpts, and transcriptions.

(2) CONTRACTOR agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.

(3) CONTRACTOR agrees to provide the FEMA Administrator or his authorized representatives' access to construction or other work sites pertaining to the work being completed under the contract.

N. SEAL, LOGO AND FLAGS

CONTRACTOR shall not use the U.S. Department of Homeland Security's seal(s), logos, crests, or reproductions of flags or likenesses of the U.S. Department of Homeland Security's agency officials without specific FEMA preapproval.

O. COMPLIANCE WITH FEDERAL LAW, REGULATIONS AND EXECUTIVE ORDERS

This is an acknowledgement that FEMA financial assistance will be used to fund the AGREEMENT only. CONTRACTOR will comply with all federal law, regulations, executive orders, FEMA policies, procedures, and directives.

P. NO OBLIGATION BY FEDERAL GOVERNMENT

The Federal Government is not a party to this AGREEMENT and is not subject to any obligations or liabilities to GOVERNMENT, CONTRACTOR, or any other party pertaining to any matter resulting from the contract.

Q. PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS OR RELATED ACTS

CONTRACTOR acknowledges that 31 U.S.C. Chap. 38 (Administrative Remedies for False Claims and Statements) applies to the CONTRACTOR'S actions pertaining to this contract.

Special Requirements/Instructions

The following requirements and instructions supersede General Requirements where applicable.

1. Bid Requirement

Each bidder shall ensure that required parts of the bid are completed with accuracy and submitted as per the requirements within this specifications packet, including any addenda.

Bidder is responsible for submitting one (1) *original* bid copy to include a completed copy of this specifications packet in its entirety; and three (3) numbered bid copies to include at a minimum all pages requiring completion and/or marked with instructions to be returned with bid submission and any other documentation requested within these specifications.

All bids shall be tightly sealed in an opaque envelope or box and plainly marked "SEALED BID." The outside of the envelope or box shall also include: Bid Number, Bid Name, Bid Due Date, Bidder's Name and Address; and shall be addressed to the Purchasing Agent.

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.

2. Vendor Registration: SAM (System for Award Management).

Vendors doing business with Jefferson County are required to be registered with The System for Award Management (SAM), with an "active" status. The System for Award Management (SAM) is the Official U.S. Government system that consolidated the capabilities of CCR/FedReg, ORCA, and EPLS. There is NO fee to register for this site. Entities may register at no cost directly from the SAM website at: <https://www.sam.gov>

Bidders are strongly encouraged to review their firm's SAM (System for Award Management) status prior to Bid Submission.

3. Awarded Vendor(s): Submission of FORM 1295 (Texas Ethics Commission)

In accordance with House Bill 1295 (passed January 1, 2016), Vendors entering into contracts and professional agreements with Jefferson County will be required to complete a Certificate of Interested Parties (FORM 1295), **unless contract is considered exempt as described below.**

In 2017, the Texas legislature amended the law to require Form 1295 to include an "unsworn declaration" which includes, among other things, the date of birth and address of the authorized representative signing the form. The unsworn declaration, including the date of birth and address of the signatory, replaces the notary requirement that applied to contracts entered into before January 1, 2018. The TEC filing application does not capture the date of birth or street address of the signatory and it will not appear on forms that are filed using the TEC filing application.

Changes to the law requiring certain businesses to file a Form 1295 are in effect for contracts entered into or amended on or after January 1, 2018. The changes exempt businesses from filing a Form 1295 for certain types of contracts and replace the need for a completed Form 1295 to be notarized. Instead, the person filing a 1295 needs to complete an "unsworn declaration."

FORM 1295 Exemptions: What type of contracts are exempt from the Form 1295 filing requirement under the amended law? The amended law adds to the list of types of contract exempt from the Form 1295 filing requirement. A completed Form 1295 is not required for:

- a sponsored research contract of an institution of higher education
- an interagency contract of a state agency or an institution of higher education
- a contract related to health and human services if: the value of the contract cannot be determined at the time the contract is executed; and o any qualified vendor is eligible for the contract
- a contract with a publicly traded business entity, including a wholly owned subsidiary of the business entity
- a contract with an electric utility, as that term is defined by Section 31.002, Utilities Code
- a contract with a gas utility, as that term is defined by Section 121.001, Utilities Code

3. Awarded Vendor(s): Submission of FORM 1295 (Texas Ethics Commission) – CONTINUED

Upon entering into a contract or professional agreement, the Jefferson County Purchasing Department will submit a request to the Vendor to both:

1. Submit a FORM 1295 online via the Texas Ethics Commission website link below.

Vendors must enter the required information on Form 1295, and print a copy of the completed form. The form will include a certification of filing that will contain a unique certification number.

2. Submit a FORM 1295 hard copy (completed & signed by an Authorized Agent of the Awarded Vendor), to the Jefferson County Purchasing Department.

FORM 1295, Completion Instructions, and Login Instructions are available via the Texas Ethics Commission Website at: https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm

4. Multiple Vendor Award

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

5. 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.

6. 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).

Invoices shall be submitted to: Jefferson County Auditing Department, Attention: Accounts Payable, 1149 Pearl Street, 7th floor, Beaumont, TX 77701.

7. 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.

8. Insurance

The contractor (including any and all subcontractors as defined in Section 9.1.3 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; a copy of the policy wording or endorsement is required.

Contractor shall furnish Jefferson County with Certificate of Insurance naming Jefferson County as additional insured and will provide the actual policy wording or endorsement showing as such.

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

Minimum Insurance Requirements:

Public Liability, including Products & Completed Operations \$1,000,000

Excess Liability \$1,000,000

Property Insurance (policy below that is applicable to this project):

Improvements & Betterments Policy: Improvements/Remodeling (for Lease Tenants)

Builder's Risk Policy: Structural Coverage for Construction Projects

Installation Floater Policy: Improvements/Alterations to Existing Structure

Workers' Compensation Statutory Coverage (See Section 9 Below)

9. Workers' Compensation Insurance

9.1 Definitions:

9.1.1 **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.

9.1.2 **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.

9.1.3 **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.

9.2 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.

9.3 The Contractor must provide a certificate of coverage to the governmental entity prior to being awarded the contract – refer to Section 8 above.

9.4 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.

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

9.5.1 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

9.5.2 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.

- 9.6 The Contractor shall retain all required certificates of coverage for the duration of the project and for one (1) year thereafter.
- 9.7 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.
- 9.8 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.
- 9.9 The Contractor shall contractually require each person with whom it contracts to provide services on a project to:
 - 9.9.1 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.
 - 9.9.2 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.
 - 9.9.3 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.
 - 9.9.4 Obtain from each person with whom it contracts, and provide to the Contractor:
 - 9.9.4.1 A certificate of coverage, prior to the other person beginning work on the project; and
 - 9.9.4.2 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.
 - 9.9.5 Retain all required certificates of coverage on file for the duration of the project and for one (1) year thereafter.
 - 9.9.6 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
 - 9.9.7 Contractually require each person with whom it contracts to perform as required by paragraphs 9.1 – 9.7., with the certificates of coverage to be provided to the person for whom they are providing services.
- 9.10 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.
- 9.11 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 IFB 19-003/JW.

1. INTRODUCTION

This demolition project will include the proper removal transportation and disposal of the Hangar No. 3 located at the Jack Brooks Regional Airport in Beaumont, Texas. For the purpose of this project, all references to Owner's Representative refer to **Fittz & Shipman, Inc.** A walk-through of each work area will be conducted at the pre-bid meeting.

SCOPE

The scope and purpose of these specifications is to establish certain regulations, general requirements, and particular requirements necessary for the demolition of the Jack Brooks Regional Airport Hangar No. 3, and the legal disposal of lead-based paint and asbestos-containing materials on structural components, windows, sheet metal sheathing and associated debris. All metal building components with lead-based paint and/or asbestos-containing materials shall be properly handled and recycled per federal regulations. Furnish 6' high temporary fencing that meets FAA requirements around the perimeter of hangar 3 during demolition and removal.

NOTIFICATIONS

The Contractor shall submit the 10-day demolition notification as required by the State of Texas.

GENERAL CONDITIONS AND REQUIREMENTS

The following list of conditions and requirements are to be understood as being a general guide for the demolition of the building. It must be noted, however, that there are special requirements listed in the specifications which are in addition to these general requirements for demolition, and that it is the responsibility of the Contractor to comply with all particular requirements. The Contractor shall haul off all debris and unsalvageable materials; and no debris or rubble which may pose a threat to public safety will be left on the site overnight. No such debris or material will be placed on a sidewalk or public right-of-way so that it poses a danger to any person.

A. The Contractor shall provide all labor, materials, equipment, services, testing, supervision, and incidentals necessary to perform work of lead-based paint demolition and removal of items bearing lead-based paint and/or asbestos under this contract in accordance with the following specifications. After demolition the areas disturbed shall be cleaned in accordance with the procedures outlined below.

PARTICULAR WORK REQUIREMENTS

The following particular work requirements and conditions:

A. Extreme caution shall be taken when working around any fuel storage area, aircraft, or other airport vehicles or equipment.

B. Before the building is demolished, its utilities shall be safely disconnected. The Contractor shall serve notice to all suppliers of utilities to the building to be demolished, and have the utility suppliers disconnect the services and remove all meters and equipment belonging to them. All piping and wiring shall be properly terminated. Any costs incurred in the termination of utilities and services shall be borne by the Contractor.

C. Demolition and clean-up includes, but is not limited to, the removal of all lumber, doors, windows, wire, structural columns/beams, flooring, sheet metal, appliances, furniture, loose rock, brick, mortar, concrete,

and the cleaning and removal of all rubbish, trash or other debris. The building's slab shall be left in place and in good condition.

D. Fill, grade and level with clean fill dirt all depressions in the earth which exist on the lot and all ruts or other depressions created during the demolition work.

E. All sewer lines exposed through demolition work must be cut off within two (2) inches of the surface to the ground or concrete slab and must be plugged with concrete in such a manner as to prevent ground water incursion into the sanitary sewer system.

HAZARDOUS MATERIALS

A. Materials defined by the Environmental Protection Agency to be hazardous to the environment or persons, shall be disposed of in accordance with all local, state and federal government regulations and governing laws. This shall be the responsibility of the Contractor. The Contractor shall furnish written proof of such disposal. The following specifications shall apply:

1. Contractors must be familiar with the contents of this document, included but not limited to the following:

- Worker Protection
- All types of Lead-Based Paint (LBP) and asbestos testing
- Measures for control and containment of lead dust, asbestos, and debris
- Contractor is responsible for the protection of its employees and subcontractors, and for the proper disposal of all hazardous materials.

2. In addition, the Contractor must be able to substantiate sufficient prior de-leading and asbestos removal experience and/or education providing same with the foresight of the prevailing LBP and asbestos abatement techniques and safety practices contained herein.

3. Contractors should be experienced in building renovation and restoration, guidelines for control and the handling of toxic and hazardous materials and protection of the environment and the health of all occupants and workers, as per applicable EPA, OSHA, and NIOSH regulations.

4. The following methods shall be adhered to during the demolition activities. Any deviation from this list shall require Consultant's prior approval:

- a) HEPA vacuum visible debris in vicinity of demolition area involving lead paint.
- b) HEPA vacuum loose lead-based paint on concrete and wash down with a 5% trisodium phosphate solution.
- c) The Contractor shall perform Toxicity Characteristic Leachate Procedure (TCLP) sampling of the waste stream prior to moving waste containers off site. This activity shall be supervised by the Consultant. Samples shall be analyzed for TCLP by US EPA Method 1311.
- d) Debris: Collect and properly dispose of lead-contaminated paint chips and debris from the floor and surrounding areas of LBP.

B. APPLICABLE REGULATIONS, CODES AND STANDARDS

1. The Contractor shall acknowledge that he is aware of and will maintain strict compliance with all regulations, codes, standards, and ordinances governing the performance of his work. Furthermore, the Contractor shall be responsible for any failure to comply with applicable documents.

2. Applicable documents include but are not limited to the following:

- a) OSHA 29 CFR 1926.62, Lead Exposure in Construction (Interim Final Rule);
- b) OSHA 29 CFR 1910.1025, Lead, General Industry;
- c) OSHA 29 CFR 1910.1200, Hazard Communication;
- d) OSHA 29 CFR 1910.134, Respiratory Protection;

- e)** OSHA 29 CFR 1910.145, Specifications for Accident Prevention Signs and Tags;
- f)** OSHA 29 CFR 1926.59, Hazard Communication;
- g)** US HUD, "Lead-Based Paint: Interim Guidelines for Hazard Identification and Abatement in Public and Indian Housing", September 1990;
- g)** Lead-Based paint Hazard Elimination; Interim Rule Title 24, Part 35, 905, 941, 965, and 968 of the Code of Federal Regulations; and
- h)** EPA 40 CFR 261, Resource Conservation and Recovery Act (RCRA.)

3. The most current issue of each document shall apply. Where conflict among requirements or with these specifications exists, the more strict or stringent requirement or interpretation shall apply.

4. The Contractor shall provide at least one copy of any applicable EPA, OSHA, State or City regulation, code, or ordinance at the site available for review.

5. Nothing is intended to relieve the Contractor of any responsibility for compliance with state or local laws, ordinances, codes or regulations governing lead-based abatement. Where state and local requirements are more stringent than the Federal regulations, those state and local requirements must be followed by the Contractor.

C. NOTICES AND SUBMITTALS

- 1.** Prior to commencing of the work, the Contractor shall provide to the Owner's Representative:
 - a)** Assurance that the results of worker medical examinations for blood **lead level** tests are below OSHA guidelines
 - b)** Material Safety Data Sheets (MSDSs) for products used or stored at the job site
 - c)** Name of testing laboratory to be used for analytical testing of waste materials generated as a result of this project
 - d)** The starting and completion dates of the demolition work
- 2.** During performance of the work, the Contractor shall provide to the Owner's Representative:
 - a)** Test results from analysis of waste materials generated.
 - b)** Results of OSHA compliance air sampling conducted on Contractor's employees.
 - c)** Daily Log.

C. SIGNAGE

1. At least 24 hours before starting removal or handling of lead-painted components, the Contractor shall establish a regulated work area around the contaminated equipment and shall display a warning sign(s), as appropriate.

WARNING
LEAD WORK AREA
POISON
NO SMOKING OR EATING

D. CONTROL OF ACCESS

No one may enter or remain in a regulated work area at any time during demolition which involves lead paint, unless that person is:

- 1.** The Contractor and his employees.
- 2.** The Owner's Representative's Representative or a state or local enforcement official or his designee.

E. WORKER PROTECTION

1. The Contractor shall insure that his employees are protected in accordance with all applicable federal, state and local standards.
2. Initial biological monitoring is required for interim work activities.
3. Workers will wear full body disposable suits with hoods and booties. A TYVEK or similar type of suit may be worn. Suits will be worn in the work area at all times after the pre-abatement inspection and shall remain in use until the area passes final clearance inspection. Light-weight nylon clothes may be worn under the disposable suit, but these underclothes must be changed before leaving the work area and should be laundered separately.
4. Goggles with side shields will be worn when working with a material that may splash or fragment, or if protective eye wear is specified on the MSDS for that product.
5. Personal hygiene practices by all workers in compliance with applicable regulations shall be enforced by the Contractor:
 - a.) No eating, drinking, or use of tobacco shall be allowed in the work area. The Contractor shall provide a clean space, separated from the work area, for eating and drinking purposes.
 - b.) Disposable clothing, such as TYVEK suits, and other personal protective equipment (PPE) must be donned prior to entering the work area. Disposable suits shall be used once, then shall be properly discarded.
 - c.) All workers must wash upon leaving the work area in a wash facility provided by the Contractor. Wash facility will consist of, at least, running potable water, towels, and a HEPA vacuum. Upon leaving the work area, each worker will wash and dry face and hands, HEPA vacuum clothes, and remove and dispose of the work suit as contaminated waste.

F. CONTROL OF EMISSION AND DUST

1. When handling/abating lead-contaminated building components outdoors, Contractor shall spread a minimum 10 mil polyethylene sheet beneath the work area under the component to be removed. The drop cloth shall extend a minimum of 3 ft. from the wall for every 10 ft. of vertical distance involved in the work. Lateral distance along the wall should match this distance on either side of the work area.
2. Minimize creation of lead-contaminated dust and airborne particles by using methods and procedures that create the least amount of dust.
3. When working with lead-painted surfaces, Contractor shall exercise care to avoid dislodging any flaking paint from the substrate.
4. Plastic drop cloths, contaminated paper towels, and other dust and debris generated during the abatement shall be carefully folded into the plastic sheeting to avoid shaking dust from the surface. Folded plastic sheeting shall be deposited for temporary storage and testing in a disposal bag.

G. AIR MONITORING AND INSPECTION

1. The Contractor shall be responsible for compliance air monitoring of his workers, per OSHA regulation and as detailed in the Lead Safety and Health Plan.
2. Personal air samples representative of a full shift including at least one sample for each job classification in each work area either for each shift or for the shift with the highest exposure level shall be collected and analyzed. Air samples should be taken in accordance with NIOSH Method 7082, or equivalent.
3. Worker exposure levels shall be evaluated with respect to the OSHA Action Level (30 µg/m³) and the Permissible Exposure Level (50 µg/m³) as 8-hour Time-Weighted Averages. If measured exposure levels (IFB 19-003/JW), Demolition of Hangar No. 3 at Jack Brooks Regional Airport

exceed the criteria set for respiratory protection and personal protection of workers, the Contractor shall stop work, shall notify the Owner's Representative, shall attempt to correct and control the operation to reduce the elevated contamination dust levels.

4. After Contractor has completed final clean-up, and performed a visual inspection, the Consultant will perform a detailed visual inspection. All surfaces will be examined for the presence of dust or debris, especially flat surfaces. If dust or debris is found, Contractor shall re-clean the entire work area and a repeat of the detailed visual inspection will occur.

H. CLEANING SOLUTIONS

1. Contractor shall provide solution containing at least one ounce of five percent trisodium phosphate per each gallon of water.

I. DISPOSAL

1. Disposal bags shall be, as a minimum, individual, 6 mil thick, leak-tight, manufactured polyethylene bags.

2. Polyethylene wrap shall be 6 mil and 10 mil polyethylene sheeting.

3. Disposal drums shall meet US Department of Transportation (DOT) regulations for disposal of respective waste(s) generated.

4. Disposal labels shall identify waste materials (before TCLP testing.) Hazardous wastes shall be identified as such in compliance with RCRA regulations for hazardous materials.

J. CLEAN UP OF WORK AREA

1. Clean-up shall be performed by contractor as follows:

a. After the demolition work has been completed, remove all debris and dispose of it in designated containers.

b. Deposit all lead-contaminated waste, including sealing tape, plastic sheeting, mop heads, sponges, filters, and disposable clothing, etc. in double plastic bags, at least 6 mil thick or single 10 mil thick, and seal the bags.

c. After vacuum cleaning, phosphate wash concrete surface in the work area with a solution containing at least 1 ounce of 5 percent trisodium phosphate to each gallon of water.

d. After floor washing has dried, HEPA vacuum clean surfaces until no visible residue remains.

K. WASTE DISPOSAL

1. The Contractor shall remove daily all lead waste from the work area.

2. The Contractor shall be responsible for removing, controlling, waste materials, all treated as hazardous waste until classification through testing is completed. This includes not only solid wastes but also waste water generated from interim and final clean-up.

a. During the actual demolition, the Contractor shall not leave debris in the work area or adjacent property, incinerate debris, dump waste into landfills, or introduce lead-contaminated water into storm or sanitary sewers.

3. For disposal of waste materials, the requirements of the Resource Conservation and Recovery Act (RCRA) as well as applicable state and local solid waste plan requirements shall be complied with.

a. Testing of lead-contaminated waste materials per the US EPA's Toxicity Characteristics Leaching Procedure (TCLP) will be conducted.

b. If the TCLP results equal or exceed 5.0 mg/l of lead, the waste must be handled as hazardous waste, to be transported to a licensed treatment, storage, and disposal facility (TSDF).

c. If the TCLP results are below the regulatory threshold of 5.0 mg/l, the wastes are not considered as being hazardous and can be disposed of as construction debris.

d. Results of TCLP testing and analysis will be submitted to the Consultant before disposal of the particular waste stream.

e. The following waste materials will be tested to determine whether or not they are hazardous wastes:

- 1.)** Lead paint chips
- 2.)** Waste water
- 3.)** Dust from HEPA filters and from damp sweeping
- 4.)** Plastic sheets, duct tape, or tape used to cover floors and other services during the demolition activities
- 5.)** Rags, sponges, mops, HEPA filters, respirator cartridges, scrapers, and other materials used for cleanup
- 6.)** Disposable work clothes and respirator filters
- 7.)** Any other items contaminated with lead-based paint

f. Non-hazardous solid wastes shall be placed in double (6 mil) or single (10 mil) polyethylene bags that are air tight and puncture resistant.

- 1.)** The Contractor shall contain and properly dispose of all liquid waste, including lead-dust contaminated wash water.
- 2.)** Exteriors of all containers and disposal bags shall be HEPA vacuumed prior to their removal from the work area and shall be wet wiped. Containers and bags should then be moved into the designated storage area.
- 3.)** The Contractor shall carefully place the containers into a truck or dumpster used for disposal.

g. Disposal of Hazardous Waste (as determined by analytical testing): The Contractor shall be required to comply with the RCRA regulations.

- 1.)** Lead-contaminated debris shall not be stored in the work area while awaiting testing and removal. A temporary hazardous waste storage area shall be designated and managed for storage, in compliance with all federal, state, and local regulations.
- 2.)** Waste containers used will comply with EPA and DOT regulations for containers used in storing and hauling hazardous wastes.
- 3.)** If the Contractor is not a certified hazardous waste transporter, a subcontract shall be entered into with a certified transporter to move the hazardous wastes. The third party hauler shall be required to follow RCRA regulations, and all manifestation of the transport and disposal of the hazardous wastes shall be completed and submitted to the Owner's Representative.
- 4.)** Copies of transport and disposal manifests shall be submitted to the Owner's representative for distribution to Owner's Project Management team and Environmental Management and Hazardous Waste Program.

L. POST ABATEMENT SUBMITTALS

1. The Contractor shall provide a total of 5 copies of each submittal. The submittals will be provided to the Owner's Representative for distribution to Owner's Project Management team, and Environmental Management and Hazardous Waste Program. Each set of submittals will be bound using three-hole punch paper.

2. The Contractor shall submit to the Owner's Representative copies of all manifests for the transportation and disposal of solid and hazardous wastes generated.

3. The Contractor shall submit to the Owner's Representative copies of all records indicating that the demolition work has been performed in compliance with applicable regulation and these specifications.

General Notes

- 1.** Demolition work includes the complete wrecking of structures and the removal and disposal of all demolished materials.
- 2.** Contractor to coordinate the shut-off, capping and continuation of utility services as required.
- 3.** Buildings and other structures to be demolished will be vacated and discontinued in use prior to the start of the work.
- 4.** The Owner assumes no responsibility for the actual condition of structures to be demolished.
- 5.** Conditions existing at the time of inspection for bidding purposes will be maintained by the Owner insofar as practicable. However, variations within the structure may occur by Owner's removal and salvage operations prior to the start of the demolition work.
- 6.** Storage or sale of removed items on the Project Site will not be permitted.
- 7.** The use of explosives will not be permitted.
- 8.** Conduct demolition operations and the removal of debris to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities.
- 9.** Ensure the safe passage of persons around the area of demolition. Conduct operations to prevent injury to adjacent buildings, structures, other facilities, and persons.
- 10.** Promptly repair damages caused to adjacent facilities by demolition operations at no cost to the Owner.
- 11.** Maintain existing utilities indicated to remain, keep in service, and protect against damage during demolition operations.
- 12.** Do not interrupt existing utilities serving occupied or used facilities, except when authorized in writing by authorities having jurisdiction. Provide temporary service during interruptions to existing utilities, as acceptable to the governing authorities.
- 13.** The Contractor will disconnect and seal the utilities serving each structure to be demolished, prior to the start of demolition work, upon written request of the Owner. Reconnect services to buildings or portion of buildings as required.
- 14.** Use water sprinkling, temporary enclosures, and other suitable methods to limit the amount of dust and dirt rising and scattering in the air to the lowest practicable level.
- 15.** Comply with the governing regulations pertaining to environmental protection.
- 16.** Do not use water when it may create hazardous or objectionable conditions such as ice, flooding and pollution.
- 17.** Clean adjacent structures and improvements of all dust, dirt and debris caused by demolition operations, as directed by the Engineer or governing authorities. Return adjacent areas to condition existing prior to the start of the work.
- 18.** Demolish buildings completely and remove from the Project Site. Use such methods as required to complete the work within the limitations of governing regulations.

- 19.** Small structures may be removed intact when acceptable to the Engineer and approved by the authorities having jurisdiction.
- 20.** Proceed with demolition in a systematic manner, from the top of the structure to the ground. Complete demolition work above floor before disturbing any of the supporting members on ground level.
- 21.** Demolish concrete and masonry in small sections.
- 22.** Remove structural framing members and lower to ground by means of hoists, derricks, or other suitable methods.
- 23.** Locate demolition equipment throughout the structure and remove materials so as not to impose excessive loads to walls, floors or framing to remain.
- 24.** Remove from the Project Site all debris, rubbish and other materials resulting from demolition operations.
- 25.** After grading is complete, the site shall be cleaned of all construction debris 2" diameter and larger.
- 26.** Burning of removed materials from demolished structures will not be permitted on the Project Site.

Bidder Information Form

Instructions: Complete the form below. Please provide legible, accurate, and complete contact information. PLEASE PRINT.

Bid Name & Number: IFB 19-003/JW, Demolition of Hangar No. 3 at Jack Brooks Regional Airport

Bidder's Company/Business Name: _____

Bidder's TAX ID Number: _____

Contact Person: _____ **Title:** _____

Phone Number (with area code): _____

Alternate Phone Number if available (with area code): _____

Fax Number (with area code): _____

Email Address: _____

Mailing Address (Please provide a physical address for bid bond return, if applicable):

Address _____

City, State, Zip Code _____

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

For clarification of this offer, contact:

Address

Name _____

Signature of Person Authorized to Sign

E-mail

Printed Name

Title

Bidder Shall Return Completed Form with Offer.

Acceptance of Offer

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. 19-033/JW, Demolition of Hangar No. 3 at Jack Brooks Regional Airport. 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

Bidder proposes to furnish all labor, material and equipment, and to perform all work necessary for the demolition of Hangar No. 3 at the Jack Brooks Regional Airport in accordance with drawings and specifications prepared by Fitz & Shipman, Inc. for the following sum:

Total Bid Amount: \$ _____ . _____

Total Bid Amount Written in Words:

_____ dollars and _____/100

Bidder has examined the bid specifications and the nature and kind of work to be performed and is informed of all local conditions and other things that might affect the cost or difficulty of performing the Work, and Bidder represents and warrants that Bidder has experience in the use of materials and methods of performance specified, and that Bidder will do the Work and construct the improvements with the specified materials as contemplated and indicated by the Drawings and Specifications.

Upon receipt of notice of acceptance of bid, Bidder agrees to execute the Contract within 10 (ten) days after such notice, deliver Performance and Payment Bonds for the faithful performance of the Work, to begin work on or before the date of commencement of the Work established in the Notice to Proceed, and to complete the Work in **(30) calendar days.**

Bidder hereby agrees to commence work under this contract on or before a date to be specified in a written "Notice to Proceed" of the Owner and to fully complete the project on or before the date of completion shown on the "Notice to Proceed". Bidder further agrees to pay as liquidated damages, the sum of **\$100.00** for each consecutive calendar day thereafter.

Acknowledgment of Addenda (if any):

Addendum 1 _____ Date Received _____

Addendum 2 _____ Date Received _____

Addendum 3 _____ Date Received _____

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: _____

Email Address: _____ Contract Period: _____

Scope of Work: _____

REFERENCE TWO

Government/Company Name: _____

Address: _____

Contact Person and Title: _____

Phone: _____ Fax: _____

Email Address: _____ Contract Period: _____

Scope of Work: _____

REFERENCE THREE

Government/Company Name: _____

Address: _____

Contact Person and Title: _____

Phone: _____ Fax: _____

Email Address: _____ 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

CONFFLICT OF INTEREST QUESTIONNAIRE

For vendor doing business with local governmental entity

FORM CIQ

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. See Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

1 Name of vendor who has a business relationship with local governmental entity.

OFFICE USE ONLY

Date Received

2 Check this box if 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 the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)

3 Name of local government officer about whom the information in this section is being disclosed.

Name of Officer

This section (item 3 including subparts A, B, C, & D) must be completed for each officer with whom the vendor has an employment or other business relationship as defined by Section 176.001(1-a), Local Government Code. 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, other than investment income, from the vendor?

Yes No

B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer named in this section AND the taxable income is not received from the local governmental entity?

Yes No

C. Is the filer of this questionnaire employed by a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more?

Yes No

D. Describe each employment or business and family relationship with the local government officer named in this section.

4

Signature of vendor doing business with the governmental entity

Date

Adopted 8/7/2015

Bidder Shall Return Completed Form with Offer.

Local Government Officer Conflicts Disclosure Statement - OFFICE USE ONLY

LOCAL GOVERNMENT OFFICER CONFLICTS DISCLOSURE STATEMENT		FORM CIS	
<p>This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.</p> <p>This is the notice to the appropriate local governmental entity that the following local government officer has become aware of facts that require the officer to file this statement in accordance with Chapter 176, Local Government Code.</p>			
1	Name of Local Government Officer		OFFICE USE ONLY
2	Office Held		Date Received
3	Name of vendor described by Sections 176.001(7) and 176.003(a), Local Government Code		
4	Description of the nature and extent of employment or other business relationship with vendor named in item 3		
5	List gifts accepted by the local government officer and any family member, if aggregate value of the gifts accepted from vendor named in item 3 exceeds \$100 during the 12-month period described by Section 176.003(a)(2)(B).		
<p>Date Gift Accepted _____ Description of Gift _____</p> <p>Date Gift Accepted _____ Description of Gift _____</p> <p>Date Gift Accepted _____ Description of Gift _____</p> <p style="text-align: center;">(attach additional forms as necessary)</p>			
6	AFFIDAVIT <p>I swear under penalty of perjury that the above statement is true and correct. I acknowledge that the disclosure applies to each family member (as defined by Section 176.001(2), Local Government Code) of this local government officer. I also acknowledge that this statement covers the 12-month period described by Section 176.003(a)(2)(B), Local Government Code.</p> <hr style="width: 20%; margin-left: 0;"/> <p style="text-align: right;">_____ Signature of Local Government Officer</p>		
<p>AFFIX NOTARY STAMP / SEAL ABOVE</p> <p>Sworn to and subscribed before me, by the said _____, this the _____ day of _____, 20 _____, to certify which, witness my hand and seal of office.</p>			
Signature of officer administering oath		Printed name of officer administering oath	Title of officer administering oath

Adopted 8/7/2015

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: Yes 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 SUBCONTRACTOR 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

PAGE 2 OF 4

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

PAGE 3 OF 4

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.

House Bill 89 Verification

I, _____, the undersigned representative of (company or business name) _____ (heretofore referred to as company) being an adult over the age of eighteen (18) years of age, after being duly sworn by the undersigned notary, do hereby depose and verify under oath that the company named above, under the provisions of Subtitle F, Title 10, Government Code Chapter 2270:

1. Does not boycott Israel currently; and
2. Will not boycott Israel during the term of the contract.

Pursuant to Section 2270.001, Texas Government Code:

1. "Boycott Israel" means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made ordinary business purposes; and
2. "Company" means a for-profit sole proprietorship, organization, association, corporation, partnership, joint venture, limited partnership, limited liability partnership, or an limited liability company, including a wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate of those entities or business association that exist to make a profit.

Signature of Company Representative

Date

On this _____ day of _____, 20____, personally appeared

_____, the above named person, who after by me being duly sworn, did swear and confirm that the above is true and correct.

Notary Seal

Notary Signature

Date

Bidder Shall Return Completed Form with Offer.

Senate Bill 252 Certification

On this day, I, Deborah L. Clark, Purchasing Agent for Jefferson County, Texas, pursuant to Texas Government Code, Chapter 2252, Section 2252.152 and Section 2252.153, certify that I did review the website of the Comptroller of the State of Texas concerning the listing of companies that is identified under Section 806.051, Section 807.051, or Section 2253.253 and I have ascertained that the below named company is not contained on said listing of companies which do business with Iran, Sudan, or any Foreign Terrorist Organization.

Company Name

IFB/RFP/RFQ number

Certification check performed by:

Purchasing Representative

Date

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

Notary Public in and for
the State of

Bidder Shall Return Completed Form with Offer.

Sample Contract

This agreement made this [Date] day of [Month], 2019, by and between the County of Jefferson, Texas represented by the County Judge, party of the first part, and [Contractor/Vendor Name] his/their executors, administrators, heirs, successors or assigns, the Contractor, party of the second part.

WHEREAS, the County desires to enter into a contract for **Invitation for Bid (IFB 19-003/JW), Demolition of Hangar No. 3 at Jack Brooks Regional Airport** as shown and described in the Contract Documents (to include plans, drawings, specifications, addenda, special provisions, and this Contract documents itself) included herein, and

WHEREAS, the Contractor has been engaged in and now does such work and represents that he is fully equipped, competent and capable of performing the desired and herein outlined work and is ready and willing to perform such work in accordance with the unit prices listed herein and the provisions of the herein included in the Contract Documents, and special provisions now

WITNESSETH: That for and in consideration of the unit prices listed herein, a part of this contract, the Contractor agrees to do, at his own proper cost and expense, all the work necessary for project completion as shown and described in the plans and in accordance with the provisions of the plans, drawings, specifications, addenda, and special provisions which are a part of this contract.

CONTRACTORS REPRESENTATIONS:

In order to induce Jefferson County to enter into this Agreement, Contractor makes the following representations:

Contractor has examined and carefully studied the Contract Documents (including plans, drawings, specifications, addenda, special provisions) identified in the Bidding Documents.

Contractor has visited the Site and/or become familiar with and is satisfied as to the general, local, and site conditions that may affect cost, progress, and performance of the Work.

Contractor is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.

Contractor does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.

Contractor is aware of the general nature of any work to be performed by Jefferson County and the others at the Site that relates to the Work as indicated in the Contract Documents.

Contractor has given Jefferson County written notice of all conflicts, errors, ambiguities, or discrepancies that contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer or Purchasing Department is acceptable to the Contractor.

The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

LIQUIDATED DAMAGES:

Contractor and Jefferson County recognize that time is of the essence of this Agreement and that Jefferson County will suffer financial loss if the Work is not completed within the times specified in the bid specifications and this above, plus any extensions thereof allowed in accordance with bid specifications. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration preceding the actual loss suffered by Jefferson County if the Work is not completed on time. Accordingly, instead of requiring any such proof, Jefferson County and Contractor agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay Jefferson County **\$100.00** for each day that expires after the time specified in Notice to Proceed.

CONTRACT PRICE:

Jefferson County shall pay Contractor the lump sum amount of \$ **[Contract Amount Here]** for completion of the Work in accordance with Contract Documents including plans, specifications, addenda, and special provisions for Project: **(IFB 19-003/JW), Demolition of Hangar No. 3 at Jack Brooks Regional Airport.**

All specific cash allowances are included in the above price and have been calculated in accordance with bid specifications and addenda (if applicable).

CONTRACT TIMES:

Time for completion of this contract shall be calculated beginning on the effective date given in the Notice to Proceed.

The work to be constructed under this contract shall be completed in (30) working days.

The County, in consideration of the full and true performance of said work by the Contractor, hereby agrees and binds itself to pay the Contractor for the quantities of work performed in compliance with this contract at the respective unit prices set forth herein, subject to adjustment as herein provided. The following items of work and respective unit prices are those contained in the original proposal and are a part of this contract. The County limits its obligation hereunder to the funds available.

The Contractor expressly warrants that he has employed no third person to solicit or obtain this contract in his behalf, or to cause or procure the same to be obtained upon compensation in any way contingent, in whole or in part, upon such procurement, or in compensation for services in connection therewith, any brokerage commission or percentage upon the amount receivable by him hereunder; and that he has not in estimating the contract price demanded by him, included any sum by reason of any such brokerage, commission or percentage; and that all moneys payable to him hereunder are free from all obligation of any other person for services rendered, or supposed to have been rendered, in the procurement of this contract. He further agrees that any breach of this warranty shall constitute adequate cause for the annulment of this contract by the County or for deduction from any sum due or to become due thereunder an amount equal to any brokerage commission or percentage so paid or agreed to be paid or both.

In the employment of labor in the performance of this contract, preference shall be given, other conditions being equal, to honorably discharged service personnel, but no other preference or discrimination among citizens of the United States shall be made.

It is acknowledged and agreed by the parties hereto that this contract is the full and complete contract for the construction of the work called for and described herein.

IN WITNESS WHEREOF, the parties hereto have set their hands the date herein named.

COUNTY OF JEFFERSON

Party of the First Part

Certified as being executed for the purpose and effect of activating and/or carrying out the orders, established policies, or work programs hereto approved and authorized by the Commissioners' Court of Jefferson County:

By: _____
Jeff R. Branick, County Judge

RECOMMENDED FOR EXECUTION:

Billy J. Smith, Jr., President
Fitz & Shipman, Inc. / Consulting Engineer

CONTRACTOR

Party of the Second Part

By: _____
Printed Name & Title

Signature

Firm/Company Name

ATTEST: _____ DATE: _____
Carolyn L. Guidry, County Clerk



Building HEROES. Protecting HEROES.

TECHNICAL SPECIFICATIONS

FOR:

**Jack Brooks Regional Airport – Hangar #3
4875 Parker Drive
Beaumont, Texas
Asbestos/Lead Abatement Project**

PREPARED FOR:

**Jefferson County – Jack Brooks Regional Airport
4875 Parker Drive
Beaumont, Texas 77705**

PREPARED BY:

**Total Safety U.S., Inc.
365 Hwy 365
Port Arthur, Texas 77640**

By: 

Daniel R. Ward
DSHS Consultant License No. 10-5479
DSHS Agency License No. 10-0489

December 2018
Project No.: 6079122

SECTION 01013 - SUMMARY of WORK (ASBESTOS/LEAD)

PART 1 – GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings, general provisions of Contract, including General and Supplementary Conditions, and other Division-1 Specification Sections, apply to work of this section.

1.2 PROJECT/WORK IDENTIFICATION:

- A. Except as otherwise expressly provided herein, Contractor shall supply all labor, supervision, installed and consumable materials, equipment, tools, services, testing devices, warehousing, and each and every item of expense necessary for the supply, fabrication, erection, installation, application, handling, hauling, unloading and receiving, construction, evaluation, design engineering, testing, and assembly of the abatement of asbestos/lead-containing/contaminated materials at the **Jack Brooks Regional Airport – Hangar #3 located at 4875 Parker Drive in Beaumont, Texas** herein called the Work.
- B. The Work described herein shall include furnishing all labor, materials, equipment, services, insurance, safety equipment, supplies, and incidentals which are necessary or required to clean up all disturbed asbestos/lead-containing materials at the worksite, including airborne /lead fibers to the levels indicated herein. Further, this work shall include packing, handling, transporting, and disposing of disturbed asbestos/lead-containing materials in an appropriate landfill, as required by law.
- C. The Asbestos/Lead Abatement Contractor shall comply with these plans and specifications, their intent, and any requirements set forth by Federal, State or local agencies having jurisdiction over this project.
- D. **Quantities: Quantities, if given in the specifications and/or on the Drawings, are approximate. The contractor shall be solely responsible for all quantities of materials specified for removal or clean up.**
- E. Contract Documents: Related requirements and conditions that are indicated on the Contract Documents include, but are not necessarily limited to the following:
 1. Applicable codes and regulations.
 2. Notices and permits.
 3. Existing site conditions and restrictions on use of the site.
 4. Work performed prior to work under this Contract.
 5. Alterations and coordination with existing work.
 6. Work to be performed concurrently by the Owner.
 7. Work to be performed concurrently by separate contractors.
 8. Alternates.
 9. Allowances.
 10. Pre-purchased material/equipment for Contract, with purchase price included in the Contract Sum.
 11. Pre-purchased subcontracts for the Contract, with subcontract amounts included in the Contract Sum.
 12. Requirements for partial Owner occupancy prior to substantial completion of the Contract Work.

- F. Summary by References: Work of the Contract can be summarized by references to the Contract, General Conditions, Supplementary Conditions, Specification Sections, Drawings, addenda and modifications to the Contract Documents issued subsequent to the initial printing of this project manual and including but not necessarily limited to printed material referenced by any of these. Work of the Contract is also unavoidably affected or influenced by governing regulations, natural phenomenon including weather conditions and other forces outside the contract documents.
- G. Abbreviated Written Summary: Briefly and without force and effect upon the contract documents, the work of the Contract can be summarized as follows:
- H. The Work includes the removal of asbestos/lead-containing materials in select areas of the structure according to the requirements of the following specification sections in the sequence indicated:
- I. General and Administrative Requirements: are set forth in the following specification sections:
1. 01013 - Summary of Work (Asbestos/Lead)
 2. 01043 - Project Coordination
 3. 01091 - Definitions and Standards
 4. 01301 - Submittals
 5. 01701 - Project Closeout
- J. Abatement Work Requirements: are set forth in the following specification sections, listed here according to the sequence of the work:
1. 01092 - Codes, Regulations and Standards: sets forth governmental regulations and industry standards which are included and incorporated herein by reference and made a part of the specification. This section also sets forth those notices and permits which are known to the Owner and which either must be applied for and received, or which must be given to governmental agencies before start of work.
 2. 01503 - Temporary Facilities: sets forth the support facilities needed such as electrical and plumbing connections for the decontamination unit and office space for the Project Administrator.
 3. 01526 - Temporary Enclosures - details the requirements for the sheet plastic barriers isolating the work area from the balance of the building.
 4. 01563 - Decontamination Units - explains the setup and operation of the personnel and material decontamination units.
 5. 01513 - Temporary Pressure Differential and Air Circulation System - sets forth the procedures to set up pressure differential isolation and ventilation of the work area.
 6. 01560 - Worker Protection - describes the equipment and procedures for protecting workers against asbestos/lead contamination and other workplace hazards except for respiratory protection.
 7. 01562 - Respiratory Protection - sets forth the procedures and equipment required for adequate protection against inhalation of airborne asbestos/lead fibers.
 8. 02084 - Disposal of Asbestos/Lead Containing Waste Material
- K. Decontamination of the Work Area: after completion of abatement work is described in the following sections:

1. 01712 - Cleaning and Decontamination Procedures: sets forth procedures to be used on contaminated objects and rooms which are not part of an abatement work area.
2. 01711 - Project Decontamination: describes the sequence of cleaning and decontamination procedures to be followed during removal of the sheet plastic barriers isolating a work area.
3. 01714 - Work Area Clearance: describes the analytical methods used to determine if the work area has been successfully cleaned of contamination.
4. 01701 - Project Closeout: details the closeout procedures to end the project once abatement work is complete including final paperwork requirements.

1.3 SCOPE OF WORK (SPECIFIC)

ASBESTOS-CONTAINING MATERIALS

MATERIAL	LOCATION	AMOUNT
<i>Window/Door Caulking Glazing</i>	<i>Northwest Wall Southeast Wall Northeast Entry Panels</i>	52 Windows 1 Entry Door

LEAD-BASED PAINT

MATERIAL	LOCATION	AMOUNT
<i>Metal Beams</i>	<i>Throughout Structure</i>	Throughout
<i>Interior Panels</i>	<i>Throughout Structure</i>	Throughout
<i>Door Frame</i>	<i>Northeast Corner</i>	One Entry Door

1.4 SCOPE OF WORK (GENERAL)

- A. Protect and isolate, as required, all building systems and appurtenances affected or traversing through and contained within the work area.
- B. Seal all penetrations, chases, cavities and voids, etc. prior to the removal of any asbestos/lead-containing/contaminated material.
- C. All final air asbestos clearance samples shall be analyzed by Phase Contrast Microscopy (PCM) as outlined in Section 01714.

1.5 SPECIAL REQUIREMENTS

- A. The Asbestos/Lead Abatement Contractor is reminded that he is responsible for inspecting and removing any known or suspected asbestos/lead-containing materials within the work areas. **The contractor shall adhere to the following, if applicable:**
 1. In areas regulated for asbestos/lead abatement work, a pressure measuring device such as a manometer with strip recorder or equivalent shall be used to document the pressure differential in the regulated areas.

2. In areas regulated for asbestos/lead abatement work, all water sprayers shall be airless, or other type low pressure sprayer, for amended water application.
3. Transportation equipment, as required, shall be suitable for loading, temporary storage, transit, and unloading of contaminated waste to minimize exposure to persons or reduce the potential of release to the environment.
4. Any damage to adjacent property, including but not limited to walls, furnishings, etc., shall be repaired or replaced at the Contractor's expense. Owner shall make the decision whether damaged items may be repaired or shall be replaced.
5. It shall be in intent of the plans and specifications that all asbestos/lead-containing materials that could be hazardous to the health or welfare of the building occupants, visitors, or the general public be removed. This shall be accomplished in a manner consistent with present engineering practices to reduce the hazards or potential for hazards to building occupants, visitors, contractor personnel, and the general public.
6. Once differential pressure has been established:
 - a) Contractor shall have at least one representative posted at the site on a 24-hour basis.
 - b) Contractor is solely responsible for security of the project site.
 - c) No site is to be left unattended.
 - d) Attendants shall have the ability to effectively communicate the inherent dangers of the project, and be qualified, capable, and equipped to enter the containment (licensed as an asbestos/lead abatement supervisor by the Texas Department of Health).
 - e) The security guard(s) will be trained and familiar with building systems, including but not limited to, water turn-off points, electrical equipment, etc.
 - f) There will be no additional payments for security guards.
 - g) Security attendants are to make periodic inspections of the work area, and shall not be allowed to sleep while on duty.
7. Any non-asbestos/lead workers used for construction shall be identified in such a way as to identify them as non-asbestos/lead workers. This may be accomplished with a certain colored hard hat, or badge that the worker wears in plain sight. These workers shall not be allowed in regulated areas.
8. This abatement project will be conducted with respiratory protection in full accordance with all regulatory requirements including but not limited to the OSHA regulations. Any required sampling of Contractor personnel will be conducted by a qualified person supplied by the Contractor who will also be responsible for determining the appropriate level of respirator protection for the Contractor's employees.
9. The consultant shall be responsible for establishing the level of respiratory protection for the Consultant's employees and other non-contractor personnel. The contractor shall indemnify and hold harmless the Consultant and the Owner against any claims relating to respiratory protection.
10. Contractor is responsible for the security of Consultant's equipment while on site. Therefore, Contractor shall repair or replace any equipment of Consultant's that is damaged or stolen while on the job-site. Consultant shall hold harmless Owner claims by Consultant or other party.

1.6 CONTRACTOR USE OF PREMISES:

A. Use of the Site:

1. Confine operations at the site to the areas permitted under the Contract.
2. Portions of the site beyond areas on which work is indicated are not to be disturbed.

3. Conform to site rules and regulations affecting the work while engaged in project construction.
4. Do not unreasonably encumber the site with materials or equipment.
5. Confine stockpiling of materials and location of storage sheds to the areas indicated. If additional storage is necessary obtain and pay for such storage off site.
6. Lock automotive type vehicles, such as passenger cars and trucks and other mechanized or motorized construction equipment, when parked and unattended, so as to prevent unauthorized use. Do not leave such vehicles or equipment unattended with the motor running or the ignition key in place or accessible to unauthorized persons. Owner shall not be responsible for any thefts.
7. Smoking or open fires will not be permitted within the building enclosure or on the premises.
8. Use of existing toilets within the building, by the Contractor and his personnel, shall not be permitted. Contractor must provide portable toilet. Portable toilets shall be kept clean at all times.

1.7 OWNER OCCUPANCY:

A. Partial Owner Occupancy:

1. The Owner reserves the right to place and install equipment as necessary in areas of the building in which all asbestos/lead abatement and project decontamination procedures have been completed, and to occupy such completed areas prior to substantial completion, provided that such occupancy does not substantially interfere with completion of the work.
2. Such placing of equipment and partial occupancy shall not constitute acceptance of the work or any part of the work.

1.8 SUBMITTALS

A. Before the Start of Work, submit the following to the Owner's Representative for review:

1. Plan of Action:
 - a) Submit as a written report.
 - b) The work plan must address the number of workmen of the various trades that will man the job, the number of shifts and the number of days in the week that the work will be accomplished within the contract period.
2. Work Progress Schedule:
 - a) Within five working days after Contractor's receipt of the Notice-to-Proceed, if requested by Owner, the Contractor shall submit in triplicate to the Owner and the Owner's Representative for review, an estimated progress schedule for starting and completing the various classifications of construction.
 - b) The schedule shall be in such form and detail as directed by the Owner and copies, as required, shall be submitted to the Owner for approval simultaneously with the Owner's Representative.
 - c) The Work Progress Schedule shall be updated as directed by the Owner.
3. Inspection:
 - a) Report on inspection carried out as required by this section. Include copies of all photographs, video tapes, etc. Submit in the same manner as product data.

1.9 INTERRUPTION OF SERVICES AND FUNCTIONS DISCONNECTION, MOVING RECONNECTION REINSTALLING UTILITIES AND APPURTENANCES

1. Overtime for Utility Work:
 - a) When work is required by the Contractor during the utility tie-ins (or correction of Contractor's damage to existing utilities), the Physical Plant personnel must be involved. This work shall be coordinated with them for their availability.
2. Temporary Services Expenses:
 - a) The Contractor shall bear all expenses for temporary services required at any time during the course of the project.

1.10 SCHEDULE OF WORK

- a) If the completion of the work is not on schedule, the Contractor shall provide a work plan and implement his best efforts to get back on and meet the schedule by increasing manpower and/or schedule.
- b) If the completion of the Work is not on schedule as specified in the section of the specifications and professional judgment of the Owner and Consultant cannot be put back schedule by increasing manpower, the Contractor shall immediately use the best efforts to (in addition to increased manpower, if necessary) increase the hours and/or days worked (i.e. add shifts). Additional costs associated with such manpower/shifts shall be at no additional cost to Owner. Additionally, it is understood that additional shifts will require additional work for the Consultant, the additional cost of which shall be borne by the Contractor at a cost of \$100 per field technician hour. TEM analysis will be charged at \$200 per sample for 24-hour turnaround for additional samples other than the first set of samples. Overtime work is not to be confused with liquidated damages, as set forth in the Supplementary Conditions to the contract.

1.11 CONDITIONS AND RISKS OF WORK

- A. Contractor represents that Contractor has carefully examined the drawings and specifications for the Work and has fully acquainted itself with and understands all other conditions relevant to the Work, and its surroundings, and Contractor assumes the risk of such conditions and will, regardless of such conditions, the expense, difficulty of performing the Work, or negligence, if any, of the Owner or Consultant, fully complete the Work for the stated Contract Price without further recourse to the Owner or Consultant.
- B. Information on the site of the Work and local conditions at such site furnished by Owner or Consultant in specifications drawings or otherwise is not guaranteed by Owner or Consultant and is furnished only for the convenience of Contractor.

1.12 PLAN OF ACTION:

- A. No later than three days prior to the preconstruction meeting submit a detailed plan of the procedures proposed for use in complying with the requirements of this specification. The plan must be approved by the Owner's Representative prior to commencement of work. The plan should Include:
 1. Location and layout of decontamination areas.
 2. The sequencing of asbestos/lead work.
 3. The interface of trades involved in the performance of work.
 4. Methods to be used to assure the safety of building occupants and visitors to the site.

5. Disposal plan including location of approved disposal site.
6. Detailed description of the methods to be employed to control pollution.
7. Use of portable HEPA ventilation system.
8. Closing out of the building's HVAC system.
9. Method of removal to prohibit visible emissions in work area.
10. Packaging of removed asbestos/lead debris.

1.13 INSPECTION:

A. Prior to commencement of work:

1. Inspect areas in which work will be performed.
2. Prepare a listing of damage to structure, surfaces, equipment or of surrounding properties which could be misconstrued as damage resulting from the work.
3. Photograph or videotape existing conditions as necessary to document conditions, both at the interior and exterior of the building and site (including exit ramps and parking facilities, shall be included).
4. Submit to Owner's Representative prior to starting work.

1.14 POTENTIAL ASBESTOS/LEAD HAZARD:

- A. The disturbance or dislocation of asbestos/lead-containing materials may cause airborne asbestos/lead to be released into the building's atmosphere, thereby creating a potential health hazard to workmen and building occupants.
1. Apprise all workers, supervisory personnel, subcontractors and consultants who will be at the job site of the seriousness of the hazard and of proper work procedures which must be followed.
 2. The Abatement Contractor and his subcontractors shall be required to sign a Certificate of Worker's Acknowledgment of hazards associated with asbestos/lead prior to entering the work area.
- B. Where in the performance of the work, workers, supervisory personnel, subcontractors, or consultants may encounter, disturb, or otherwise function in the immediate vicinity of any identified asbestos/lead-containing materials take appropriate continuous measures as necessary to protect all building occupants from the potential hazard of exposure to airborne asbestos/lead. Such measures shall include the following:
1. The procedures and methods described herein.
 2. Compliance with regulations of applicable federal, state and local agencies.

1.15 STOP WORK:

- A. If the Owner, the Owner's Representative, or the Project Administrator presents a verbal or written stop work order immediately and automatically stop all work. Do not recommence work until authorized in writing by Owner's Representative.
- B. The Owner or Consultant has the authority to stop any or all abatement activities at any time that it has been determined or is suspected that conditions are not within the specifications or an applicable regulation, or that an unsafe condition exists. The decision to stop work is solely at the discretion of the Owner or Consultant.
- C. The abatement activity shall not continue until the conditions have been corrected to the satisfaction of the Owner or Consultant.

D. Standby time occurring during a stop work condition shall be at the Contractor's expense.

1.16 INSPECTIONS

- A. The Asbestos/Lead Abatement Contractor is solely responsible for any and all site inspections, estimations of quantity of work, or recognition of unusual or special situations which may affect a timely and scheduled completion of this work. The Asbestos/Lead Abatement Contractor shall satisfy himself that the work can be completed as set forth by the specifications before starting work.
- B. Any Authorized Visitor shall have access to the worksite, materials, records, or any other relevant data specified herein and, furthermore, the Contractor shall provide proper facilities and equipment for such access and inspection.
- C. ONLY AUTHORIZED VISITORS WILL BE ALLOWED ON THE WORKSITE.

1.17 CLEARANCE TESTING

- A. Following clean-up of each work area, final clearance monitoring shall be performed by the Consultant. A final clearance of 0.01 fibers/cc by Phase Contrast Microscopy (PCM) is required for asbestos/lead.

END OF SECTION - 01013

SECTION 01043 - PROJECT COORDINATION (ASBESTOS)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this section.

1.2 COPIES OF DOCUMENTS:

- A. Owner shall furnish to Contractor 3 copies (unless otherwise specified in the Supplementary Conditions) of the Contract Documents as are reasonably necessary for the execution of the Work.
- B. Additional copies will be furnished, upon request, at the cost of reproduction.

1.3 BEFORE STARTING CONSTRUCTION:

- A. Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements.
- B. Contractor shall promptly report in writing to Owner's Representative any conflict, error or discrepancy which Contractor may discover and shall obtain a written interpretation or clarification from Owner's Representative before proceeding with any Work affected thereby.
- C. Within five days after the Effective Date of the Agreement, Contractor shall submit to Owner's Representative for review:
 - 1. An estimated progress schedule indicating the starting and completion dates of the various stages of the Work;
 - 2. A preliminary schedule of Shop Drawing submissions; and
 - 3. A preliminary schedule of values for all of the Work which will include quantities and prices of items aggregating the Contract Price and will subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work which will be confirmed at the time of submission.
- D. Before any Work at the site is started, Contractor shall deliver to Owner, with a copy to Engineer, certificates (and other evidence of insurance requested by Owner) which Contractor is required to purchase and maintain in accordance with these Contract Documents.

1.4 SUMMARY:

- A. This Section specifies administrative and supervisory requirements necessary for Project coordination including, but not necessarily limited to:

1. Administrative and supervisory personnel.
 2. Progress Meetings
 3. Pre-Construction Conference
 4. Daily Log
 5. Special reports.
 6. Contingency Plans
 7. Notifications to other entities at job site.
- B. Requirements for the Contractor's Construction Schedule are included in Section "Submittals."

1.5 FINALIZING SCHEDULE

- A. At least ten days before submission of the first Application for Payment, the Contractor shall submit to Owner's Representative a finalized progress schedule in accordance with these Contract Documents.
- B. The finalized progress schedule will be acceptable to Owner's Representative as providing an orderly progression of the Work to completion within the Contract Time, but such acceptance will neither impose on Owner's Representative responsibility for the progress or scheduling of the Work nor relieve Contractor from full responsibility.
- C. The finalized schedule of Shop Drawing submissions will be acceptable to Owner's Representative as providing a workable arrangement for processing the submissions.
- D. The finalized schedule of values will be acceptable to Owner's Representative as to form and substance.

1.6 FAMILIARITY WITH WORK

- A. Contractor represents that he has familiarized himself with, and assumes full responsibility for having familiarized himself with the nature and extent of the Contract Documents, Work, locality, and with all local conditions and federal, state and local laws, ordinances, rules and regulations that may in any manner affect performance of the Work, and represents that he has correlated his study and observations with the requirements of the Contract Documents.
- B. Contractor also represents that to the extent he deems necessary he has studied all surveys and investigation reports and physical conditions, and made such additional surveys and investigations as he deems necessary for the performance of the Work at the Contract Price in accordance with the requirements of the Contract Documents and that he has correlated the results of all such data with the requirements of the Contract Documents.

1.7 BUILDING INSPECTION

- A. The Contractor represents that he has thoroughly inspected the property, has familiarized himself with the proposed work, has determined that the work can be accomplished as set forth in the Contract Documents, understands and agrees to the intent of the work as set forth.

1.8 ADMINISTRATIVE AND SUPERVISORY PERSONNEL:

- A. General Superintendent:

1. Provide a full-time General Superintendent who is experienced in administration and supervision of asbestos abatement and demolition projects including work practices, protective measures for building and personnel, disposal procedures, etc.
2. This person is the Contractor's "Competent Person" and Representative responsible for compliance with all applicable federal, state and local regulations, particularly those relating to asbestos-containing materials.
3. This person will be the Competent Person required by OSHA in 29 CFR 1926.1101, and shall be licensed in accordance with the Texas Asbestos Health Protection Rules.
4. This person must be on-site at all times, and may not manage more than one project at a time.
5. Experience and Training: The General Superintendent must have completed a course at an EPA Training Center or equivalent certificate course in asbestos abatement procedures, and have had a minimum of two (2) years on-the-job training in asbestos abatement procedures.
6. Competent Person: The General Superintendent is to be a Competent Person as required by OSHA in 29 CFR 1926.1101.
7. Licensed Individual: The General Superintendent is to be a licensed asbestos abatement supervisor as required by Texas Asbestos Health Protection Rules section 295.46.

1.9 PROGRESS MEETINGS:

- A. General:

1. In addition to specific coordination and pre-installation meetings for each element of work, and other regular project meetings held for other purposes, Owner's Representative will hold general progress meetings as required.
2. These meeting will be scheduled, where possible, at time of preparation of payment request.
3. Require each entity then involved in planning, coordination or performance of work to be properly represented at each meeting.

1.10 PRE-CONSTRUCTION CONFERENCE:

- A. An initial progress meeting, recognized as "Pre-Construction Conference" will be convened by the Owner's Representative prior to start of any work.
- B. Meet at project site, or as otherwise directed with General Superintendent, Owner, Owner's Representative, Project Administrator, and other entities concerned with the asbestos abatement and demolition work.
- C. 72 hours advance notice will be provided to all participants prior to convening Pre-Construction Conference.
- D. This is an organizational meeting, to review responsibilities and personnel assignments and to locate the containment and decontamination areas and temporary facilities including power, light, water, etc.
- E. Procedures for handling Shop Drawings and other submittals and to establish a working understanding among the parties as to the Work will be discussed.

1.11 DAILY LOG:

- A. Daily Log: Maintain just outside the Decontamination Unit a daily log documenting the dates and time of but not limited to, the following items:
 - 1. Meetings; purpose, attendees, brief discussion;
 - 2. Visitations; authorized and unauthorized;
 - 3. Personnel, by name, entering and leaving the work area;
 - 4. Special or unusual events, i.e. barrier breaching, equipment failures, accidents;
 - 5. Air monitoring tests and test results; and
 - 6. Documentation of Contractor's completion of the following:
 - a) Inspection of work area preparation prior to start of removal and daily thereafter;
 - b) Removal of any sheet plastic barriers;
 - c) Contractor's inspections prior to spray back, lock back, encapsulation, enclosure or any other operation that will conceal the condition of asbestos-containing materials or the substrate from which such materials have been removed;
 - d) Removal of waste materials from work area;
 - e) Decontamination of equipment (list items); and
 - f) Contractors final inspection/final air test analysis.
- B. Provide two (2) copies of this log to Project Administrator on a daily basis.
- C. Submit copies of this log at final closeout of project as a project close- out submittal.

1.12 SPECIAL REPORTS:

- A. General: Except as otherwise indicated, submit special reports directly to Owner immediately upon occurrence requiring a special report, with copy to Owner's Representative and others affected by occurrence.
- B. Reporting Unusual Events:
 - 1. When an event of unusual and significant nature occurs at site (examples: failure of pressure differential system, rupture of temporary enclosures), prepare and submit a special report listing chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information.
 - 2. When such events are known or predictable in advance, notify OEHS immediately!
- C. Reporting Accidents:
 - 1. Prepare and submit reports of significant accidents, at site and anywhere else work is in progress.
 - 2. Record and document data and actions; comply with industry standards. For this purpose, a significant accident is defined to include events where personal injury is sustained, property loss of substance is sustained, or where the event posed a significant threat of loss or personal injury.
- D. Report Discovered Conditions:
 - 1. When an unusual condition of the building is discovered during the work (e.g. leaks, termites, corrosion) immediately notify OEHS.
 - 2. Prepare and submit a special report indicating condition discovered.

1.13 CONTINGENCY PLAN:

- A. Prepare a contingency plan for emergencies including fire, accident, power failure, pressure differential system failure, supplied air system failure, or any other event that may require modification or abridgment of decontamination or work area isolation procedures.
- B. Include in plan specific procedures for decontamination or work area isolation. Note that nothing in this specification should impede safe exiting or providing of adequate medical attention in the event of an emergency.
- C. Post in clean room of Personnel Decontamination Unit telephone numbers and locations of emergency services including but not limited to fire, ambulance, doctor, hospital, police, power company, telephone company, TDH, OFP, and OEHS.

1.14 NOTIFICATIONS

- A. Notify other entities at the job site of the nature of the asbestos abatement activities, location of asbestos-containing materials, requirements relative to asbestos set forth in these specifications and applicable regulations.
- B. Notify emergency service agencies including fire, ambulance, police or other agency that may service the abatement work site in case of an emergency.
- C. Notification is to include methods of entering work area, emergency entry and exit locations, modifications to fire notification or fire fighting equipment, and other information needed by agencies providing emergency services.
- D. Notifications of Emergency: Any individual at the job site may notify emergency service agencies if necessary without effect on this Contract or the Contract Sum.

1.15 SUBMITTALS

- A. Before the Start of Work: Submit the following to the Owner's Representative for review. No work shall begin until these submittals are returned with Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use or final-but-restricted use.
 - 1. Contingency Plans: for emergency actions.
 - 2. Telephone Numbers: and location of emergency services.
 - 3. Notifications: sent to other entities at the work site.
 - 4. Notifications: sent to emergency service agencies.
 - 5. Resume: of general superintendent.
 - 6. Accreditation: submit evidence in form of training course certificate of accreditation of General Superintendent as an asbestos abatement supervisor.
 - 7. Staff Names: Within 15 days of Notice to Proceed, submit a list of the Contractor's principal staff assignments, including the Superintendent and other personnel in attendance at the site; identify individuals, their duties and responsibilities; list their addresses and telephone numbers.
 - 8. Post copies of the list in the project meeting room, the temporary field office, and each temporary telephone.

END OF SECTION - 01043

SECTION 01091 - DEFINITIONS AND STANDARDS (ASBESTOS)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. General Explanation: A substantial amount of specification language constitutes definitions for terms found in other contract documents, including the drawings. (Drawings must be recognized as diagrammatic in nature and not completely descriptive of the requirements indicated thereon.) Certain terms used in Contract Documents are defined in this article.
- B. General Requirements: The provisions or requirements of Division-1 sections apply to entire work of Contract and, where so indicated, to other elements which are included in project.

1.3 DEFINITIONS:

- A. General: Definitions contained in this Article are not necessarily complete, but are general to the extent that they are not defined more explicitly elsewhere in the Contract Documents.
- B. Addenda: Written or graphic instruments issued prior to the opening of Bids which clarify, correct or change the Bidding Documents or the Technical Specifications.
- C. Agreement: The written agreement between Owner and Contractor covering the Work to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided therein.
- D. Application for Payment: The form accepted by Owner's Representative which is to be used by Contractor in requesting progress or final payments and which is to include such supporting documentation as is required by the Contract Documents.
- E. Approve: The term "approved," where used in conjunction with the Owner's Representative's action on the Contractor's submittals, applications, and requests, is limited to the responsibilities and duties of the Architect stated in General and Supplementary Conditions. Such approval shall not release the Contractor from responsibility to fulfill Contract Document requirements, unless otherwise provided in the Contract Documents.
- F. Bid: The offer or proposal of the bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
- G. Bonds: Bid, performance and payment bonds and other instruments of security.
- H. Change Order: A document recommended by the Owner's Representative, which is signed by Contractor and Owner and authorizes an addition, deletion or revision in the Work, or

an adjustment in the Contract Price or the Contract Time, issued on or after the Effective Date of Agreement.

- I. Directed: Terms such as "directed", "requested", "authorized", "selected", "approved", "required", and "permitted" mean "directed by the Owner's Representative", "requested by the "Owner's Representative", and similar phrases. However, no implied meaning shall be interpreted to extend the Owner's Representative's responsibility into the Contractor's area of construction supervision.
- J. The term "experienced," when used with the term "Installer" means having a minimum of 5 previous Projects similar in size and scope to this project, and familiar with the precautions required, and has complied with requirements of the authority having jurisdiction.
- K. Furnish: The term "furnish" is used to mean "supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, and similar operations."
- L. General Superintendent: This is the Contractor's Representative at the work site. This person will generally be the Competent Person required by OSHA in 29 CFR 1926.1101.
- M. Indicated: This term refers to graphic representations, notes or schedules on the Drawings, or other Paragraphs or Schedules in Specifications, and similar requirements in Contract Documents. Where terms such as "shown," "noted," "scheduled," and "specified" are used, it is to help locate the reference; no limitation on location is intended except as specifically noted.
- N. Install: The term "install" is used to describe operations at project site including the actual "unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations."
- O. Installer: An "Installer" is an entity engaged by the Contractor, either as an employee, subcontractor or sub- subcontractor for performance of a particular construction activity, including installation, erection, application and similar operations. Installers are required to be experienced in the operations they are engaged to perform.
- P. Notice of Award: The written notice by Owner, or by Owner's Representative in Owner's behalf, to the apparent successful bidder stating that upon compliance by the apparent successful bidder with the conditions precedent enumerated therein, within the time specified, Owner will sign and deliver the Agreement.
- Q. Notice to Proceed: A written notice given by Owner, or Owner's Representative in Owner's behalf, to Contractor (with a copy to Owner's Representative) fixing the date on which the Contract Time will commence to run and on which Contractor shall start to perform Contractor's obligations under the Contract Documents.
- R. Owner's Representative: This is the entity described as the "Environmental Consultant" or "Consultant" in all areas of these Contract documents and Technical specifications. All references to Environmental Consultant or Consultant in the Contract Documents in all cases refer to the Owner's Representative. The Owner's Representative will represent the Owner during abatement activities and until final payment is due. The Owner's Representative will advise and consult with the Owner. The Owner's instructions to the Contractor will be forwarded through the Owner's Representative.
- S. Project Administrator:

1. This is the entity described as the "Project Representative" in AIA Document A201 "General Conditions of the Contract for Construction," or is the entity described as "Engineer" in Engineers Joint Contract Document Committee (EJCDC) Document 1910-8 "Standard General Conditions of the Construction Contract."
 2. The Project Administrator is a full time representative of the Owner at the job site with authority to stop the work upon verbal order if requirements of the Contract Documents are not met, or if in the sole judgment of the Project Administrator, Owner's Representative, Owner, the interests of the Owner, safety of any person or the Owner's property are jeopardized by the work.
- T. Project Site is the space available to the Contractor for performance of the work, either exclusively or in conjunction with others performing other construction as part of the project. The extent of the project site is shown on the Drawings, and may or may not be identical with the description of the land upon which the project is to be built.
- U. Provide: The term "provide" means "to furnish and install, complete and ready for the intended use."
- V. Regulation: The term "Regulations" includes laws, statutes, ordinances and lawful orders issued by authorities having jurisdiction, as well as rules, conventions and agreements within the construction industry that control performance of the Work, whether they are lawfully imposed by authorities having jurisdiction or not.
1. Substantial Completion: The Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer as evidenced by Engineer's definitive certificate of Substantial Completion, it is sufficiently complete, in accordance with the Contract Documents, so that the Work (or specified part), (1) can be used for the purposes for which it is intended, (2) all pay items in the schedule of unit prices are complete, (3) all remaining work, if any, be considered by the Owner's Representative to be minor items; or if there be no such certificate issued, when final payment is due in accordance with these Contract Documents. The terms "substantially complete" and "substantially completed" as applied to any Work refer to Substantial Completion thereof.
- W. Testing Laboratories: A "testing laboratory" is an independent entity engaged to perform specific inspections or tests, either at the project site or elsewhere, and to report on, and, if required, to interpret, results of those inspections or tests.
1. Work: The entire complete construction, or abatement, or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work is the result of performing services, furnishing labor and furnishing and incorporating materials and equipment into the construction, or abatement, all as required by the Contract Documents.

1.4 DEFINITIONS RELATIVE TO ASBESTOS ABATEMENT:

- A. Abatement: The Procedure to control fiber release from asbestos-containing building materials. Activities include removal, encapsulation, and enclosure.
- B. ACM: Asbestos-Containing Material.

- C. Accredited or Accreditation (when referring to a person or laboratory): A person or laboratory accredited in accordance with section 206 of Title II of the Toxic Substances Control Act (TSCA).
- D. Acoustical Insulation: The general application or use of asbestos for the control of sound due to its lack of reverberant surfaces.
- E. Acoustical tile: A finishing material in a building usually found in the ceiling or walls for the purpose of noise control.
- F. Aerosol: A system consisting of particles, solid or liquid, suspended in air.
- G. Aggressive Sampling: Air sampling which takes place after final cleanup while the air is being physically agitated to produce a "worst case" situation.
- H. Air Cell: Insulation normally used on pipes and duct work that is comprised of corrugated cardboard which is frequently comprised of asbestos combined with cellulose or refractory binders.
- I. Air Diffuser: A device designed to disperse an air stream throughout a given area.
 - 1. Air Filtration Unit (AFU): Usually refers to machines used to provide ventilation and a negative static pressure differential within a completely enclosed asbestos work area. An AFU usually consists of the following: A fan system to draw air through a special set of filters - a gross prefilter, an intermediate filter and a HEPA filter - and exhaust clean air to the outside. AFUs are rated by the amount of air that can be drawn through them in a given amount of time, which is expressed in cubic feet of air per minute (e.g. 2,000 CFM). Loaded or clogged filters can seriously affect the displacement volume capability or efficiency of these devices.
- J. Air Lock: A system for permitting ingress and egress with minimum air movement between a contaminated area and an uncontaminated area.
- K. Air Monitoring: The process of measuring the fiber content of a specific volume of air in a stated period of time.
- L. Air Plenum: Any space used to convey air in a building or structure. The space above a suspended ceiling is often used as an air plenum.
- M. Air Purifying Respirator: A respirator that relies on filters to remove a particular contaminant(s) from the ambient air. They include both negative pressure and powered respirators. No type of air purifying respirator will protect the wearer from low oxygen atmospheres.
- N. Airline Respirator: A respirator that is connected to a compressed breathing air source by a hose.
- O. Ambient Air: The surrounding air or atmosphere in a given area under normal conditions.
- P. Amended Water: Water to which a surfactant has been added to decrease the surface tension to 35 or less dynes.

- Q. Amosite; An asbestiform mineral of the amphibole group containing approximately 50 percent silicon and 40 percent iron oxide, and is made up of straight, brittle fibers, light gray to pale brown in color.
- R. Approved Landfill: A site for the disposal of asbestos-containing and other hazardous wastes that has been given EPA approval.
- S. Asbestos: The asbestiform varieties of serpentine (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite, anthophyllite, and actinolite-tremolite. For purposes of determining respiratory and worker protection both the asbestiform and non-asbestiform varieties of the above minerals and any of these materials that have been chemically treated and/or altered shall be considered as asbestos.
- T. Asbestos Abatement Contractor: The Contractor designated in the contract documents as being responsible to the Owner for the control or abatement of asbestos-containing materials.
- U. Asbestos-Containing Material (ACM): Any material containing more than 1% by weight of asbestos of any type or mixture of types, as determined by the Environmental Protection Agency's Interim Method.
- V. Asbestos-Containing Building Material (ACBM): Surfacing ACM, thermal system insulation ACM, or miscellaneous ACM that is found in or on interior structural members or other parts of a building.
- W. Asbestos-Containing Waste Material: Any material which is or is suspected of being or any material contaminated with an asbestos-containing material which is to be removed from a work area for disposal.
- X. Asbestos Control: Minimizing the generation of airborne asbestos fibers until a permanent solution is developed.
- Y. Asbestos Debris: Pieces of ACBM that can be identified by color, texture, or composition, or means dust, if the dust is determined by an accredited inspector to be ACM.
- Z. Asbestos Exposure Assessment System: A decision tool which can be used to determine the extent of the asbestos hazard that exists in a building, and which can also be used to develop corrective actions.
- AA. Authorized Visitor: The Owner, the Owner's Representative, the Consultant, the Consultant's inspector or representative, or any representative of a federal, state, county or local agency having jurisdiction over the project while acting in an official capacity. Any person whose name appears upon an approved authorized visitor's list. The testing lab personnel, the Architect/Engineer, or emergency personnel.
- BB. Barrier: Any surface that seals off the work area to inhibit the movement of fibers.
- CC. Breathing Zone: A hemisphere forward of the shoulders with a radius of approximately 6 to 9 inches.
- DD. Ceiling Concentration: The concentration of an airborne substance that shall not be exceeded.

- EE. Certified Industrial Hygienist (C.I.H.): An industrial hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene.
- FF. Clean Room: An uncontaminated area or room which is part of the worker decontamination enclosure with provisions for storage of worker's street clothes and protective equipment.
- GG. Curtained Doorway: A device to allow ingress and egress from one room to another while permitting minimal air movement between the rooms, typically constructed by placing two overlapping sheets of plastic over an existing or temporarily framed doorway, and securing the vertical edge of the other sheet along the opposite vertical side of the doorway.
- HH. Decontamination Enclosure System: A series of connected rooms, with curtained doorways between any two adjacent rooms, for the decontamination of workers and of materials and equipment. A decontamination enclosure system always contains at least one airlock.
- II. Differential Air Pressure Equipment: A portable local exhaust system equipped with HEPA filtration and capable of maintaining a constant, low velocity air flow into contaminated areas from adjacent uncontaminated areas.
- JJ. Demolition: The wrecking or taking out of any building component, system, finish or assembly of a facility together with any related handling operations.
- KK. Disposal Bag: A properly labeled 6 mil thick leak-tight plastic bags used for transporting asbestos waste from work and to disposal site.
- LL. Encapsulant: A material that surrounds or embeds asbestos fibers in an adhesive matrix, to prevent release of fibers.
- MM. Bridging encapsulant: an encapsulant that forms a discrete layer on the surface of an in situ asbestos matrix.
- NN. Penetrating encapsulant: an encapsulant that is absorbed by the in situ asbestos matrix without leaving a discrete surface layer.
- OO. Removal encapsulant: a penetrating encapsulant specifically designed to minimize fiber release during removal of asbestos-containing materials rather than for in situ encapsulation.
- PP. Encapsulation: All herein specified procedures necessary to completely enclose asbestos-containing building materials to control the possible release of asbestos fibers into the air.
- QQ. Enclosure: The construction of an air-tight, impermeable, permanent barrier around asbestos-containing material to control the release of asbestos fibers into the air.
- RR. Equipment Decontamination Enclosure: That portion of a decontamination enclosure system designed for controlled transfer of materials and equipment, typically consisting of a washroom and a holding area system designed for controlled transfer of materials and equipment, typically consisting of a washroom and a holding area.
- SS. Equipment Room: A contaminated area or room which is part of the worker decontamination enclosure with provisions for storage of contaminated clothing and equipment.

- TT. Filter: A media component used in respirators to remove solid or liquid particles from the inspired air.
- UU. Fixed Object: A unit of equipment or furniture in the work area which cannot be removed from the work area.
- VV. Friable Asbestos Material: Material that contains more than 1.0% asbestos by weight and that can be crumbled, pulverized, or reduced to powder by hand pressure when dry.
- WW. Glovebag: A sack (typically constructed of 6 mil transparent polyethylene or polyvinylchloride plastic) with inward projecting long sleeve gloves, one inward projecting sleeve, an internal tool pouch, and an attached, labeled receptacle for asbestos waste. These glovebags are designed to enclose an object from which an asbestos-containing material is to be removed.
- XX. Glovebag Technique: A method with applications for removing small amounts of friable asbestos-containing material from HVAC ducts, short pipe runs, valves, joints, elbows, and other non-planer surfaces in a non-contained work area. The glovebag is constructed and installed in such a manner that is surrounds the object or area to be decontaminated and contains all asbestos fibers released during the removal process. All workers who are permitted to use the glovebag technique must be highly trained, experienced, and skilled in this method.
- YY. Holding Area: A chamber in the equipment decontamination enclosure located between the washroom and an uncontaminated area. The holding area comprises an airlock.
- ZZ. HEPA Filter: A High Efficiency Particulate Air (HEPA) filter capable of trapping and retaining 99.97% of asbestos fibers greater than 0.3 microns in diameter or larger.
- AAA. HEPA Filter Vacuum Collection Equipment (or vacuum cleaner): High efficiency particulate air filtered vacuum collection equipment with a filter system capable of collecting and retaining asbestos fibers. Filters should be of 99.97% efficiency for retaining fibers of 0.3 microns or larger.
- BBB. High-efficiency particulate air filter: (HEPA) refers to a filtering system capable of trapping and retaining 99.97 percent of all monodispersed particles 0.3 mm in diameter or larger.
- CCC. Log Book: A notebook or other book containing essential project data and daily project information and a daily project diary. This book shall be kept up to date and on the project site at all times.
- DDD. Movable Object: A unit of equipment or furniture in the work are which can be removed from the work area.
- EEE. Negative Pressure Respirator: A respirator in which the air pressure inside the respiratory-inlet covering is positive during exhalation in relation to the air pressure of the outside atmosphere and negative during inhalation in relation to the air pressure of the outside atmosphere.
- FFF. Negative Pressure Ventilation System: A pressure differential and ventilation system.
- GGG. Personal Monitoring: Sampling of the asbestos fiber concentrations within the breathing zone of an employee.

- HHH. Plant: The tools, machinery, structures, equipment, etc. necessary to perform a mechanical operation, process, or to carry out a business.
- III. Plasticize: To cover floors and walls with plastic sheeting as herein specified.
- JJJ. Pressure Differential and Ventilation System: A local exhaust system, utilizing HEPA filtration capable of maintaining a pressure differential with the inside of the Work Area at a lower pressure than any adjacent area, and which cleans recirculated air or generates a constant air flow from adjacent areas into the Work Area.
- KKK. Protection Factor: The ratio of the ambient concentration of an airborne substance to the concentration of the substance inside the respirator at the breathing zone of the wearer. The protection factor is a measure of the degree of protection provided by a respirator to the wearer.
- LLL. Removal: All herein specified procedures necessary to remove asbestos-containing materials from the designated areas in an appropriate manner and to dispose of these materials at an acceptable site.
- MMM. Repair: Returning damaged ACBM to an undamaged condition or to an intact state so as to prevent fiber release.
- NNN. Respirator: A device designed to protect the wearer from the inhalation of harmful atmospheres.
- OOO. Shower Room: A room between the clean room and the equipment room in the worker decontamination enclosure with hot and cold running water and suitable arranged for complete showering during decontamination.
- PPP. Surfactant: A chemical wetting agent added to water to improve penetration, thus reducing the quantity of water required for a given operation or area.
- QQQ. Time Weighted Average (TWA): The average concentration of a contaminant in air during a specific time period.
- RRR. Visible Emissions: Any emissions containing particulate asbestos material that are visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.
- SSS. Washroom: A room between the work area and the holding area in the equipment decontamination enclosure system. The washroom comprises an airlock.
- TTT. Wet Cleaning: The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning utensils which have been dampened with amended water or diluted removal encapsulant and afterwards thoroughly decontaminated or disposed of as asbestos-contaminated waste.
- UUU. Wiping: Final cleanup stage performed after gross asbestos removal where all surfaces are wet cleaned.
- VVV. Work Area: The area where asbestos-related work or removal operations are performed which is defined and/or isolated to prevent the spread of asbestos dust, fibers or debris, and entry by unauthorized personnel. Work area is a Regulated Area as defined by 29 CFR 1926.1101.

WWW. Worker Decontamination Enclosure System: That portion of a decontamination enclosure system designed for controlled passage of workers, and other personnel and authorized visitors, typically consisting of a clean room, a shower room, and an equipment room separated by air locks.

1.5 SPECIFICATION FORMAT AND CONTENT EXPLANATION

- A. This Article is provided to help the user of these Specifications understand the format, language, implied requirements, and similar conventions.
- B. None of the explanations shall be interpreted to modify the substance of Contract requirements.
- C. Specification Format:
 1. These Specifications are organized into Divisions, Sections or Trade Headings based on the Construction Specifications Institute's 16-Division format and the MASTERFORMAT numbering system.
 2. This organization conforms generally to recognized construction industry practice.
- D. Specification Content:
 1. This Specification has been produced employing conventions in the use of language and the intended meaning of certain terms, words, and phrases when used in particular situations or circumstances.
 2. These conventions are explained as follows:
 3. Language used in the Specifications and other Contract Documents is the abbreviated type. Implied words and meanings will be appropriately interpreted. Singular words will be interpreted as plural and plural words interpreted as singular where applicable and where the full context of the Contract Documents so indicates.
 4. Imperative Language is used generally in the Specifications. Requirements expressed imperative are to be performed by the Contractor. At certain locations in the text, for clarity, subjective language is used to describe responsibilities which must be fulfilled indirectly by the Contractor, or by others when so noted.
- E. Assignment of Specialists:
 1. The Specification requires that certain specific construction activities shall be performed by specialists who are recognized experts in the operations to be performed.
 2. The specialists must be engaged for those activities, and the assignments are requirements over which the Contractor has no choice or option.
 3. The ultimate responsibility for fulfilling Contract requirements remains with the Contractor.

4. This requirement should not be interpreted to conflict with enforcement of building codes or regulations governing the work. It is also not intended to interfere with local trade union jurisdictional settlements and similar conventions.
5. Trades: Use of titles such as "carpentry" is not intended to imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespersons of the corresponding generic name.

1.6 DRAWING SYMBOLS

- A. Graphic symbols used on the Drawings are those recognized in the construction industry for purposes indicated. Where not otherwise noted, symbols are defined by "Architectural Graphic Standards", published by John Wiley & Sons, Inc., seventh edition.
- B. Graphic symbols used on mechanical and electrical Drawings are generally aligned with symbols recommended by ASHRAE. Where appropriate, they are supplemented by more specific symbols recommended by technical associations including ASME, ASPE, IEEE and similar organizations. Refer instances of uncertainty to the Owner's Representative for clarification before proceeding.

1.7 INDUSTRY STANDARDS

- A. Applicability of Standards:
 1. Except where Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into Contract Documents.
 2. Such standards are made a part of the Contract Documents by reference.
 3. Individual Sections indicate which codes and standards the Contractor must keep available at the Project Site for reference.
- B. Referenced industry standards: take precedence over standards that are not referenced but recognized in the construction industry as applicable.
- C. Unreferenced industry standards: are not directly applicable to the work, except as a general requirement of whether the work complies with recognized construction industry standards.
- D. Publication Dates: Where compliance with an industry standard is required, comply with standard in effect as of date of Contract Documents.
- E. Updated Standards: At the request of the Owner's Representative, Contractor or authority having jurisdiction, submit a Change Order proposal where applicable code or standard has been revised and reissued after the date of the Contract Documents and before performance of Work affected. The Owner's Representative will decide whether to issue a Change Order to proceed with the updated standard.
- F. Conflicting Requirements:

1. Where compliance with two or more standards is specified, and they establish different or conflicting requirements for minimum quantities or quality levels, the most stringent requirement will be enforced, unless the Contract Documents indicate otherwise.
2. Refer requirements that are different, but apparently equal, and uncertainties as to which quality level is more stringent to the Owner's Representative for a decision before proceeding.

G. Minimum Quantities or Quality Levels:

1. In every instance the quantity or quality level shown or specified shall be the minimum to be provided or performed.
2. The actual installation may comply exactly, within specified tolerances, with the minimum quantity or quality specified, or it may exceed that minimum within reasonable limits.
3. In complying with these requirements, indicated numeric values are minimum or maximum values, as noted, or appropriate for the context of the requirements.
4. Refer instances of uncertainty to the Owner's Representative for decision before proceeding.

H. Copies of Standards: Each entity engaged in construction on the Project is required to be familiar with industry standards applicable to that entities' construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed for performance of a required construction activity, the Contractor shall obtain copies directly from the publication source.
2. Although copies of standards needed for enforcement of requirements may be part of required submittals, the Owner's Representative reserves the right to require the Contractor to submit additional copies as necessary for enforcement of requirements.

I. Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. The following acronyms or abbreviations as referenced in Contract Documents are defined to mean the associated names. Names and addresses are subject to change, and are believed to be, but are not assured to be, accurate and up-to-date as of date of Contract Documents:

AIHA
American Industrial Hygiene Association
Wolf Ledges Parkway
Akron, OH 44311

AIA
American Institute of Architects
New York Ave. NW
Washington, DC 20006

ANSI
American National Standards Institute

1430 Broadway
New York, NY 10018

ASHRAE
American Society for Heating, Refrigerating, and Air Conditioning Engineers
Tullie Circle NE
Atlanta, GA 30329

ASME
American Society of Mechanical Engineers
East 47th Street
New York, NY 10017

ASPE
American Society of Plumbing Engineers
Thousand Oaks Boulevard, Suite 210
Westlake, CA 91362

ASTM
American Society for Testing and Materials
Race St.
Philadelphia, PA 19103

AWCI
Association of the Wall and Ceiling Industries-International
K Street, NW
Washington, DC 20002

CFR
Code of Federal Regulations
Available from Government Printing Office;
Washington, DC 20402
(usually first published in Federal Register)

CGA
Compressed Gas Association
Jefferson Davis Highway
Arlington, VA 22202

CS
Commercial Standard of NBS
(Dept. of Commerce)
Government Printing Office
Washington, DC 20402

DOT

Department of Transportation
Seventh St., SW
Washington, DC 20590

EPA
Environmental Protection Agency
M St., SW
Washington, DC 20460

FS
Federal Specification (General Services Admin.)
Obtain from your Regional GSA Office, or purchase from GSA Specifications Unit
(WFSIS)
7th and D Streets, S.W.
Washington, DC 20406
or 2140

GA
Gypsum Association
Orrington Ave.
Evanston; IL 60201

GSA
General Services Administration
F St. and 18th St., NW
Washington, DC 20405

IEEE
Institute of Electrical and Electronic Engineers
E. 47th Street
New York, NY 10017

MIL
Military Standardization Documents
Dept. of Defense)
Naval Publications and Forms Center
Tabor Ave.
Philadelphia, PA 19120

NBS
National Bureau of Standards
Dept. of Commerce)
Gaithersburg, MD 20234

NEC
National Electrical Code (by NFPA)

NFPA

National Fire Protection Association
Batterymarch Park
Quincy, MA 02269

NRCA
National Roofing Contractors Association
River Road
Rosemont, IL 60018

OSHA
Occupational Safety & Health Administration
(Dept. of Labor)
Government Printing Office
Washington, DC 20402

PS
Product Standard of NBS
(Dept. of Commerce)
Government Printing Office
Washington, DC 20402

RFCI
Resilient Floor Coverings Institute
Hungerford Drive, Suite 12-B
Rockville, MD 20805

UL
Underwriters Laboratories
Pfingsten Rd.
Northbrook, IL 60062

1.8 Trade Union Jurisdictions:

- A. The Contractor shall maintain, and require subcontractors to maintain, complete current information on jurisdictional matters, regulations and pending actions, as applicable to construction activities.
- B. The manner in which Contract Documents have been organized and subdivided is not intended to indicate of trade union or jurisdictional agreements.
- C. Discuss new developments at project meetings at the earliest feasible dates. Record relevant information and actions agreed upon.
- D. Assign and subcontract construction activities, and employ tradesmen and laborers in a manner that will not unduly risk jurisdictional disputes that could result in conflicts, delays, claims and losses.

1.9 SUBMITTALS:

- A. Permits, Licenses and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the work.

END OF SECTION - 01091

SECTION 01091 - DEFINITIONS AND STANDARDS (ASBESTOS)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. General Explanation: A substantial amount of specification language constitutes definitions for terms found in other contract documents, including the drawings. (Drawings must be recognized as diagrammatic in nature and not completely descriptive of the requirements indicated thereon.) Certain terms used in Contract Documents are defined in this article.
- B. General Requirements: The provisions or requirements of Division-1 sections apply to entire work of Contract and, where so indicated, to other elements which are included in project.

1.3 DEFINITIONS:

- A. General: Definitions contained in this Article are not necessarily complete, but are general to the extent that they are not defined more explicitly elsewhere in the Contract Documents.
- B. Addenda: Written or graphic instruments issued prior to the opening of Bids which clarify, correct or change the Bidding Documents or the Technical Specifications.
- C. Agreement: The written agreement between Owner and Contractor covering the Work to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided therein.
- D. Application for Payment: The form accepted by Owner's Representative which is to be used by Contractor in requesting progress or final payments and which is to include such supporting documentation as is required by the Contract Documents.
- E. Approve: The term "approved," where used in conjunction with the Owner's Representative's action on the Contractor's submittals, applications, and requests, is limited to the responsibilities and duties of the Architect stated in General and Supplementary Conditions. Such approval shall not release the Contractor from responsibility to fulfill Contract Document requirements, unless otherwise provided in the Contract Documents.
- F. Bid: The offer or proposal of the bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
- G. Bonds: Bid, performance and payment bonds and other instruments of security.
- H. Change Order: A document recommended by the Owner's Representative, which is signed by Contractor and Owner and authorizes an addition, deletion or revision in the Work, or

an adjustment in the Contract Price or the Contract Time, issued on or after the Effective Date of Agreement.

- I. Directed: Terms such as "directed", "requested", "authorized", "selected", "approved", "required", and "permitted" mean "directed by the Owner's Representative", "requested by the "Owner's Representative", and similar phrases. However, no implied meaning shall be interpreted to extend the Owner's Representative's responsibility into the Contractor's area of construction supervision.
- J. The term "experienced," when used with the term "Installer" means having a minimum of 5 previous Projects similar in size and scope to this project, and familiar with the precautions required, and has complied with requirements of the authority having jurisdiction.
- K. Furnish: The term "furnish" is used to mean "supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, and similar operations."
- L. General Superintendent: This is the Contractor's Representative at the work site. This person will generally be the Competent Person required by OSHA in 29 CFR 1926.1101.
- M. Indicated: This term refers to graphic representations, notes or schedules on the Drawings, or other Paragraphs or Schedules in Specifications, and similar requirements in Contract Documents. Where terms such as "shown," "noted," "scheduled," and "specified" are used, it is to help locate the reference; no limitation on location is intended except as specifically noted.
- N. Install: The term "install" is used to describe operations at project site including the actual "unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations."
- O. Installer: An "Installer" is an entity engaged by the Contractor, either as an employee, subcontractor or sub- subcontractor for performance of a particular construction activity, including installation, erection, application and similar operations. Installers are required to be experienced in the operations they are engaged to perform.
- P. Notice of Award: The written notice by Owner, or by Owner's Representative in Owner's behalf, to the apparent successful bidder stating that upon compliance by the apparent successful bidder with the conditions precedent enumerated therein, within the time specified, Owner will sign and deliver the Agreement.
- Q. Notice to Proceed: A written notice given by Owner, or Owner's Representative in Owner's behalf, to Contractor (with a copy to Owner's Representative) fixing the date on which the Contract Time will commence to run and on which Contractor shall start to perform Contractor's obligations under the Contract Documents.
- R. Owner's Representative: This is the entity described as the "Environmental Consultant" or "Consultant" in all areas of these Contract documents and Technical specifications. All references to Environmental Consultant or Consultant in the Contract Documents in all cases refer to the Owner's Representative. The Owner's Representative will represent the Owner during abatement activities and until final payment is due. The Owner's Representative will advise and consult with the Owner. The Owner's instructions to the Contractor will be forwarded through the Owner's Representative.
- S. Project Administrator:

1. This is the entity described as the "Project Representative" in AIA Document A201 "General Conditions of the Contract for Construction," or is the entity described as "Engineer" in Engineers Joint Contract Document Committee (EJCDC) Document 1910-8 "Standard General Conditions of the Construction Contract."
 2. The Project Administrator is a full time representative of the Owner at the job site with authority to stop the work upon verbal order if requirements of the Contract Documents are not met, or if in the sole judgment of the Project Administrator, Owner's Representative, Owner, the interests of the Owner, safety of any person or the Owner's property are jeopardized by the work.
- T. Project Site is the space available to the Contractor for performance of the work, either exclusively or in conjunction with others performing other construction as part of the project. The extent of the project site is shown on the Drawings, and may or may not be identical with the description of the land upon which the project is to be built.
- U. Provide: The term "provide" means "to furnish and install, complete and ready for the intended use."
- V. Regulation: The term "Regulations" includes laws, statutes, ordinances and lawful orders issued by authorities having jurisdiction, as well as rules, conventions and agreements within the construction industry that control performance of the Work, whether they are lawfully imposed by authorities having jurisdiction or not.
1. Substantial Completion: The Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer as evidenced by Engineer's definitive certificate of Substantial Completion, it is sufficiently complete, in accordance with the Contract Documents, so that the Work (or specified part), (1) can be used for the purposes for which it is intended, (2) all pay items in the schedule of unit prices are complete, (3) all remaining work, if any, be considered by the Owner's Representative to be minor items; or if there be no such certificate issued, when final payment is due in accordance with these Contract Documents. The terms "substantially complete" and "substantially completed" as applied to any Work refer to Substantial Completion thereof.
- W. Testing Laboratories: A "testing laboratory" is an independent entity engaged to perform specific inspections or tests, either at the project site or elsewhere, and to report on, and, if required, to interpret, results of those inspections or tests.
1. Work: The entire complete construction, or abatement, or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work is the result of performing services, furnishing labor and furnishing and incorporating materials and equipment into the construction, or abatement, all as required by the Contract Documents.

1.4 DEFINITIONS RELATIVE TO ASBESTOS ABATEMENT:

- A. Abatement: The Procedure to control fiber release from asbestos-containing building materials. Activities include removal, encapsulation, and enclosure.
- B. ACM: Asbestos-Containing Material.

- C. Accredited or Accreditation (when referring to a person or laboratory): A person or laboratory accredited in accordance with section 206 of Title II of the Toxic Substances Control Act (TSCA).
- D. Acoustical Insulation: The general application or use of asbestos for the control of sound due to its lack of reverberant surfaces.
- E. Acoustical tile: A finishing material in a building usually found in the ceiling or walls for the purpose of noise control.
- F. Aerosol: A system consisting of particles, solid or liquid, suspended in air.
- G. Aggressive Sampling: Air sampling which takes place after final cleanup while the air is being physically agitated to produce a "worst case" situation.
- H. Air Cell: Insulation normally used on pipes and duct work that is comprised of corrugated cardboard which is frequently comprised of asbestos combined with cellulose or refractory binders.
- I. Air Diffuser: A device designed to disperse an air stream throughout a given area.
 - 1. Air Filtration Unit (AFU): Usually refers to machines used to provide ventilation and a negative static pressure differential within a completely enclosed asbestos work area. An AFU usually consists of the following: A fan system to draw air through a special set of filters - a gross prefilter, an intermediate filter and a HEPA filter - and exhaust clean air to the outside. AFUs are rated by the amount of air that can be drawn through them in a given amount of time, which is expressed in cubic feet of air per minute (e.g. 2,000 CFM). Loaded or clogged filters can seriously affect the displacement volume capability or efficiency of these devices.
- J. Air Lock: A system for permitting ingress and egress with minimum air movement between a contaminated area and an uncontaminated area.
- K. Air Monitoring: The process of measuring the fiber content of a specific volume of air in a stated period of time.
- L. Air Plenum: Any space used to convey air in a building or structure. The space above a suspended ceiling is often used as an air plenum.
- M. Air Purifying Respirator: A respirator that relies on filters to remove a particular contaminant(s) from the ambient air. They include both negative pressure and powered respirators. No type of air purifying respirator will protect the wearer from low oxygen atmospheres.
- N. Airline Respirator: A respirator that is connected to a compressed breathing air source by a hose.
- O. Ambient Air: The surrounding air or atmosphere in a given area under normal conditions.
- P. Amended Water: Water to which a surfactant has been added to decrease the surface tension to 35 or less dynes.

- Q. Amosite; An asbestiform mineral of the amphibole group containing approximately 50 percent silicon and 40 percent iron oxide, and is made up of straight, brittle fibers, light gray to pale brown in color.
- R. Approved Landfill: A site for the disposal of asbestos-containing and other hazardous wastes that has been given EPA approval.
- S. Asbestos: The asbestiform varieties of serpentine (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite, anthophyllite, and actinolite-tremolite. For purposes of determining respiratory and worker protection both the asbestiform and non-asbestiform varieties of the above minerals and any of these materials that have been chemically treated and/or altered shall be considered as asbestos.
- T. Asbestos Abatement Contractor: The Contractor designated in the contract documents as being responsible to the Owner for the control or abatement of asbestos-containing materials.
- U. Asbestos-Containing Material (ACM): Any material containing more than 1% by weight of asbestos of any type or mixture of types, as determined by the Environmental Protection Agency's Interim Method.
- V. Asbestos-Containing Building Material (ACBM): Surfacing ACM, thermal system insulation ACM, or miscellaneous ACM that is found in or on interior structural members or other parts of a building.
- W. Asbestos-Containing Waste Material: Any material which is or is suspected of being or any material contaminated with an asbestos-containing material which is to be removed from a work area for disposal.
- X. Asbestos Control: Minimizing the generation of airborne asbestos fibers until a permanent solution is developed.
- Y. Asbestos Debris: Pieces of ACBM that can be identified by color, texture, or composition, or means dust, if the dust is determined by an accredited inspector to be ACM.
- Z. Asbestos Exposure Assessment System: A decision tool which can be used to determine the extent of the asbestos hazard that exists in a building, and which can also be used to develop corrective actions.
- AA. Authorized Visitor: The Owner, the Owner's Representative, the Consultant, the Consultant's inspector or representative, or any representative of a federal, state, county or local agency having jurisdiction over the project while acting in an official capacity. Any person whose name appears upon an approved authorized visitor's list. The testing lab personnel, the Architect/Engineer, or emergency personnel.
- BB. Barrier: Any surface that seals off the work area to inhibit the movement of fibers.
- CC. Breathing Zone: A hemisphere forward of the shoulders with a radius of approximately 6 to 9 inches.
- DD. Ceiling Concentration: The concentration of an airborne substance that shall not be exceeded.

- EE. Certified Industrial Hygienist (C.I.H.): An industrial hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene.
- FF. Clean Room: An uncontaminated area or room which is part of the worker decontamination enclosure with provisions for storage of worker's street clothes and protective equipment.
- GG. Curtained Doorway: A device to allow ingress and egress from one room to another while permitting minimal air movement between the rooms, typically constructed by placing two overlapping sheets of plastic over an existing or temporarily framed doorway, and securing the vertical edge of the other sheet along the opposite vertical side of the doorway.
- HH. Decontamination Enclosure System: A series of connected rooms, with curtained doorways between any two adjacent rooms, for the decontamination of workers and of materials and equipment. A decontamination enclosure system always contains at least one airlock.
- II. Differential Air Pressure Equipment: A portable local exhaust system equipped with HEPA filtration and capable of maintaining a constant, low velocity air flow into contaminated areas from adjacent uncontaminated areas.
- JJ. Demolition: The wrecking or taking out of any building component, system, finish or assembly of a facility together with any related handling operations.
- KK. Disposal Bag: A properly labeled 6 mil thick leak-tight plastic bags used for transporting asbestos waste from work and to disposal site.
- LL. Encapsulant: A material that surrounds or embeds asbestos fibers in an adhesive matrix, to prevent release of fibers.
- MM. Bridging encapsulant: an encapsulant that forms a discrete layer on the surface of an in situ asbestos matrix.
- NN. Penetrating encapsulant: an encapsulant that is absorbed by the in situ asbestos matrix without leaving a discrete surface layer.
- OO. Removal encapsulant: a penetrating encapsulant specifically designed to minimize fiber release during removal of asbestos-containing materials rather than for in situ encapsulation.
- PP. Encapsulation: All herein specified procedures necessary to completely enclose asbestos-containing building materials to control the possible release of asbestos fibers into the air.
- QQ. Enclosure: The construction of an air-tight, impermeable, permanent barrier around asbestos-containing material to control the release of asbestos fibers into the air.
- RR. Equipment Decontamination Enclosure: That portion of a decontamination enclosure system designed for controlled transfer of materials and equipment, typically consisting of a washroom and a holding area system designed for controlled transfer of materials and equipment, typically consisting of a washroom and a holding area.
- SS. Equipment Room: A contaminated area or room which is part of the worker decontamination enclosure with provisions for storage of contaminated clothing and equipment.

- TT. Filter: A media component used in respirators to remove solid or liquid particles from the inspired air.
- UU. Fixed Object: A unit of equipment or furniture in the work area which cannot be removed from the work area.
- VV. Friable Asbestos Material: Material that contains more than 1.0% asbestos by weight and that can be crumbled, pulverized, or reduced to powder by hand pressure when dry.
- WW. Glovebag: A sack (typically constructed of 6 mil transparent polyethylene or polyvinylchloride plastic) with inward projecting long sleeve gloves, one inward projecting sleeve, an internal tool pouch, and an attached, labeled receptacle for asbestos waste. These glovebags are designed to enclose an object from which an asbestos-containing material is to be removed.
- XX. Glovebag Technique: A method with applications for removing small amounts of friable asbestos-containing material from HVAC ducts, short pipe runs, valves, joints, elbows, and other non-planer surfaces in a non-contained work area. The glovebag is constructed and installed in such a manner that it surrounds the object or area to be decontaminated and contains all asbestos fibers released during the removal process. All workers who are permitted to use the glovebag technique must be highly trained, experienced, and skilled in this method.
- YY. Holding Area: A chamber in the equipment decontamination enclosure located between the washroom and an uncontaminated area. The holding area comprises an airlock.
- ZZ. HEPA Filter: A High Efficiency Particulate Air (HEPA) filter capable of trapping and retaining 99.97% of asbestos fibers greater than 0.3 microns in diameter or larger.
- AAA. HEPA Filter Vacuum Collection Equipment (or vacuum cleaner): High efficiency particulate air filtered vacuum collection equipment with a filter system capable of collecting and retaining asbestos fibers. Filters should be of 99.97% efficiency for retaining fibers of 0.3 microns or larger.
- BBB. High-efficiency particulate air filter: (HEPA) refers to a filtering system capable of trapping and retaining 99.97 percent of all monodispersed particles 0.3 mm in diameter or larger.
- CCC. Log Book: A notebook or other book containing essential project data and daily project information and a daily project diary. This book shall be kept up to date and on the project site at all times.
- DDD. Movable Object: A unit of equipment or furniture in the work area which can be removed from the work area.
- EEE. Negative Pressure Respirator: A respirator in which the air pressure inside the respiratory-inlet covering is positive during exhalation in relation to the air pressure of the outside atmosphere and negative during inhalation in relation to the air pressure of the outside atmosphere.
- FFF. Negative Pressure Ventilation System: A pressure differential and ventilation system.
- GGG. Personal Monitoring: Sampling of the asbestos fiber concentrations within the breathing zone of an employee.

- HHH. Plant: The tools, machinery, structures, equipment, etc. necessary to perform a mechanical operation, process, or to carry out a business.
- III. Plasticize: To cover floors and walls with plastic sheeting as herein specified.
- JJJ. Pressure Differential and Ventilation System: A local exhaust system, utilizing HEPA filtration capable of maintaining a pressure differential with the inside of the Work Area at a lower pressure than any adjacent area, and which cleans recirculated air or generates a constant air flow from adjacent areas into the Work Area.
- KKK. Protection Factor: The ratio of the ambient concentration of an airborne substance to the concentration of the substance inside the respirator at the breathing zone of the wearer. The protection factor is a measure of the degree of protection provided by a respirator to the wearer.
- LLL. Removal: All herein specified procedures necessary to remove asbestos-containing materials from the designated areas in an appropriate manner and to dispose of these materials at an acceptable site.
- MMM. Repair: Returning damaged ACBM to an undamaged condition or to an intact state so as to prevent fiber release.
- NNN. Respirator: A device designed to protect the wearer from the inhalation of harmful atmospheres.
- OOO. Shower Room: A room between the clean room and the equipment room in the worker decontamination enclosure with hot and cold running water and suitable arranged for complete showering during decontamination.
- PPP. Surfactant: A chemical wetting agent added to water to improve penetration, thus reducing the quantity of water required for a given operation or area.
- QQQ. Time Weighted Average (TWA): The average concentration of a contaminant in air during a specific time period.
- RRR. Visible Emissions: Any emissions containing particulate asbestos material that are visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.
- SSS. Washroom: A room between the work area and the holding area in the equipment decontamination enclosure system. The washroom comprises an airlock.
- TTT. Wet Cleaning: The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning utensils which have been dampened with amended water or diluted removal encapsulant and afterwards thoroughly decontaminated or disposed of as asbestos-contaminated waste.
- UUU. Wiping: Final cleanup stage performed after gross asbestos removal where all surfaces are wet cleaned.
- VVV. Work Area: The area where asbestos-related work or removal operations are performed which is defined and/or isolated to prevent the spread of asbestos dust, fibers or debris, and entry by unauthorized personnel. Work area is a Regulated Area as defined by 29 CFR 1926.1101.

WWW. Worker Decontamination Enclosure System: That portion of a decontamination enclosure system designed for controlled passage of workers, and other personnel and authorized visitors, typically consisting of a clean room, a shower room, and an equipment room separated by air locks.

1.5 SPECIFICATION FORMAT AND CONTENT EXPLANATION

- A. This Article is provided to help the user of these Specifications understand the format, language, implied requirements, and similar conventions.
- B. None of the explanations shall be interpreted to modify the substance of Contract requirements.
- C. Specification Format:
 1. These Specifications are organized into Divisions, Sections or Trade Headings based on the Construction Specifications Institute's 16-Division format and the MASTERFORMAT numbering system.
 2. This organization conforms generally to recognized construction industry practice.
- D. Specification Content:
 1. This Specification has been produced employing conventions in the use of language and the intended meaning of certain terms, words, and phrases when used in particular situations or circumstances.
 2. These conventions are explained as follows:
 3. Language used in the Specifications and other Contract Documents is the abbreviated type. Implied words and meanings will be appropriately interpreted. Singular words will be interpreted as plural and plural words interpreted as singular where applicable and where the full context of the Contract Documents so indicates.
 4. Imperative Language is used generally in the Specifications. Requirements expressed imperative are to be performed by the Contractor. At certain locations in the text, for clarity, subjective language is used to describe responsibilities which must be fulfilled indirectly by the Contractor, or by others when so noted.
- E. Assignment of Specialists:
 1. The Specification requires that certain specific construction activities shall be performed by specialists who are recognized experts in the operations to be performed.
 2. The specialists must be engaged for those activities, and the assignments are requirements over which the Contractor has no choice or option.
 3. The ultimate responsibility for fulfilling Contract requirements remains with the Contractor.

4. This requirement should not be interpreted to conflict with enforcement of building codes or regulations governing the work. It is also not intended to interfere with local trade union jurisdictional settlements and similar conventions.
5. Trades: Use of titles such as "carpentry" is not intended to imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespersons of the corresponding generic name.

1.6 DRAWING SYMBOLS

- A. Graphic symbols used on the Drawings are those recognized in the construction industry for purposes indicated. Where not otherwise noted, symbols are defined by "Architectural Graphic Standards", published by John Wiley & Sons, Inc., seventh edition.
- B. Graphic symbols used on mechanical and electrical Drawings are generally aligned with symbols recommended by ASHRAE. Where appropriate, they are supplemented by more specific symbols recommended by technical associations including ASME, ASPE, IEEE and similar organizations. Refer instances of uncertainty to the Owner's Representative for clarification before proceeding.

1.7 INDUSTRY STANDARDS

- A. Applicability of Standards:
 1. Except where Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into Contract Documents.
 2. Such standards are made a part of the Contract Documents by reference.
 3. Individual Sections indicate which codes and standards the Contractor must keep available at the Project Site for reference.
- B. Referenced industry standards: take precedence over standards that are not referenced but recognized in the construction industry as applicable.
- C. Unreferenced industry standards: are not directly applicable to the work, except as a general requirement of whether the work complies with recognized construction industry standards.
- D. Publication Dates: Where compliance with an industry standard is required, comply with standard in effect as of date of Contract Documents.
- E. Updated Standards: At the request of the Owner's Representative, Contractor or authority having jurisdiction, submit a Change Order proposal where applicable code or standard has been revised and reissued after the date of the Contract Documents and before performance of Work affected. The Owner's Representative will decide whether to issue a Change Order to proceed with the updated standard.
- F. Conflicting Requirements:

1. Where compliance with two or more standards is specified, and they establish different or conflicting requirements for minimum quantities or quality levels, the most stringent requirement will be enforced, unless the Contract Documents indicate otherwise.
2. Refer requirements that are different, but apparently equal, and uncertainties as to which quality level is more stringent to the Owner's Representative for a decision before proceeding.

G. Minimum Quantities or Quality Levels:

1. In every instance the quantity or quality level shown or specified shall be the minimum to be provided or performed.
2. The actual installation may comply exactly, within specified tolerances, with the minimum quantity or quality specified, or it may exceed that minimum within reasonable limits.
3. In complying with these requirements, indicated numeric values are minimum or maximum values, as noted, or appropriate for the context of the requirements.
4. Refer instances of uncertainty to the Owner's Representative for decision before proceeding.

H. Copies of Standards: Each entity engaged in construction on the Project is required to be familiar with industry standards applicable to that entities' construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed for performance of a required construction activity, the Contractor shall obtain copies directly from the publication source.
2. Although copies of standards needed for enforcement of requirements may be part of required submittals, the Owner's Representative reserves the right to require the Contractor to submit additional copies as necessary for enforcement of requirements.

I. Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. The following acronyms or abbreviations as referenced in Contract Documents are defined to mean the associated names. Names and addresses are subject to change, and are believed to be, but are not assured to be, accurate and up-to-date as of date of Contract Documents:

AIHA
American Industrial Hygiene Association
Wolf Ledges Parkway
Akron, OH 44311

AIA
American Institute of Architects
New York Ave. NW
Washington, DC 20006

ANSI
American National Standards Institute

1430 Broadway
New York, NY 10018

ASHRAE
American Society for Heating, Refrigerating, and Air Conditioning Engineers
Tullie Circle NE
Atlanta, GA 30329

ASME
American Society of Mechanical Engineers
East 47th Street
New York, NY 10017

ASPE
American Society of Plumbing Engineers
Thousand Oaks Boulevard, Suite 210
Westlake, CA 91362

ASTM
American Society for Testing and Materials
Race St.
Philadelphia, PA 19103

AWCI
Association of the Wall and Ceiling Industries-International
K Street, NW
Washington, DC 20002

CFR
Code of Federal Regulations
Available from Government Printing Office;
Washington, DC 20402
(usually first published in Federal Register)

CGA
Compressed Gas Association
Jefferson Davis Highway
Arlington, VA 22202

CS
Commercial Standard of NBS
(Dept. of Commerce)
Government Printing Office
Washington, DC 20402

DOT

Department of Transportation
Seventh St., SW
Washington, DC 20590

EPA
Environmental Protection Agency
M St., SW
Washington, DC 20460

FS
Federal Specification (General Services Admin.)
Obtain from your Regional GSA Office, or purchase from GSA Specifications Unit
(WFSIS)
7th and D Streets, S.W.
Washington, DC 20406
or 2140

GA
Gypsum Association
Orrington Ave.
Evanston; IL 60201

GSA
General Services Administration
F St. and 18th St., NW
Washington, DC 20405

IEEE
Institute of Electrical and Electronic Engineers
E. 47th Street
New York, NY 10017

MIL
Military Standardization Documents
Dept. of Defense)
Naval Publications and Forms Center
Tabor Ave.
Philadelphia, PA 19120

NBS
National Bureau of Standards
Dept. of Commerce)
Gaithersburg, MD 20234

NEC
National Electrical Code (by NFPA)

NFPA

National Fire Protection Association
Batterymarch Park
Quincy, MA 02269

NRCA
National Roofing Contractors Association
River Road
Rosemont, IL 60018

OSHA
Occupational Safety & Health Administration
(Dept. of Labor)
Government Printing Office
Washington, DC 20402

PS
Product Standard of NBS
(Dept. of Commerce)
Government Printing Office
Washington, DC 20402

RFCI
Resilient Floor Coverings Institute
Hungerford Drive, Suite 12-B
Rockville, MD 20805

UL
Underwriters Laboratories
Pfingsten Rd.
Northbrook, IL 60062

1.8 Trade Union Jurisdictions:

- A. The Contractor shall maintain, and require subcontractors to maintain, complete current information on jurisdictional matters, regulations and pending actions, as applicable to construction activities.
- B. The manner in which Contract Documents have been organized and subdivided is not intended to indicate of trade union or jurisdictional agreements.
- C. Discuss new developments at project meetings at the earliest feasible dates. Record relevant information and actions agreed upon.
- D. Assign and subcontract construction activities, and employ tradesmen and laborers in a manner that will not unduly risk jurisdictional disputes that could result in conflicts, delays, claims and losses.

1.9 SUBMITTALS:

- A. Permits, Licenses and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the work.

END OF SECTION - 01091

SECTION 01301 - SUBMITTALS (ASBESTOS)

PART 1 - GENERAL

The term Owner's Representative and Consultant are one in the same and may be used interchangeably in these documents.

1.1 RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

1.2 GENERAL

- A. Make submittals required by the Contract Documents and revise and resubmit as necessary to establish compliance with the specified requirements.
- B. The Contractor may require his subcontractors to provide drawings, setting diagrams, and similar information to help coordinate the Work, but such data shall remain between the Contractor and his subcontractors and will not be reviewed by the Consultant.

1.3 SUMMARY

- A. This Section specifies administrative and procedural requirements for submittals required for performance of the Work, including:
 - 1. Contractor's construction schedule.
 - 2. Submittal schedule.
 - 3. Daily construction reports.
 - 4. Shop Drawings.
 - 5. Product Data.
 - 6. Samples.
 - 7. Miscellaneous Submittals
- B. Administrative Submittals: Refer to other Division-1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to:
 - 1. Permits
 - 2. Applications for payment
 - 3. Performance and payment bonds
 - 4. Insurance certificates
 - 5. List of Subcontractors
- C. The Schedule of Values submittal is included in Section "Applications for Payment."

1.4 SUBMITTAL PROCEDURES

A. Coordination:

1. Prior to each submittal, carefully review and coordinate all aspects of each item being submitted.
2. Verify that each item and the submittal for it conform in all respects with the specified requirements. By affixing the Contractors signature to each submittal, certify that this coordination has been performed.
3. Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
4. The Owner's Representative reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

B. Processing:

1. Allow sufficient review time so that installation will not be delayed as a result of the time required to process submittals, including time for resubmittals.
2. Allow two weeks for initial review. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. The Owner's Representative will promptly advise the Contractor when a submittal being processed must be delayed for coordination.
3. If an intermediate submittal is necessary, process the same as the initial submittal.
4. Allow two weeks for reprocessing each submittal.
5. No extension of Contract Time will be authorized because of failure to transmit submittals to the Owner's Representative sufficiently in advance of the work to permit processing.

C. Submittal Preparation:

1. Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.
2. Provide a space approximately 4" x 5" on the label or beside the title block on Shop Drawings to record the Contractor's review and approval markings and the action taken.
3. Include the following information on the label for processing and recording action taken:
 - a) Project name.
 - b) Date.
 - c) Name and address of Owner's Representative.
 - d) Name and address of Contractor.
 - e) Name and address of subcontractor.
 - f) Name and address of supplier.

- g) Name of manufacturer.
- h) Number and title of appropriate Specification Section.
- i) Drawing number and detail references, as appropriate.

D. Submittal Transmittal:

1. Package each submittal appropriately for transmittal and handling. Transmit each submittal from Contractor to Owner's Representative using a transmittal form. Submittals received from sources other than the Contractor will be returned without action.
2. On the transmittal record relevant information and requests for data. On the form, or separate sheet, record deviations from Contract Document requirements, including minor variations and limitations. Include Contractor's certification that information complies with Contract Document requirements.

E. Transmittal Form:

1. Use AIA Document G 810.
2. Substitutions:
 - a) The Contract is based on the standards of quality established in the Contract Documents. Substitutions will be considered only when listed at the time of bidding, on the form provided therefore in the bidding documents, and when substantiated by Contractor's submittal of required data within 5 calendar day after award of the Contract.
 - b) The following products do not require further approval except for interface with the Work:
 - (i) Products specified by reference to standard specifications such as ASTM and similar standards.
 - (ii) Products specified by manufacturer's name and catalog number.
 - c) Do not substitute materials, equipment, or methods unless such substitution has been specifically approved in writing for this Work by the Consultant.
 - d) Or Equal. Where the phrase "or equal", or "or equal as approved by the Consultant", occurs in the Contract Documents, do not assume that the materials, equipment, or methods will be approved as equal unless the item has been specifically so approved for this Work by the Consultant.

1.5 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Schedule:

1. Provide proposed detailed schedule including work dates, work shift time, number of employees, dates of start and completion including dates of preparation work, removals and final inspection dates.

2. Coordinate the Contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests and other schedules.

B. Work Stages:

1. Indicate important stages of construction for each major portion of the work, including testing and installation.
2. Include indication of start and finish times for the following:
 - a) Non-asbestos demolition.
 - b) Preparation of the Work Area.
 - c) Asbestos removal.
 - d) Clearance testing.
 - e) Substantial Completion.

C. Cost Correlation:

1. At the head of the schedule, provide a two item cost correlation line, indicating "precalculated" and "actual" costs. On the line show dollar-volume of work performed as of the dates used for preparation of payment requests.

D. Distribution:

1. Following response to the initial submittal, print and distribute copies to the Owner's Representative, Owner, subcontractors, and other parties required to comply with scheduled dates.
2. Post copies in the Project Administrator's field office, project meeting room and temporary field office.

1.6 SUBMITTAL SCHEDULE

A. Listing:

1. At the end of this section is a listing of the principal submittals required for the work. This listing is not necessarily complete, nor does the listing reflect the significance of each submittal requirement. The listing is included only for the convenience of users of the Contract Documents.
2. After review and action on the Contractor's construction schedule, prepare a complete schedule of submittals. Submit the schedule of submittals within 10 days of the date required for establishment of the Contractor's construction schedule.
3. Coordinate submittal schedule with the list of subcontracts, schedule of values and the list of products as well as the Contractor's construction schedule.
4. Prepare the submittal schedule in chronological order; include submittals required before start of construction. Provide the following information:
 - a) Scheduled date for the first submittal.

- b) Related Section number.
- c) Submittal category.
- d) Name of subcontractor.
- e) Description of the part of the work covered.
- f) Scheduled date for resubmittal.
- g) Scheduled date the Owner's Representative's final release or approval.

B. Distribution:

- 1. Following response to initial submittal, print and distribute copies to the Owner's Representative, Owner, subcontractors, and other parties required to comply with submittal dates indicated. Post copies in the project meeting room and field office.
- 2. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the work and are no longer involved in construction activities.

C. Schedule Updating:

- 1. Revise the schedule after each meeting or activity, where revisions have been recognized or made. Issue the updated schedule concurrently with report of each meeting.

1.7 SHOP DRAWINGS

- A. Submit newly prepared information, drawn to accurate scale. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not considered Shop Drawings.
- B. Shop Drawings include fabrication and installation drawings, schedules, and similar drawings. Include the following information:
 - 1. Dimensions.
 - 2. Identification of products and materials included.
 - 3. Compliance with specified standards.
 - 4. Notation of coordination requirements.
 - 5. Notation of dimensions established by field measurement.
- C. Sheet Size: Submit Shop Drawings on sheets at least 8-1/2" x 11" but no larger than 36" x 48".
- D. Initial Submittal: Submit one correctable translucent reproducible print and one blue- or black-line print for the Owner's Representative's review; the reproducible print will be returned.
- E. Final Submittal: Submit 3 blue- or black-line prints; 2 prints will be retained; the remainder will be returned.
 - 1. One of the prints returned shall be marked-up and maintained as a "Record Document".

2. Do not use Shop Drawings without an appropriate final stamp indicating action taken in connection with construction.
3. Coordination drawings are a special type of Shop Drawing that show the relationship and integration of different construction elements that require careful coordination during fabrication or installation to fit in the space provided or function as intended.
4. Preparation of coordination Drawings is specified in section "Project Coordination" and may include components previously shown in detail on Shop Drawings or Product Data.
5. Submit coordination Drawings for integration of different construction elements. Show sequences and relationships of separate components to avoid conflicts in use of space.

1.8 PRODUCT DATA

- A. Collect Product Data into a single submittal.
 1. Product Data includes printed information such as manufacturer's installation instructions, catalog cuts, standard wiring diagrams and performance curves.
 2. Where Product Data must be specially prepared because standard printed data is not suitable for use, submit as "Shop Drawings."
 3. Mark each copy to show applicable choices and options.
 4. Where printed Product Data includes information on several products, some of which are not required, mark copies to indicate the applicable information. Include the following information:
 - a) Manufacturer's printed recommendations.
 - b) Compliance with recognized trade association standards.
 - c) Compliance with recognized testing agency standards.
 - d) Application of testing agency labels and seals.
 - e) Notation of dimensions verified by field measurement.
 - f) Notation of coordination requirements.
 5. Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed.
- B. Preliminary Submittal: Submit a preliminary single-copy of Product Data where selection of options is required.
- C. Submittals:
 1. Submit 3 copies of each required submittal.
 2. The Owner's Representative will retain two, and will return the one marked with action taken and corrections or modifications required.
 3. Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.

D. Distribution:

1. Furnish copies of final submittal to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities.
2. Show distribution on transmittal forms.
3. Do not proceed with installation until a final submittal is in the installer's possession.
4. Do not permit use of unmarked copies of Product Data in connection with construction.

1.9 SAMPLES

1. Submit full-size, fully fabricated Samples cured and finished as specified and physically identical with the material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials.
 - a) Generic description of the Sample.
 - b) Sample source.
 - c) Product name or name of manufacturer.
 - d) Compliance with recognized standards.
 - e) Availability and delivery time.
2. Submit Samples for review of kind, and for a comparison of these characteristics between the final submittal and the actual component as delivered and installed.
3. Refer to other Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation and similar construction characteristics.
4. Field Samples specified in individual Sections are special types of Samples. Field Samples are full-size examples erected on site to illustrate finishes, coatings, or finish materials and to establish the standard by which the Work will be judged.
5. Comply with submittal requirements to the fullest extent possible. Process transmittal forms to provide a record of activity.

1.10 MISCELLANEOUS SUBMITTALS:

A. Material Safety Data Sheets:

1. Process material safety and data sheets as "product data." MSDS's shall be submitted to OEHS before any work commences.

B. Standards:

1. Where submittal of a copy of standards is indicated, and except where copies of standards are specified as an integral part of a "Product Data" submittal, submit a single copy of standards for the Owner's Representative's use. Where

workmanship, whether at the project site or elsewhere is governed by a standard, furnish additional copies of the standard to fabricators, installers and others involved in the performance of the work.

C. Closeout Submittals:

1. Refer to section "Project Closeout" and to individual sections of these specifications for specific submittal requirements of project closeout information.

D. Record Documents:

1. Furnish set of original documents as maintained on the project site.
2. Provide 2 photographic copies of marked-up drawings along with original marked-up record drawings, which, at the Contractor's option, may be reduced to not less than half size.

1.11 OWNER'S REPRESENTATIVE'S ACTION

- A. Except for submittals for record, information or similar purposes, where action and return is required or requested, the Owner's Representative will review each submittal, mark to indicate action taken, and return promptly.
 1. Review by the Consultant does not relieve the Contractor from responsibility for errors which may exist in the submitted data. Compliance with specified characteristics is the Contractor's responsibility.
 2. If the Contractor considers any required revision to be a change, he shall so notify the Consultant.

1.12 REIMBURSEMENT OF ENGINEER'S COSTS.

- A. In the event substitutions are proposed to the Consultant after the Contract has been awarded, the Consultant will record all time and expenses incurred in the evaluation of each such proposed substitution.
- B. Whether or not the Consultant approves a proposed substitution, the Contractor promptly upon receipt of the Consultant's billing shall reimburse the Consultant at the rate of 2-1/2 times the direct cost to the Consultant for all time and expenses spent evaluating the proposed substitutions.

1.13 IDENTIFICATION OF SUBMITTALS

- A. Consecutively number all submittals.
 1. When material is resubmitted for any reason, transmit under a new letter of transmittal and with a new transmittal number.
 2. On resubmittals, cite the original submittal number for reference.
- B. Accompany each submittal with a letter of transmittal showing all information required for identification and checking.

- C. On at least the first page of each submittal, and elsewhere as required for positive identification, show the submittal number in which the item was included.
- D. Maintain an accurate submittal log for the duration of the Work, showing current status of all submittals at all times. Make the submittal log available to the Consultant for review upon request.

PART 2 - PRODUCTS (Not Applicable).

PART 3 - EXECUTION (Not Applicable).

END OF SECTION 01301

SUBMITTAL CHECKLIST

The submittals required from the Contractor include, but are not limited to the following:

01013 Summary of Work - Asbestos Abatement/Demolition

Before Start of Work:

- Plan of Action
- Pre-construction Inspection

01043 Project Coordination - Asbestos Abatement/Demolition

Before Start of Work:

- Contingency Plans
- Telephone Numbers
- Notifications sent to other entities at the work site.
- Notifications sent to emergency service agencies.
- Resume: of general superintendent.
- Accreditation: of accreditation of general superintendent
- Staff Names:

Periodically During Work:

- Daily Logs
- Event Reports
- Accident Reports
- Discovered Condition Reports

01091 Definitions and Standards - Asbestos Abatement/Demolition

Before Start of Work:

- None

Periodically During Work:

- None

01092 Codes, Regulations, and Standards - Asbestos Abatement/Demolition

Before Start of Work:

- State Regulations
- Local Regulations
- Licenses
- Notifications
- Permits

Periodically During Work:

- None

01301 Submittals

Before Start of Work:

- Contractors Construction Schedule
- Submittal Schedule

Periodically During Work:

- Progress photographs
- Record Documents

01503 Temporary Facilities - Asbestos Abatement/Demolition

Before Start of Work:

- Scaffolding
- Hot water heater
- Decontamination Unit Sub-panel
- Ground Fault Circuit Interrupters (GFCI)
- Lamps and Light Fixtures
- Temporary Heating Units
- Temporary Cooling Units
- Self-Contained Toilet Units: Product Data, Sub-contractor
- First Aid Supplies
- Fire Extinguishers: product data, location schedule

Periodically During Work:

- None

01513 Temporary Pressure Differential & Air Circulation System

Before Start of Work:

- Pressure Differential System Design
- HEPA Filtered Fan Units: Product data
- Monitoring Equipment: Product data
- Auxiliary Generator: Product data
- Power Switch: Product data
- Auxiliary Power System: Shop Drawing

Periodically During Work:

- Pressure Differential Monitoring Results

01526 Temporary Enclosures

Before Start of Work:

- Strippable Coatings: Product data
- Strippable Coatings: Test report on ASTM E84 test

Strippable Coatings: Manufacturer's installation instructions. Strippable Coatings:
Material Safety Data Sheet
Spray Cement: Product data
Spray Cement: Manufacturer's installation instructions
Spray Cement: Material Safety Data Sheet
Sheet Plastic: Test reports on NFPA 701 test
Signs: Samples

Periodically During Work:

Inspection report prior to applying strippable coating
Photograph of existing damage prior to applying coatings
Test Patches of strippable coating

01527 Regulated Areas

Before Start of Work:

HEPA Filtered Vacuum Cleaners: product data
Signs: samples
Warning Tape: samples

Periodically During Work:

None

01560 Worker Protection

Before Start of Work:

AHERA Accreditation: for each worker
State and Local License: for each worker
Historic Airborne Fiber Data
Certificate Worker Acknowledgment: for each worker
Training Program: course outline
Report from Medical Examination: of each worker
Notarized Certifications
Biological Monitoring Examination: of each worker

Periodically During Work:

None

01562 Respiratory Protection

Before Start of Work:

Product Data
NIOSH and MSHA Certifications
Type "C": System Diagram
Type "C": Operating Instruction
Respiratory Protection Program: written manual
Respiratory Protection Program: form at end of section
Historic Airborne Fiber Data
Resume information

Periodically During Work:

None

01563 Decontamination Units

Before Start of Work:

Personnel Decontamination Unit: shop drawing
Equipment Decontamination Unit: shop drawing
Shower Pan: shop drawing
Shower Walls: product data
Shower Head and Controls: product data
Filters: product data
Filters: shop drawing
Hose Bib: product data
Wash Station Shower Stall: product data
Wash Station Shower Stall: shop drawing
Elastomeric membrane: product data
Lumber: product data on fire resistance treatment
Sump Pump: product data
Signs: samples

Periodically During Work:

None

01601 Materials and Equipment - Asbestos Abatement/Demolition

Before Start of Work:

Product List Schedule

Periodically During Work:

None

01632 Product Substitutions - Asbestos Abatement/Demolition

Before Start of Work:

Refer to section

Periodically During Work:

Refer to section

01701 Project Closeout - Asbestos Abatement/Demolition

Before Start of Work:

None

Periodically During Work:

Refer to section

01711 Project Decontamination

Before Start of Work:

None

Periodically During Work:

Fire Test on Lock Back Encapulants used

01714 Work Area Clearance

None

02084 Disposal of Asbestos-Containing Waste Material

Before Start of Work:

- Waste Hauler State License
- Waste Hauler Local License
- Name and address of landfill
- Landfill contact person and telephone number
- Name and address of processor
- Processor contact person and telephone number
- Product data on process to be used
- EPA letter on process as a NESHAPS alternative
- Process parameters or operating conditions
- Chain of Custody form
- Waste Manifest Form
- Disposal Bag: samples
- Label Samples.

Periodically During Work:

- On a weekly basis: copies of manifests and disposal site receipts.

END OF SUBMITTAL CHECKLIST

SECTION 01410 - AIR MONITORING - TEST LABORATORY SERVICES (ASBESTOS)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Air Monitoring: during work area clearance is described in Section 01714 Work Area Clearance.

1.2 DESCRIPTION OF THE WORK

A. Not in Contract Sum:

1. This section describes work being performed by the Owner. This work is not in the Contract Sum.
2. This section describes air monitoring carried out by the owner to verify that the building beyond the work area and the outside environment remains uncontaminated.
3. This section also sets forth airborne fiber levels both inside and outside the work area as action levels, and describes the action required by the Contractor if an action level is met or exceeded.
4. Air monitoring required by OSHA is work of the Contractor and is not covered in this section.

1.3 AIR MONITORING:

A. Work Area Isolation:

1. The purpose of the Owner's air monitoring is to detect faults in the work area isolation such as:
 - a) Contamination of the building outside of the work area with airborne asbestos fibers,
 - b) Failure of filtration or rupture in the differential pressure system,
 - c) Contamination of air outside the building envelop airborne asbestos fibers.
2. Should any of the above occur immediately cease asbestos abatement activities until the fault is corrected. Do not recommence work until authorized by the Owner's Representative.

B. Work Area Airborne Fiber Count:

The Owner will monitor airborne fiber counts in the Work Area. The purpose of this air monitoring will be to detect airborne asbestos concentrations which may challenge the ability of the Work Area isolation procedures to protect the balance of the building or outside of the building from contamination by airborne fibers.

C. Work area clearance:

1. To determine if the elevated airborne fiber counts encountered during abatement operations have been reduced to an acceptable level, the Owner will sample and analyze air per Section 01714 Work Area Clearance.
2. The Owner will be conducting air monitoring throughout the course of the project.

1.4 STOP ACTION LEVELS:

A. Inside Work Area:

1. Maintain an average airborne count in the Work Area of less than 0.5 fibers per cubic centimeter.
 - a) If the fiber counts rise above this figure for any sample taken, revise work procedures to lower fiber counts.
 - b) If the Time Weighted Average (TWA) fiber count for any work shift or 8 hour period exceeds 0.5 fibers per cubic centimeter, stop all work, leave Pressure Differential System in operation and notify Owner's Representative.
 - c) After correcting cause of high fiber levels, do not recommence work for 24 hours unless otherwise authorized, in writing, by Owner's Representative.
2. If airborne fiber counts exceed 2.0 fibers per cubic centimeter for any period of time cease all work except corrective action until fiber counts fall below 0.5 fibers per cubic centimeter and notify Owner's Representative. After correcting cause of high fiber levels, do not recommence work for 24 hours unless otherwise authorized, in writing, by Owner's Representative.

B. Outside Work Area:

1. If any air sample taken outside of the Work Area exceeds 0.01 fibers/cc, immediately and automatically stop all work except corrective action. The Owner's Representative will determine the source of the high reading and so notify the Contractor in writing.
2. If the high reading occurs, initiate the following actions:
 - a) Decontaminate the affected area in accordance with Section 01711 Cleaning & Decontamination Procedures.
 - b) Require that respiratory protection as set forth in Section 01562 Respiratory Protection be worn in affected area until area is cleared for reoccupancy in accordance with Section 01714 Work Area Clearance.

C. Effect on Contract Sum:

1. Complete corrective work with no change in the Contract Sum if high airborne fiber counts were caused by Contractor's activities.
2. The Contractor will be responsible for all PCM and TEM samples collected in response to all fiber counts outside the work area.
3. TEM samples will be collected to clear outside areas affected by high fiber counts. All TEM samples collected due to high fiber counts will be paid for by the abatement contractor.

D. Fibers Counted:

1. The following procedure will be used to resolve any disputes regarding fiber types when a project has been stopped due to excessive airborne fiber counts.

E. Large Fibers:

1. "Airborne Fibers" referred to above include all fibers regardless of composition as counted by phase contrast microscopy (PCM), unless additional analysis by

transmission or scanning electron microscopy demonstrates to the satisfaction of the Owner's Representative that non-asbestos fibers are being counted.

2. "Airborne Fibers" counted in samples analyzed by scanning or transmission electron microscopy shall be asbestos fibers, greater than 5 microns in length and greater than 0.25 microns in diameter.
3. For purposes of stop action levels, subsequent to analysis by electron microscopy, the number of "Airborne Fibers" shall be determined by multiplying the number of fibers, regardless of composition, counted by PCM by a number equal to asbestos fibers counted divided by all fibers counted in the electron microscopy analysis.

- F. Small Structures: "Airborne Fibers" referred to above include asbestos structures (fibers, bundles, clusters or matrices) of any diameter and any length greater than 0.5 microns.

1.5 ANALYTICAL METHODS:

- A. The following methods will be used by the Owner in analyzing filters used to collect air samples.
1. Phase Contrast Microscopy (PCM) will be performed using the NIOSH 7400 method. This analysis will be carried out at the job site.
 2. Transmission Electron Microscopy will be performed using the analysis method set forth in the AHERA regulation 40 CFR Part 763 Appendix A.

1.6 SAMPLE VOLUMES:

- A. General:

1. The number and volume of air samples taken by the Owner will be in accordance with the following schedule. Sample volumes given may vary depending upon the analytical method used.
2. Additional samples may be taken at Owner's or Owner's Representatives discretion. If airborne fiber counts exceed allowed limits additional samples will be taken as necessary to monitor fiber levels.

1.7 LABORATORY TESTING:

- A. The services of a testing laboratory will be employed by the Owner to perform phase contrast microscopy laboratory analyses of the air samples. A microscope and technician will be setup at the job site, so that verbal reports on air samples can be obtained immediately. The Contractor will have access to all air monitoring tests and results.

1.8 ADDITIONAL TESTING:

- A. The Contractor may conduct his own air monitoring and laboratory testing. If he elects to do this the cost of such air monitoring and laboratory testing shall be at no additional cost to the Owner.

1.9 PERSONAL MONITORING:

- A. Owner will not be performing air monitoring to meet Contractor's OSHA requirements for personnel sampling or any other purpose.

END OF SECTION - 01410

SECTION 01503 - TEMPORARY FACILITIES (ASBESTOS)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to work of this section.

1.2 DESCRIPTION OF REQUIREMENTS:

- A. General: Provide temporary connection to existing building utilities or provide temporary facilities as required herein or as necessary to carry out the work.

1.3 SUBMITTALS

- A. Before the Start of Work: Submit the following to the Owner's Representative for review. Begin no work until these submittals are returned with Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use or final-but-restricted use.
- B. Scaffolding: submit list of rolling and fixed scaffolding intended for use on the project. Submit sufficient detail to indicate compliance with applicable worker safety regulations or other requirements.
- C. Hot water heater: Submit manufacturers name, model number, size in gallons, heating capacity, power requirements.
- D. Decontamination Unit Sub-panel: Submit product data.
- E. Ground Fault Circuit Interrupters (GFCI): Submit product data.
- F. Lamps and Light Fixtures: Submit product data.
- G. Self-Contained Toilet Units: Provide product data and name of sub-contractor to be used for servicing self-contained toilets. Submit method to use for servicing. A minimum of one self-contained Toilet Unit shall be provided for every 15 workers. Units shall be serviced at least once a week, more often if required because of use or odor.
- H. First Aid Supplies: Provide list of contents of first aid kit. Submit in form of check list.
- I. Fire Extinguishers: Provide product data. Submit schedule indicating location at job site.

PART 2 - PRODUCTS

2.1 MATERIALS AND EQUIPMENT:

- A. General: Provide new or used materials and equipment that are undamaged and in serviceable condition. Provide only materials and equipment that are recognized as being suitable for the intended use, by compliance with appropriate standards.

2.2 SCAFFOLDING:

- A. Provide all scaffolding, ladders and/or staging, etc. as necessary to accomplish the work of this contract. Scaffolding may be of suspension type or standing type such as metal tube and coupler, tubular welded frame, pole or outrigger type or cantilever type. The type, erection and use of all scaffolding shall comply with all applicable OSHA provisions.
1. Equip rungs of all metal ladders, etc. with an abrasive non-slip surface.
 2. Provide a nonskid surface on all scaffold surfaces subject to foot traffic.
- B. The Contractor shall adhere to all OSHA regulations and standards with regard to ladders, scaffolds, and work platforms. He shall also follow proper decontamination procedures when removing said devices from the work area.

2.3 WATER SERVICE:

- A. Temporary Water Service Connection: All connections to the Owner's water system shall include backflow protection. Valves shall be temperature and pressure rated for operation of the temperatures and pressures encountered. After completion of use, connections and fittings shall be removed without damage or alteration to existing water piping and equipment. Leaking or dripping valves shall be piped to the nearest *active* drain or located over an existing *active* sink or grade where water will not damage existing finishes or equipment.
- B. Water Hoses: Employ heavy-duty abrasion-resistant hoses with a pressure rating greater than the maximum pressure of the water distribution system to provide water into each work area and to each Decontamination Unit. Provide fittings as required to allow for connection to existing wall hydrants or spouts, as well as temporary water heating equipment, branch piping, showers, shut-off nozzles and equipment.
- C. Hot Water Heater: Provide UL rated 40 gallon electric hot water heater to supply hot water for the Decontamination Unit shower. Activate from 30 amp circuit breaker located within the Decontamination Unit subpanel. Provide with relief valve compatible with water heater operation; pipe relief valve down to drip pan on floor with type L copper. Drip pans shall consist of a 12" X 12" X 6" deep pan, made of 19 gauge galvanized steel, with handles. A 3-quart kitchen saucepan may be substituted for this purpose. Drip pan shall be securely fastened to the hot water heater with bailing wire or similar material. Wiring of the hot water heater shall be in compliance with NEMA, NECA, and UL standards.

2.4 ELECTRICAL SERVICE:

- A. General: Comply with applicable NEMA, NECA and UL standards and governing regulations for materials and layout of temporary electric service. Due to the extreme conditions present during abatement activities, the Contractor is responsible for assuring work areas are safe from electrical hazards. An adequate Ground Fault Circuit Interrupter (GFCI) system shall be used as required in the National Electrical Code. Contractor must also supply power for Consultant's sampling pumps, fans, and leaf blower using GFCIs.

- B. Temporary Power: Provide service to Decontamination Unit subpanel with minimum 60 amp, 2 pole circuit breaker or fused disconnect connected to the building's main distribution panel. Subpanel and disconnect shall be sized and equipped to accommodate all electrical equipment required for completion of the work.
- C. Voltage Differences: Provide identification warning signs at power outlets which are other than 110-120 volt power. Provide polarized outlets for plug-in type outlets, to prevent insertion of 110-120 volt plugs into higher voltage outlets. Dry type transformers shall be provided where required to provide voltages necessary for work operations.
- D. Ground Fault Protection: Equip all circuits for any purpose entering Work Area with ground fault circuit interrupters (GFCI). Locate GFCI's exterior to Work Area so that all circuits are protected prior to entry to Work Area. Provide circuit breaker type ground fault circuit interrupters (GFCI) equipped with test button and reset switch for all circuits to be used for any purpose in work area, decontamination units, exterior, or as otherwise required by national electrical code, OSHA or other authority. Locate in panel exterior to Work Area.
- E. Electrical Power Cords: Use only grounded extension cords; use "hard-service" cords where exposed to abrasion and traffic. Use single lengths or use waterproof connectors to connect separate lengths of electric cords, if single lengths will not reach areas of work.
- F. Lamps and Light Fixtures: Provide general service incandescent lamps or fluorescent lamps of wattage indicated or required for adequate illumination as required by the work or this section. Protect lamps with guard cages or tempered glass enclosures, where fixtures are exposed to breakage by construction operations. Provide vapor tight fixtures in work area and decontamination units. Provide exterior fixtures where fixtures are exposed to the weather or moisture.

2.5 TEMPORARY HEAT:

- A. Heating Units: Provide temporary heating units that have been tested and labeled by UL, FM or another recognized trade association related to the fuel being consumed. Use steam or hot water radiant heat where available, and where not available use electric resistive fin radiation supplied from a branch circuit with ground fault circuit interrupter.

2.6 FIRST AID:

- A. First Aid Supplies: Comply with governing regulations and recognized recommendations within the construction industry.

2.7 FIRE EXTINGUISHERS:

- A. Fire Extinguishers: Provide Type "A" fire extinguishers for temporary offices and similar spaces where there is minimal danger of electrical or grease-oil-flammable liquid fires. In other locations the following shall apply:
 1. Fire extinguishers, 10A60BC type, will be required in the work areas at a rate of one per 1,000 square feet, or within 75 feet of anywhere in the work area.
 2. The minimum number of fire extinguishers will be one in the contained work area and one in the clean area.

3. Smoke detectors of the battery powered ionization type will be required at a rate of one per 5,000 square feet.
4. The minimum number of smoke detectors will be one in the clean room and one adjacent to each differential pressure machine.
5. Smoking, cooking appliances, heaters, etc. are prohibited in and around the work area, including the clean room.

2.8 REQUIREMENTS:

- A. It shall be the responsibility of the Contractor to fully comply with all federal (including OSHA), state, and local requirements during the course of this project.

PART 3 - EXECUTION

3.1 SCAFFOLDING:

- A. During the erection and/or moving of scaffolding, care must be exercised so that the polyethylene floor covering is not damaged.
- B. Clean as necessary debris from non-slip surfaces.
- C. At the completion of abatement work clean all construction aids within the work area, wrap in one layer of 6 mil polyethylene sheet and seal before removal from the Work Area.

3.2 INSTALLATION, GENERAL:

- A. General: Use qualified tradesmen for installation of temporary services and facilities. Locate temporary services and facilities where they will serve the entire project adequately and result in minimum interference with the performance of the Work.
 1. Require that tradesmen accomplishing this work be licensed as required by local authority for the work performed.
 2. Relocate, modify and extend services and facilities as required during the course of work so as to accommodate the entire work of the project.

3.3 WATER SERVICE:

- A. General: Water connection (without charge) to Owner's existing potable water system is limited to one 3/4" pipe-size connection, and a maximum flow of 10 gpm to cold water supply. Install using vacuum breakers or other backflow preventer as required by local authority. Supply hot and cold water to the Decontamination Unit.
 1. Maintain hose connections and outlet valves in leakproof condition. Where finish work below an outlet might be damaged by spillage or leakage, provide a drip pan of suitable size to minimize the possibility of water damage. Drain water promptly from pans as it accumulates.

3.4 ELECTRICAL SERVICE:

A. General:

1. Provide a weatherproof, grounded temporary electric power service and distribution system of sufficient size, capacity, and power characteristics to accommodate performance of work during the construction period.
2. Install temporary lighting adequate to provide sufficient illumination for safe work and traffic conditions in every area of work.

B. Lockout:

1. Lockout all existing power to or through the work area as described below. Unless specifically noted otherwise existing power and lighting circuits to the Work Area are not to be used. All power and lighting to the Work Area and Decontamination facilities are to be provided from temporary electrical panel described below.
 - a) Lockout power to Work Area by switching off all breakers serving power or lighting circuits in work area. Label breakers with tape over breaker with notation "DANGER circuit being worked on". Lock panel and have all keys under control of Contractor's Superintendent or Owner's designated Representative.
 - b) Lockout power to circuits running through Work Area wherever possible by switching off all breakers serving these circuits. Label breakers with tape over breaker with notation "DANGER circuit being worked on". Sign and date danger tag. Lock panel and supply keys to Contractor, Owner and Owner's Representative. If circuits cannot be shut down for any reason, label at intervals 4'-0" on center with tags reading, "DANGER live electric circuit. Electrocution hazard."

C. Temporary Electrical Panel:

1. Provide temporary electrical panel sized and equipped to accommodate all electrical equipment and lighting required by the work.
2. Connect temporary panel to existing building electrical system.
3. Protect with circuit breaker or fused disconnect.
4. Locate temporary panel as directed by Owner or Owner's Representative.

D. Power Distribution System:

1. Provide circuits of adequate size and proper characteristics for each use. In general run wiring overhead, and rise vertically where wiring will be at least exposed to damage from construction operations.

E. Circuit Protection:

1. Protect each circuit with a ground fault circuit interrupter (GFCI) of proper size located in the temporary panel.
2. Do not use outlet type GFCI devices.

F. Temporary Wiring:

1. In the Work Area shall be type UF non-metallic sheathed cable located overhead and exposed for surveillance.
2. Do not wire temporary lighting with plain, exposed (insulated) electrical conductors.

3. Provide liquid tight enclosures or boxes for wiring devices.

G. Number of Branch Circuits:

1. Provide sufficient branch circuits as required by the work. All branch circuits are to originate at temporary electrical panel. At minimum provide the following:
 - a) One Circuit for each HEPA filtered fan unit
 - b) For power tools and task lighting, provide one temporary 4-gang outlet in the following locations. Provide a separate 110-120 Volt, 20 Amp circuit for each 4-gang outlet (4 outlets per circuit).
 - One outlet in the work area for each 2500 square feet of work area
 - One outlet at each decontamination unit, located in equipment room
 - c) 110-120 volt 20 amp branch circuits with 4-gang outlet for Owner's exclusive use while conducting air sampling during the work as follows:
 - One in each work area
 - One at clean side of each Decontamination Unit.
 - One at each exhaust location for HEPA filtered fan units
 - d) 110-120 volt 20 amp branch circuits with 4-gang outlet for Owner's exclusive use for conducting final air sampling as set forth in Section 01714 Work Area Clearance as follows:
 - Five inside work area
 - Two outside work area in location designated by Owner's Representative

3.5 TEMPORARY LIGHTING:

A. Lockout:

1. Lock out all existing power to lighting circuits in Work Area as described in section 01526 Temporary Enclosures. Unless specifically noted otherwise existing lighting circuits to the Work Area are not to be used. All lighting to the Work Area and Decontamination facilities is to be provided from temporary electrical panel described above.
2. Provide the following or equivalent where natural lighting or existing building lighting does not meet the required light level:
 - a) One 200-watt incandescent lamp per 1000 square feet of floor area, uniformly distributed, for general construction lighting, or equivalent illumination of a similar nature. In corridors and similar traffic areas provide one 100-watt incandescent lamp every 50 feet. In stair ways and at ladder runs, provide one lamp minimum per story, located to illuminate each landing and flight. Provide sufficient temporary lighting to ensure proper workmanship everywhere; by combined use of daylight, general lighting, and portable plug-in task lighting.
3. Provide lighting in areas where work is being performed as required to supply a 100 foot candle minimum light level.
4. Provide lighting in any area being subjected to a visual inspection as required to supply a 100 foot candle minimum light level.
5. Provide lighting in the Decontamination Unit as required to supply a 50 foot candle minimum light level.
6. Number of Lighting Circuits: Provide sufficient lighting circuits as required by the work. All lighting circuits are to originate at temporary electrical panel.
7. Circuit Protection: Protect each circuit with a ground fault circuit interrupter (GFCI) of proper size located in the temporary panel.

3.6 TEMPORARY HEAT:

A. General:

1. Provide temporary heat where indicated or needed for performance of the Work.
2. Maintain a minimum temperature of 70 degrees F. where finished work has been installed.
3. Maintain a minimum temperature of 75 degrees F. in the shower of the decontamination unit.
4. Maintain a minimum temperature of 70 degrees F. in the Work Area at all times that work is going on. At all other times and at completion of removal work, but before start of reconstruction work, maintain a minimum temperature of 50 degrees F.

3.7 PROJECT ADMINISTRATOR'S FIELD OFFICE:

A. Project Administrator's Field Office:

1. Provide air conditioned, heated office space near the Work Area for professional person, suitably finished, furnished, equipped, locked, heated, naturally ventilated, lighted and wired with electrical power, not less than 250 sq. ft. floor area.
2. Equip office with 1 telephone line and 1 telephone, and not less than 2 duplex convenience power outlets.
3. In addition to 1 desk, 1 four drawer file cabinet and 3 chairs, furnish office with one 36" X 96" plan table, and one 24" X 48" work table near electrical power outlet.
4. Provide portable office or use a suitable room as designated by Owner and relocate or add equipment as required to meet the above requirements.

3.8 SANITARY FACILITIES:

A. Toilets:

1. Use of the Owner's existing toilet facilities, as indicated, will not be permitted

3.9 FIRE EXTINGUISHERS:

A. Fire Extinguishers:

1. Comply with the applicable recommendations of NFPA Standard 10 "Standard for Portable Fire Extinguishers".
2. Locate fire extinguishers where they are most convenient and effective for their intended purpose, but provide not less than one extinguisher in each Work Area in Equipment Room and One outside Work Area in Clean Room.

END OF SECTION - 01503

SECTION 01513 - TEMPORARY PRESSURE DIFFERENTIAL AND AIR CIRCULATION SYSTEM (ASBESTOS)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to work of this section.

1.2 MONITORING

- A. Continuously monitor and record the pressure differential between the Work Area and the area outside of the Work Area with a monitoring device incorporating a continuous recorder (e.g. strip chart).

1.3 SUBMITTALS

A. Before Start of Work:

1. Submit design of pressure differential system to the Owner's Representative for review.
2. Do not begin work until submittal is returned with the Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use.
3. Include in the submittal at a minimum:
 - a) Number of HEPA filtered fan units required and the calculations necessary to determine the number of machines;
 - b) Description of projected air flow within Work Area and methods required to provide adequate air flow in all portions of the work area;
 - c) Anticipated pressure differential across Work Area enclosures;
 - d) Description of methods of testing for correct air flow and pressure differentials;
 - e) Manufacturer's product data on the HEPA filtered fan units to be used;
 - f) Location of the machines in the Work Area;
 - g) Method of supplying adequate power to the machines and designation of building electrical panel(s) which will be supplying the power;
 - h) Description of work practices to insure that airborne fibers travel away from workers;
 - i) Manufacturer's product data on equipment used to monitor pressure differential between inside and outside of Work Area; and
 - j) MSDS's on all substances to be used.

B. On a daily basis:

1. Submit printout from pressure differential monitoring equipment.
2. Mark printout with date and start of time for each day.
3. Use printout paper that indicates elapsed time in intervals no greater than hours. Indicate on each days printout, time of starting and stopping abatement work, type of work in progress, breaks for lunch or other purposes, periods of stop work, and filter changes.
4. Cut printout into segments by day, attach to 8 1/2" by 11" paper.
5. Label with project name, contractors name and date.

1.4 QUALITY ASSURANCE:

- A. Monitor pressure differential at Personnel and Equipment Decontamination Units with a differential pressure meter equipped with a continuous recorder. Meter shall be equipped with a warning buzzer which will sound if pressure differential drops below 0.02" of water.

PART 2 - PRODUCTS

2.1 HEPA FILTERED FAN UNITS:

- A. General:
 1. Supply the required number of HEPA filtered fan units to the site in accordance with these specifications. Use units that meet the following requirements.
- B. Cabinet:
 1. Constructed of durable materials able to withstand damage from rough handling and transportation. Where necessary, the width of the cabinet should be less than 30 inches to fit through standard-size doorways.
 2. Provide units whose cabinets are:
 - a) Factory-sealed to prevent asbestos-containing dust from being released during use, transport, or maintenance;
 - b) Arranged to provide access to and replacement of all air filters from intake end; and
 - c) Mounted on casters or wheels.
- C. Fans:
 1. Rate capacity of fan according to usable air-moving capacity under actual operating conditions.
- D. HEPA Filters:
 1. Provide units whose final filter is the HEPA type with the filter media (folded into closely pleated panels) completely sealed on all edges with a structurally rigid frame.
 2. Provide units with a continuous rubber gasket located between the filter and the filter housing to form a tight seal.
 3. Provide HEPA filters that are individually tested and certified by the manufacturer to have an efficiency of not less than 99.97 percent when challenged with 0.3 um dioctylphthalate (DOP) particles when tested in accordance with Military Standard Number 282 and Army Instruction Manual 136-300-175A. Provide filters that bear a UL586 label to indicate ability to perform under specified conditions.
 4. Provide filters that are marked with: the name of the manufacturer, serial number, air flow rating, efficiency and resistance, and the direction of test air flow.
 5. Prefilters, which protect the final filter by removing the larger particles, are required to prolong the operating life of the HEPA filter. Two stages of prefiltration are required. Provide units with the following prefilters:

- a) First-stage prefilter: low-efficiency type (e.g., for particles 100 um and larger); and
- b) Second-stage (or intermediate) filter: medium efficiency (e.g., effective for particles down to 5 um)
- c) Provide units with prefilters and intermediate filters installed either on or in the intake grid of the unit and held in place with special housings or clamps.

E. Instrumentation:

- 1. Provide units equipped with:
- 2. Magnehelic gauge or manometer to measure the pressure drop across filters and indicate when filters have become loaded and need to be changed;
- 3. A table indicating the usable air-handling capacity for various static pressure readings on the Magnehelic gauge affixed near the gauge for reference, or the Magnehelic reading indicating at what point the filters should be changed, noting Cubic Feet per Minute (CFM) air delivery at that point; and

- a) Elapsed time meter to show the total accumulated hours of operation.

F. Safety and Warning Devices: Provide units with the following safety and warning devices:

- a) Electrical (or mechanical) lockout to prevent fan from operating without a HEPA filter;
- b) Automatic shutdown system to stop fan in the event of a rupture in the HEPA filter or blocked air discharge;
- c) Warning lights to indicate normal operation (green), too high a pressure drop across the filters (i.e., filter overloading) (yellow), and too low of a pressure drop (i.e., rupture in HEPA filter or obstructed discharge) (red); and
- d) Audible alarm if unit shuts down due to operation of safety systems.

G. Electrical components:

- 1. Provide units with electrical components approved by the National Electrical Manufacturers Association (NEMA) and Underwriter's Laboratories (UL). Each unit is to be equipped with overload protection sized for the equipment. The motor, fan, fan housing, and cabinet are to be grounded.

PART 3 - EXECUTION

3.1 PRESSURE DIFFERENTIAL ISOLATION

A. Isolate the Work Area from all adjacent areas or systems of the building with a Pressure Differential that will cause a movement of air from outside to inside at any breach in the physical isolation of the Work Area.

B. Relative Pressure in Work Area:

- 1. Continuously maintain the work area at an air pressure that is lower than that in any surrounding space in the building, or at any location in the immediate proximity outside of the building envelope. This pressure differential when measured across any physical or critical barrier must equal or exceed a static pressure of 0.04 inches of water.
- 2. Accomplish the pressure differential by exhausting a sufficient number of HEPA filtered fan units from the work area. The number of units required will depend on machine characteristics, the seal at barriers, and required air circulation. The number of units will increase with increased make-up air or leaks into the Work

Area. Determine the number of units required for pressure isolation by the following procedure:

- a) Establish required air circulation in the work area, personnel and equipment decontamination units;
- b) Establish isolation by increased pressure in adjacent areas or as part of seals where required; and
- c) Exhaust a sufficient number of units from the work area to develop the required pressure differential.
- d) The required number of units is the number determined above plus one additional unit.

3. Vent HEPA filtered fan units to outside of building unless authorized in writing by Owner's Representative.
 - a) Mount units to exhaust directly or through disposable ductwork.
 - b) Use only new ductwork except for sheet metal connections and elbows.
 - c) Use ductwork and fittings of same diameter or larger than discharge connection on fan unit.
 - d) Use inflatable, disposable plastic ductwork in lengths not greater than 100 feet.
 - e) Use spiral wire-reinforced flex duct in lengths not greater than 50 feet.
 - f) Arrange exhaust as required to inflate duct to a rigidity sufficient to prevent flapping.
 - g) If direction of discharge from fan unit is not aligned with duct use sheet metal elbow to change direction. Use six feet of spiral wire reinforced flex duct after direction change.

3.2 AUXILIARY GENERATOR

- A. Provide auxiliary diesel or gasoline-powered generator located outside of the building in a location protected from the weather.
- B. Arrange so that if a power failure occurs the generator automatically starts and supplies power to all of the HEPA filtered fan units and temporary lighting in operation.

3.3 AIR CIRCULATION IN THE WORK AREA:

- A. Air Circulation: For purposes of this section air circulation refers to either the introduction of outside air to the Work Area or the circulation and cleaning of air within the Work Area.
- B. Air circulation in the Work Area is a minimum requirement intended to help maintain airborne fiber counts at a level that does not significantly challenge the work area isolation measures. The Contractor may also use this air circulation as part of the engineering controls in his worker protection program.
 1. Determining the Air Circulation Requirements: Provide a fully operational air circulation system supplying a minimum of 4 air changes per hour.
 2. Determine Number of Units needed to achieve required air circulation according to the following procedure:
 - a) Determine the volume in cubic feet of the work area by multiplying floor area by ceiling height.
 - b) Determine total air circulation requirement in cubic feet per minute (CFM) for the work area by dividing this volume by the air change rate and multiplying by 60.

- c) Air Circulation Required in Cubic Feet of Air per Minute (CFM) is determined by:

$\{\text{Volume of work area (cu. ft.)}\} \times \{\text{Number of air changes per hour}\}$
(minutes per hour)

- d) Divide the air circulation requirement (CFM) above by capacity of HEPA filtered fan unit(s) used. Capacity of a unit for purposes of this section is the capacity in cubic feet per minute with fully loaded filters (pressure differential which causes loaded filter warning light to come on) in the machine's labeled operating characteristics.

Number of Units Needed is determined by the followed equation:

$$\frac{\text{Air circulation Requirement(CFM)}}{\text{Capacity of Unit with Loaded Filters (CFM)}}$$

- e) Add one (1) additional unit as a backup in case of equipment failure or machine shutdown for filter changing.

3.4 EXHAUST SYSTEM:

- A. Pressure differential isolation and air circulation in the Work Area are to be accomplished by an exhaust system as described below.
1. Exhaust all units from the Work Area to meet air circulation requirement of this section.
 2. Location of HEPA Filtered Fan Units: Locate fan unit(s) so that makeup air enters work area primarily through decontamination facilities and traverses Work Area as much as possible. This may be accomplished by positioning the HEPA filtered fan unit(s) at a maximum distance from the worker access opening or other makeup air sources.
 3. Place End of Unit an intake duct or its exhaust duct through an opening in the plastic barrier or wall covering. Seal plastic around the unit or duct with tape.
 4. Vent to Outside of Building, unless authorized in writing by the Owner's Representative.
 5. Decontamination Units: Arrange Work Area and decontamination units so that the majority of make up air comes through the Decontamination Units. Use only personnel or equipment Decontamination Unit at any time and seal the other so that make up air passes through unit in use.
 6. Supplemental Makeup Air Inlets:
 - a) Provide where required for proper air flow through the Work Area in location approved by the Owner's Representative by making openings in the plastic sheeting that allow air from outside the building into the Work Area.
 - b) Locate auxiliary makeup air inlets as far as possible from the fan unit(s) (e.g., on an opposite wall), off the floor (preferably near the ceiling), and away from barriers that separate the Work Area from occupied clean areas.
 - c) Cover with flaps to reseal automatically if the pressure differential system should shut down for any reason.
 - d) Spray flap and around opening with spray adhesive so that if flap closes meeting surfaces are both covered with adhesive. Use adhesive that forms contact bond when dry.

3.5 AIR CIRCULATION IN DECONTAMINATION UNITS:

- A. Pressure Differential Isolation: Continuously maintain the pressure differential required for the work area in the:
 - 1. Personnel Decontamination Unit: across the Shower Room with the Equipment Room at a lower pressure than the Clean room.
 - 2. Equipment Decontamination Unit: across the Holding Room with the Wash Room at a lower pressure than the Clean Room.
- B. Air Circulation: Continuously maintain air circulation in Decontamination Units at same level as required for Work Area.
- C. Air Movement:
 - 1. Arrange air circulation through the Personnel Decontamination Unit so that it produces a movement of air from the Clean Room through the Shower Room into the Equipment Room.
 - 2. Maintain continuous minimum velocities of Sixty (60) feet per minute in the breathing zone area of the shower and thirty (30) feet per minute in all other locations of the shower.

3.6 USE OF THE PRESSURE DIFFERENTIAL AND AIR CIRCULATION SYSTEM:

- A. General: Each unit shall be serviced by a dedicated minimum 115V-20A circuit with ground fault circuit interrupter (GFCI) supplied from temporary power supply. Do not use existing branch circuits to power fan units.
- B. Testing the System: Test pressure differential system before any asbestos-containing material is wetted or removed. After the Work Area has been prepared, the decontamination facility set up, and the fan unit(s) installed, start the unit(s) (one at a time). Demonstrate operation and testing of pressure differential system to Owner's Representative.
 - 1. Demonstrate Condition of Equipment for each HEPA filtered fan unit and pressure differential monitoring equipment including proper operation of the following:
 - a) Squareness of HEPA filter;
 - b) Condition of seals;
 - c) Proper operation of all lights;
 - d) Proper operation of automatic shut down if exhaust is blocked;
 - e) Proper operation of alarms;
 - f) Proper operation of magnehelic gauge; and
 - g) Proper operation and calibration on pressure monitoring equipment.
 - 2. Demonstrate Operation of the pressure differential system to the Owner's Representative will include, but not be limited to, the following:
 - a) Plastic barriers and sheeting move lightly in toward Work Area;
 - b) Curtain of decontamination units move lightly in toward Work Area;
 - c) Noticeable movement of air through the Decontamination Unit;
 - d) Use smoke tube to demonstrate air movement from Clean Room through Shower Room to Equipment Room;

- e) Use smoke tubes to demonstrate a definite motion of air across all areas in which work is to be performed; and
 - f) Use a differential pressure meter or manometer to demonstrate the required pressure differential at every barrier separating the Work Area from the balance of the building, equipment, ductwork or outside.
3. Modify the Pressure Differential System as necessary to demonstrate successfully the above.

C. Use of System During Abatement Operations:

1. Start fan units before beginning work (before any asbestos-containing material is disturbed). After abatement work has begun, run units continuously to maintain a constant pressure differential and air circulation until decontamination of the work area is complete. Do not turn off units at the end of the work shift or when abatement operations temporarily stop.
2. Do not shut down air pressure differential system during encapsulating procedures, unless authorized by the Owner's Representative in writing. Supply sufficient pre-filters to allow frequent changes.
3. Start abatement work at a location farthest from the fan units and proceed toward them. If an electric power failure occurs, immediately stop all abatement work, seal off all containment openings, and do not resume abatement until power is restored and fan units are operating again.
4. At completion of abatement work, allow fan units to run as specified under section 01711, to remove airborne fibers that may have been generated during abatement work and cleanup and to purge the Work Area with clean makeup air. The units may be required to run for a longer time after decontamination, if dry or only partially wetted asbestos material was encountered during any abatement work.

D. Dismantling the System:

1. When a final inspection and the results of final air tests indicate that the area has been decontaminated, fan units may be removed from the Work Area. Before removal from the Work Area, remove and properly dispose of pre-filter, decontaminate exterior of machine and seal intake to the machine with 6 mil polyethylene to prevent environmental contamination from the filters.

END OF SECTION - 01513

SECTION 01526 - TEMPORARY ENCLOSURES (ASBESTOS)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to work of this section.

1.2 SUBMITTALS:

- A. Before Start of Work submit the following to the Owner's Representative for review. Do not begin work until these submittals are returned with the Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use.

1. Strippable Coatings: Submit the following:

- a) Product description including major components and solvents;
- b) Test report on ASTM E84 test of surface burning characteristics;
- c) Manufacturer's installation instructions. Indicate portions applicable to the project and selected assemblies where the manufacturer offers alternatives and
- d) Material Safety Data Sheet: Submit the Material Safety Data Sheet, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for strippable coating material proposed for use on the work. Include a separate attachment for each sheet indicating the specific worker protective equipment proposed for use with the material indicated.

2. Spray Adhesive: Submit following:

- a) Product description including major components and solvents;
- b) Manufacturer's installation instructions. Indicate portions applicable to the project; and
- c) Material Safety Data Sheet: Submit the Material Safety Data Sheet, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for spray cement material proposed for use on the work. Include a separate attachment for each sheet indicating the specific worker protective equipment proposed for use with the material indicated.

3. Sheet Plastic: For fire retardant plastic submit test reports on NFPA 701 test.

4. Signs: Submit samples of signs to be used.

PART 2 - PRODUCTS

2.1 SHEET PLASTIC:

- A. Polyethylene Sheet: A single polyethylene film in the largest sheet size possible to minimize seams, 4.0 or 6.0 mil thick as indicated, clear, frosted, or black as indicated.
- B. Reinforced Polyethylene Sheet: Where plastic sheet constitutes the only barrier between the work area and the building exterior, provide translucent, nylon reinforced or woven polyethylene, laminated, flame resistant, polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-resistant Textiles and Films. Provide largest size possible to minimize seams, 4.0 or 6.0 mil thick as indicated, frosted or black as indicated.

2.2 MISCELLANEOUS MATERIALS:

- A. Duct Tape: Provide duct tape in 2" or 3" widths as indicated, with an adhesive which is formulated to stick aggressively to sheet polyethylene.
- B. Spray Cement: Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.

PART 3 - EXECUTION

3.1 SEQUENCE OF WORK:

- A. Carry out work of this section sequentially. Complete each activity before proceeding to the next.

3.2 GENERAL:

- A. Work Area: the location where asbestos-abatement work occurs. It is a variable of the extent of work of the Contract. It may be a portion of a room, a single room, or a complex of rooms. A "Work Area" is considered contaminated during the work, and must be isolated from the balance of the building, and decontaminated at the completion of the asbestos-control work.
 - 1. Completely isolate the Work Area from other parts of the building so as to prevent asbestos-containing dust or debris from passing beyond the isolated area. Should the area beyond the Work Area(s) become contaminated with asbestos-containing dust or debris as a consequence of the work, clean those areas in accordance with the procedures indicated in Section 01711. Perform all such required cleaning or decontamination at no additional cost to owner.
 - 2. Place all tools, scaffolding, staging, etc. necessary for the work in the area to be isolated prior to completion of Work Area isolation.
 - 3. Remove all removable furniture that has been designated uncontaminated by the Contract Documents or Owner's Representative. Also remove uncontaminated equipment, and/or supplies from the Work Area before commencing work, or completely cover with two (2) layers of polyethylene sheeting, at least 6 mil in thickness, securely taped in place with duct tape. Such furniture and equipment

shall be considered outside the work area unless covering plastic or seal is breached.

4. Disable ventilating systems or any other system bringing air into or out of the Work Area. Disable system by disconnecting wires, removing circuit breakers, by lockable switch or other positive means that will prevent accidental premature restarting of equipment.
5. Lockout power to Work Area by switching off all breakers serving power or lighting circuits in work area. Label breakers with tape over breaker with notation "DANGER circuit being worked on". Lock panel and have all keys under control of Contractor's Superintendent of Owner's designated Representative.
6. Lockout power to circuits running through work area wherever possible by switching off all breakers or removing fuses serving these circuits. Label breakers with tape over breaker with notation "DANGER circuit being worked on". Lock panel and have all keys under control of contractor's superintendent or owner's designated representative. If circuits cannot be shut down for any reason, label at intervals 4'-0" on center with tags reading, "DANGER live electric circuit. Electrocution hazard." Label circuits in hidden locations but which may be affected by the work in a similar manner.

B. Inspection Windows:

1. Install inspection windows in locations shown on the plans or as directed by the Owner's Representative. Each inspection window is to have a 24" X 24" viewing area fabricated from 1/4" acrylic or polycarbonate sheet.
2. Install window with top at 6'-6" above floor height in a manner that provides unobstructed vision from outside to inside of the Work Area.
3. Protect window from damage from scratching, dirt or any coatings used during the work. A sufficient number of windows are to be installed to provide observation of all portions of the Work Area that can be made visible from adjacent areas. Inspection windows that open into uncontrolled area are to be covered with a removable plywood hatch secured by lock and key.
4. Provide keys to Owner's Representative for all such locks.

3.3 EMERGENCY EXITS:

- A. Provide emergency exits and emergency lighting as set forth below. Emergency Exits: At each existing exit door from the Work Area provide the following means for emergency exiting:
1. Arrange exit door so that it is secure from outside the Work area but permits exiting from the Work Area;
 2. Mark outline of door on Primary and Critical Barriers with luminescent paint at least 1" wide. Hang a razor knife on a string beside outline. Arrange Critical and Primary barriers so that they can be easily cut with one pass of razor knife. Paint words "EMERGENCY EXIT" inside outline with luminescent paint in letters at least one foot high and 2" thick;
 3. Provide lighted EXIT sign at each exit; and
 4. Provide battery-operated emergency lighting that switches on automatically in the event of a power failure.

3.4 CONTROL ACCESS:

- A. Isolate the Work Area to prevent entry by building occupants into Work Area or surrounding controlled areas. Accomplish isolation by the following:
 - B. Submit to Owner's Representative a list of doors and other openings that must be secured to isolate Work Area. Include on list notation if door or opening is in an indicated exit route.
 - C. After receiving written authorization from the Owner's Representative lock all doors into Work Area, or, if doors cannot be locked, chain shut. Cover any signs that direct emergency exiting, either outside or inside of Work Area, to locked doors. Do not obstruct doors required for emergency exits from Work Area or from building.
 - D. After receiving written authorization from the Owner's Representative: construct partitions or closures across any opening into Work Area.
 - Fabricate partitions from 2 X 4 wood studs with 1/2" plywood on both faces. Brace at 4'-0" on center.
 - E. Visual Barrier: Where the Work Area is immediately adjacent to or within view of occupied areas, provide a visual barrier of opaque polyethylene sheeting at least 6 mil in thickness so that the work procedures are not visible to building occupants. Where this visual barrier would block natural light, substitute frosted or woven rip-stop sheet plastic in locations approved by the Owner's Representative.
 - F. Immediately inside door and outside critical barriers post an approximately 24 inch by 36 inch manufactured danger sign displaying the following legend with letter sizes and styles of a visibility required by 29 CFR 1926.1101. Provide spacing between respective lines at least equal to the height of the respective upper line.

LEGEND

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE CLOTHING
ARE REQUIRED IN THIS AREA

3.5 ALTERNATE METHODS OF ENCLOSURE:

- A. Alternate methods of containing the Work Area may be submitted to the Owner's Representative for approval in accordance with procedures set forth in Section 01632 Product Substitution. Do not proceed with any such method(s) without prior written approval of the Owner's Representative.

3.6 RESPIRATORY AND WORKER PROTECTION:

- A. Before proceeding beyond this point in providing Temporary Enclosures:
 - 1. Provide Worker Protection per Section 01560
 - 2. Provide Respiratory Protection per Section 01562
 - 3. Provide Personnel Decontamination Unit per Section 01563

3.7 CRITICAL BARRIERS:

- A. Completely Separate the Work Area from other portions of the building, and the outside by closing all openings with sheet plastic barriers at least 6 mil in thickness, or by sealing cracks leading out of Work Area with duct tape.
- B. Individually seal all ventilation openings (supply and exhaust), lighting fixtures, clocks, doorways, windows, convectors and speakers, and other openings into the Work Area with duct tape alone or with polyethylene sheeting at least 6 mil in thickness, taped securely in place with duct tape. Maintain seal until all work including Project Decontamination is completed. Take care in sealing of lighting fixtures to avoid melting or burning of sheeting.
- C. Provide Sheet Plastic barriers at least 6 mil in thickness as required to seal openings completely from the Work Area into adjacent areas. Seal the perimeter of all sheet plastic barriers with duct tape or spray cement.
- D. Mechanically Support sheet plastic independently of duct tape or spray cement seals so that seals do not support the weight of the plastic. Following are acceptable methods of supporting sheet plastic barriers. Alternative support methods may be used if approved in writing by the Owner's Representative.
 - 1. Plywood squares 6" x 6" x 3/8" held in place with one 6d smooth masonry nail or electro-galvanized common nail driven through center of the plywood and duct tape on plastic so that plywood clamps plastic to the wall. Locate plywood squares at each end, corner and at maximum 4 feet on centers.
 - 2. Nylon or polypropylene rope or wire with a maximum unsupported span of 10 feet, minimum 1/4" in diameter suspended between supports securely fastened on either side of opening at maximum 1 foot below ceiling. Tighten rope so that it has 2" maximum dip. Drape plastic over rope from outside Work Area so that a two foot long flap of plastic extends over rope into Work Area. Staple or wire plastic to itself 1" below rope at maximum 6" on centers to form a sheath over rope. Lift flap and seal to ceiling with duct tape or spray cement. Seal loop at bottom of flap with duct tape. Erect entire assembly so that it hangs vertically without a "shelf" upon which debris could collect.
- E. Provide Pressure Differential System per Section 01513.
- F. Clean housings and ducts of all overspray materials prior to erection of any Critical Barrier that will restrict access.

3.8 PREPARE AREA:

- A. Scaffolding: If fixed scaffolding is to be used to provide access HEPA vacuum and wet clean area prior to scaffolding installation.
- B. Remove all electrical and mechanical items, such as lighting fixtures, clocks, diffusers, registers, escutcheon plates, etc. which cover any part of the surface to be worked on with the work.
- C. Remove all general construction items such as cabinets, casework, door and window trim, moldings, ceilings, trim, etc., which cover the surface of the work as required to prevent interference with the work. Clean, decontaminate and reinstall all such materials, upon completion of all removal work with materials, finishes, and workmanship to match existing installations before start of work.

- D. Clean all contaminated furniture, equipment, and or supplies with a HEPA filtered vacuum cleaner or by wet cleaning, as specified in Section 01712 Cleaning and Decontamination Procedures, prior to being moved or covered. All equipment, furniture, etc. is to be deemed contaminated unless specifically declared as uncontaminated on the drawings or in writing by the Owner's Representative.
- E. Clean All Surfaces In Work Area with a HEPA filtered vacuum or by wet wiping prior to the installation of primary barrier.

3.9 PRIMARY BARRIER:

- A. Protect building and other surfaces in the Work Area from damage from water and high humidity or from contamination from asbestos-containing debris, slurry or high airborne fiber levels by covering with a primary barrier as described below.
- B. Sheet Plastic: Protect surfaces in the Work Area with two (2) layers of plastic sheeting on floor and walls, or as otherwise directed on the Contract Drawings or in writing by the Owner's Representative. Perform work in the following sequence.
 - 1. Cover Floor of Work Area with 2 individual layers of clear polyethylene sheeting, each at least 6 mil in thickness, turned up walls at least 12 inches. Form a sharp right angle bend at junction of floor and wall so that there is no radius which could be stepped on causing the wall attachment to be pulled loose. Both spray-glue and duct tape all seams in floor covering. Locate seams in top layer six feet from, or at right angles to, seams in bottom layer. Install sheeting so that top layer can be removed independently of bottom layer.
 - 2. Cover all walls in Work Area including "Critical Barrier" sheet plastic barriers with one layer of polyethylene sheeting, at least 6 mil in thickness, mechanically supported and sealed with duct tape or spray-glue in the same manner as "Critical Barrier" sheet plastic barriers. Tape all joints including the joining with the floor covering with duct tape or as otherwise indicated on the Contract Documents or in writing by the Owner's Representative.
 - 3. Stairs and Ramps: Do not cover stairs or ramps with unsecured sheet plastic. Where stairs or ramps are covered with plastic, provide 3/4" exterior grade plywood treads securely held in place, over plastic. Do not cover rungs or rails with any type of protective materials.
 - 4. Repair of Damaged Polyethylene Sheeting: Remove and replace plastic sheeting which has been damaged by removal operations or where seal has failed allowing water to seep between layers. Remove affected sheeting and wipe down entire area. Install new sheet plastic only when area is completely dry.

3.10 ISOLATION AREA:

- A. Maintain isolation areas between the Work Area and adjacent building area:
 - 1. In locations shown on the plans.
 - 2. In unoccupied rooms located between Work Area and adjacent occupied portions of the building.
 - 3. In locations where separation between Work Area and occupied portions of building is formed by sheet plastic and/or temporary barriers.
 - 4. Floor below Work Area.

B. Form isolation area by controlling access to the space in the same manner as a Work Area. Physically isolate the space from the Work Area and adjacent areas. Accomplish physical isolation by:

1. Installing critical barriers in unoccupied space.
2. Erecting a second Critical Barrier a minimum of 3'-0" away from Work Area.

3.11 STOP WORK:

A. If the Critical or Primary barrier falls or is breached in any manner stop work immediately. Do not start work until authorized in writing by the Owner's Representative.

3.12 EXTENSION OF WORK AREA:

A. Extension of Work Area: If the Critical Barrier is breached in any manner that could allow the passage of asbestos debris or airborne fibers, then add affected area to the Work Area, enclose it as required by this Section of the specification and decontaminate it as described in Section 01711 Project Decontamination.

3.13 SECONDARY BARRIER:

A. Secondary layer of plastic as a drop cloth to protect the primary layer from debris generated by the asbestos abatement work is specified in the appropriate work sections.

END OF SECTION - 01526

SECTION 01527 - REGULATED AREAS (ASBESTOS)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to work of this section.

1.2 RELATED WORK SPECIFIED ELSEWHERE:

- A. Required supervision and OSHA Competent Person: is specified in Section 01043
- B. Worker Protection - Asbestos Abatement: is specified in Section 01560.
- C. Respiratory Protection: is specified in Section 01562.
- D. Wet Decontamination Facilities: are described in Section 01563.

1.3 DESCRIPTION OF WORK:

- A. Work of this section consists of preparing a Regulated Area for work of the following specification sections only. Do not use procedures set forth in this section in connection with any other work.

1.4 SUBMITTALS:

- A. Before the Start of Work: Submit the following to the Owner's Representative for review. Begin no work until these submittals are returned with Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use or final-but-restricted use.
 - 1. HEPA Filtered Vacuum Cleaners: Submit product data.
 - 2. Signs: Submit samples of each type of sign to be used.
 - 3. Warning Tape: Submit samples.

PART 2 - EQUIPMENT:

2.1 HEPA Filter Vacuum Cleaners:

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering
 - Nilfisk of America Inc. HEPA Filtered
 - Great Valley Parkway Vacuums
 - Malvern, PA 19355

Clayton Associates, Inc. ACE Model HEPA Vacuum
Box 589
Southard Avenue
Farmingdale, NJ 07727

Hako Minuteman
South Route 53
Addison, IL 60101

Vactagon Pneumatic Systems, Inc.
Homestead Place
Bergenfield, NJ 07621

Pullman-Holt (White) Corporation
PO Box 277
Fultonville, New York 12072

2.2 Plastic Sheet:

- A. Plastic Sheet: A single polyethylene film in the largest sheet size possible to minimize seams, 4.0 or 6.0 mil thick as indicated, clear, frosted, or black as indicated.

PART 3 - EXECUTION

3.1 SECURING WORK AREA:

- A. Secure work area from access by occupants, staff or users of the building. Accomplish this where possible, by locking doors, windows, or other means of access to the area, or by constructing temporary wood stud and plywood barriers.

3.2 DEMARCTION OF REGULATED AREA:

- A. Demarcate each Regulated Area with a sheet plastic drop sheet as described below.

- B. Post warning signs that carry the following legends:

- C. Provide signs in both English and Spanish:

1. First Sign:

- Provide warning signs at each locked door leading to the controlled area reading as follows:

Legend	Notation
--------	----------

KEEP OUT	3 inch Block
----------	--------------

2. Second Sign:

- a) Immediately inside the locked door and outside the controlled area post an approximately 20 inch by 14 inch manufactured caution sign displaying the following legend with letter sizes and styles of a visibility required by 29 CFR 1926:

- Legend:

DANGER

ASBESTOS

CANCER AND LUNG DISEASE HAZARD

RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA

- b) Where the controlled area is in a large area such as on part of a boiler room or open office area, delineate area with 3 inch wide polyethylene ribbon with the printed warning, "CAUTION ASBESTOS REMOVAL". Install this ribbon at between 3 and 4 feet above the floor.

3.3 SCHEDULING:

- A. Contractor's work hours are limited to 7:00 A.M. until 6:00 P.M., Monday through Friday. Contractor shall not work weekends unless approved by Owner. This does not apply to Contractor's 24-hour security and fire watch required during asbestos abatement operations.

3.4 GENERAL PROCEDURES:

- A. The following precautions and procedures have application to work of this section. Workers must exercise caution to avoid release of asbestos fibers into the air:
 1. Setup and management of the controlled area is to be under the supervision of a OSHA Competent Person as described in Section 01043 Project Coordination - Asbestos Abatement.
 2. Before start of work comply with requirement for worker protection in section 01561, and respiratory protection in section 01562.
 3. Do not allow eating, drinking, smoking, chewing tobacco or gum, or applying cosmetics in the Regulated Area.
 4. Shut down any air handling equipment bringing air into or out of the Regulated Area.
 5. Clean any existing dust or debris from the floor and walls, and other surface in the immediate location of the work prior to commencing work by damp-mopping or by use of a High Efficiency Particulate Air (HEPA) filtered vacuum.
 6. Cover floor in vicinity of Work Area and six (6) feet beyond, with 6 mil polyethylene drop sheet. Where work is adjacent to wall, extend drop sheet up wall and secure at ceiling with duct tape. This drop sheet demarcates the boundary of the Regulated Area.
 7. Seal all openings, supply and exhaust vents, and convectors within ten (10) feet of the Work Area with 6 mil polyethylene sheeting secured and completely sealed with duct tape.
 8. Perform the work per the appropriate specification section while on plastic drop sheet.
 9. Immediately remove any asbestos-containing debris which collects on the drop sheet either by using a HEPA vacuum or by spraying with amended water or removal encapsulant, collecting with wet paper towels, placing in a disposal bag while still wet, and cleaning surface of plastic sheet with wet paper towels.
- B. Complete the following at completion of work in an area before stepping off drop sheet:

1. While standing on plastic sheet thoroughly HEPA vacuum ladder and any tools used and pass to worker standing off sheet.
2. Worker standing off the sheet HEPA vacuum thoroughly the worker standing on the sheet.
3. Worker on the sheet thoroughly HEPA vacuum all surfaces of the plastic sheet, bags, and any other items on the sheet including his own feet.
4. If moving to the next Work Area in the same secured area: Worker on the drop sheet is to don clean foot covers, placing each foot, in turn, off the sheet as the foot cover is put on. Remove clean foot covers at the next Work Area while standing on the sheet. Dispose of the used foot covers along with the plastic sheet at completion of work in that area. Do not reuse foot covers to move off the sheet.
5. If work day is complete or if next Work Area is in another secured area: all workers remove paper suits turning them inside out while doing so. The person on the sheet step with each foot off the sheet as the foot covers are removed.
6. Fold sheet and all its contents toward the center.
7. Place the sheet in a properly labeled disposal bag.
8. Neck down the bag and collapse it with the HEPA vacuum.
9. Twist the bag shut, bend over and seal with duct tape by wrapping around bag neck at least 3 times.
10. Clean all surfaces of the Work Area by use of a HEPA filter vacuum until no visible residue remains.
11. At completion of work require all workers to complete wet decontamination procedures in accordance with Section 01560 Worker Protection.

END OF SECTION - 01527

SECTION 01561 - WORKER PROTECTION - ASBESTOS ABATEMENT (ASBESTOS)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to work of this section.

1.2 DESCRIPTION OF WORK:

- A. This section describes the equipment and procedures required for protecting workers against asbestos contamination and other workplace hazards except for respiratory protection.

1.3 RELATED WORK SPECIFIED ELSEWHERE:

- A. Respiratory Protection: is specified in Section 01562.

1.4 WORKER TRAINING:

- A. AHERA Accreditation: All workers are to be accredited as Abatement Workers as required by the AHERA regulation 40 CFR 763 Appendix C to Subpart E, April 30, 1987.
- B. Texas State License: All workers are to be trained, certified and licensed as required by the Texas Department of Health.
- C. Train, in accordance with 29 CFR 1926, all workers in the dangers inherent in handling asbestos and breathing asbestos dust and in proper work procedures and personal and area protective measures. Include but do not limit the topics covered in the course to the following:
 - 1. Methods of recognizing asbestos
 - 2. Health effects associated with asbestos
 - 3. Relationship between smoking and asbestos in producing lung cancer
 - 4. Nature of operations that could result in exposure to asbestos
 - 5. Importance of and instruction in the use of necessary protective controls, practices and procedures to minimize exposure including:
 - 6. Engineering controls
 - 7. Work Practices
 - 8. Respirators
 - 9. Housekeeping procedures
 - 10. Hygiene facilities
 - 11. Protective clothing
 - 12. Decontamination procedures
 - 13. Emergency procedures
 - 14. Waste disposal procedures
- D. Purpose, proper use, fitting, instructions, and limitations of respirators as required by 29 CFR 1910.134
 - 1. Appropriate work practices for the work
 - 2. Requirements of medical surveillance program
 - 3. Review of 29 CFR 1926
 - 4. Pressure Differential Systems

5. Work practices including hands on or on-job training
6. Personal Decontamination procedures
 - a) Air monitoring, personal and area

1.5 MEDICAL EXAMINATIONS:

- A. Provide medical examinations for all workers who may encounter an airborne fiber level of 0.1 f/cc or greater for an 8 hour Time Weighted Average. In the absence of specific airborne fiber data provide medical examinations for all workers who will enter the Work Area for any reason. Examination shall as a minimum meet OSHA requirements as set forth in 29 CFR 1926. In addition, provide an evaluation of the individuals ability to work in environments capable of producing heat stress in the worker.

1.6 SUBMITTALS:

- A. Before Start of Work: Submit the following to the Owner's Representative for review. Do not start work until these submittals are returned with Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use.
- B. AHERA Accreditation: Submit copies of certificates from an EPA-approved AHERA Abatement Workers course for each worker as evidence that each asbestos Abatement Worker is accredited as required by the AHERA Regulation 40 CFR 763 Appendix C to Subpart E, April 30, 1987.
- C. Texas State License: Submit copies of state licenses for each worker as issued by the Texas Department of Health.
- D. Certificate Worker Acknowledgment: Submit an original signed copy of the Certificate of Worker's Acknowledgment found at the end of this section, for each worker who is to be at the job site or enter the Work Area.
- E. Report from Medical Examination: conducted within last 12 months as part of compliance with OSHA medical surveillance requirements for each worker who is to enter the Work Area. Submit, at a minimum, for each worker the following:
 1. Name and Social Security Number
 2. Physicians Written Opinion from examining physician including at a minimum the following:
 - a) Whether worker has any detected medical conditions that would place the worker at an increased risk of material health impairment from exposure to asbestos.
 - b) Any recommended limitations on the worker or on the use of personal protective equipment such as respirators.
 - c) Statement that the worker has been informed by the physician of the results of the medical examination and of any medical conditions that may result from asbestos exposure.
 - d) Copy of information that was provided to physician in compliance with 29 CFR 1926
 - e) Statement that worker is able to wear and use the type of respiratory protection proposed for the project, and is able to work safely in an environment capable of producing heat stress in the worker.
 3. Notarized Certifications: Submit certification signed by an officer of the abatement contracting firm and notarized that exposure measurements, medical surveillance, and worker training records are being kept in conformance with 29 CFR 1926.

PART 2 - EQUIPMENT

2.1 PROTECTIVE CLOTHING:

- A. Coveralls: Provide disposable full-body coveralls and disposable head covers, and require that they be worn by all workers in the Work Area. Provide a sufficient number for all required changes, for all workers in the Work Area.

2.2 ENVIRONMENTS DURING COLD WEATHER

A. Cold Weather Gear:

- 1. Provide each worker with an insulated jacket, pants, gloves, and hat.
- 2. Require that cold weather gear be removed in Equipment Room of Personnel Decontamination Unit.
- 3. Dispose of cold weather gear as asbestos waste at completion of all work.

B. Boots:

- 1. Provide work boots with non-skid soles, and where required by OSHA, foot protectives, for all workers.
- 2. Provide boots at no cost to workers.
- 3. Paint uppers of all boots red with waterproof enamel.
- 4. Do not allow boots to be removed from the Work Area for any reason, after being contaminated with asbestos-containing material.
- 5. Dispose of boots as asbestos-contaminated waste at the end of the work.

C. Hard Hats:

- 1. Provide head protectives (hard hats) as required by OSHA for all workers, and provide 4 spares for use by Owner's Representative, Project Administrator, and Owner.
- 2. Label hats with same warning labels as used on disposal bags.
- 3. Require hard hats to be worn at all times that work is in progress that may potentially cause head injury.
- 4. Provide hard hats of type with plastic strap type suspension.
- 5. Require hats to remain in the Work Area throughout the work.
- 6. Thoroughly clean, decontaminate and bag hats before removing them from Work Area at the end of the work.

D. Goggles:

- 1. Provide eye protectives (goggles) as required by OSHA for all workers involved in scraping, spraying, or any other activity which may potentially cause eye injury.
- 2. Thoroughly clean, decontaminate and bag goggles before removing them from Work Area at the end of the work.

E. Gloves:

- 1. Provide work gloves to all workers and require that they be worn at all times in the Work Area.
- 2. Do not remove gloves from Work Area and dispose of as asbestos-contaminated waste at the end of the work.

2.3 ADDITIONAL PROTECTIVE EQUIPMENT:

- A. Respirators, disposable coveralls, head covers, and footwear covers shall be provided by the Contractor for the Owner, Owner's Representative, Project Administrator, and other authorized representatives who may inspect the job site. Provide two (2) respirators and six (6) complete coveralls and, where applicable, six (6) respirator filter changes per day.

PART 3 - EXECUTION

3.1 GENERAL:

- A. Provide worker protection as required by the most stringent OSHA and/or EPA standards applicable to the work. The following procedures are minimums to be adhered to regardless of fiber count in the Work Area.
- B. Each time Work Area is entered remove all street clothes in the Changing Room of the Personnel Decontamination Unit and put on new disposable coverall, new head cover, and a clean respirator. Proceed through shower room to equipment room and put on work boots.

3.2 DECONTAMINATION PROCEDURES:

- A. Require all workers to adhere to the following personal decontamination procedures whenever they leave the Work Area:
- B. Type C Supplied Air or Powered Air-Purifying Respirators: Require that all workers use the following decontamination procedure as a minimum requirement whenever leaving the Work Area:
- C. When exiting area, remove disposable coveralls, disposable head covers, and disposable footwear covers or boots in the equipment room.
- D. Still wearing respirators, proceed to showers. Showering is mandatory. Care must be taken to follow reasonable procedures in removing the respirator to avoid asbestos fibers while showering. The following procedure is required as a minimum:
 1. Thoroughly wet body including hair and face. If using a Powered Air-Purifying Respirator (PAPR) hold blower unit above head to keep canisters dry.
 2. With respirator still in place thoroughly wash body, hair, respirator face piece, and all parts of the respirator except the blower unit and battery pack on a PAPR. Pay particular attention to seal between face and respirator and under straps.
 3. Take a deep breath, hold it and/or exhale slowly, completely wet hair, face, and respirator. While still holding breath, remove respirator and hold it away from face before starting to breath.
 4. Carefully wash facepiece of respirator inside and out.
 5. If using PAPR: shut down in the following sequence, first cap inlets to filter cartridges, then turn off blower unit (this sequence will help keep debris which has collected on the inlet side of filter from dislodging and contaminating the outside of the unit). Thoroughly wash blower unit and hoses. Carefully wash battery pack with wet rag. Be extremely cautious of getting water in battery pack as this will short out and destroy battery.
 6. Shower completely with soap and water.
 7. Rinse thoroughly.
 8. Rinse shower room walls and floor prior to exit.
 9. Proceed from shower to Changing Room and change into street clothes or into new disposable work items.
- E. Remote Shower: The procedures above are to be used if the decontamination facility is used as a remote shower. If a worker cannot gain direct access to the Equipment Room

require that he enter Decontamination Unit and proceed directly through Shower Room to Equipment Room. Decontamination procedure is then completed as required above.

F. Within Work Area:

1. Require that workers NOT eat, drink, smoke, chew tobacco or gum, or apply cosmetics in the Work Area. To eat, chew, drink or smoke, workers shall follow the procedure described above, and then dress in street clothes before entering the non-Work Areas of the building.

3.3 CERTIFICATE OF WORKER'S ACKNOWLEDGMENT:

- A. Following this section is a Certificate of Worker Training. After each worker has been included in the Contractor's Respiratory Protection Program, completed the training program and medical examination, secure a fully executed copy of this form.

END OF SECTION - 01561

CERTIFICATE OF WORKER'S ACKNOWLEDGMENT

PROJECT NAME _____ DATE _____

PROJECT ADDRESS _____

CONTRACTOR'S NAME _____

WORKING WITH ASBESTOS CAN BE DANGEROUS. INHALING ASBESTOS FIBERS HAS BEEN LINKED WITH VARIOUS TYPES OF CANCER. IF YOU SMOKE AND INHALE ASBESTOS FIBERS THE CHANCE THAT YOU WILL DEVELOP LUNG CANCER IS GREATER THAN THAT OF THE NON-SMOKING PUBLIC.

Your employer's contract with the Owner for the above project requires that: You be supplied with the proper respirator and be trained in its use. You be trained in safe work practices and in the use of the equipment found on the job. You receive a medical examination. These things are to have been done at no cost to you.

RESPIRATORY PROTECTION: You must have been trained in the proper use of respirators, and informed of the type respirator to be used on the above referenced project. You must be given a copy of the written respiratory protection manual issued by your employer. You must be equipped at no cost with the respirator to be used on the above project.

TRAINING COURSE: You must have been trained in the dangers inherent in handling asbestos and breathing asbestos dust and in proper work procedures and personal and area protective measures. The topics covered in the course must have included the following:

- Physical characteristics of asbestos
- Health hazards associated with asbestos
- Respiratory protection
- Use of protective equipment
- Pressure Differential Systems
- Work practices including hands on or on-job training
- Personal decontamination procedures
- Air monitoring, personal and area

MEDICAL EXAMINATION: You must have had a medical examination within the past 12 months at no cost to you. This examination must have included: health history, pulmonary function tests and may have included an evaluation of a chest x-ray.

By signing this document you are acknowledging only that the Owner of the building you are about to work in has advised you of your rights to training and protection relative to your employer, the Contractor.

Signature _____ Social Security No _____

Printed Name _____ Witness _____

SECTION 01562 - RESPIRATORY PROTECTION (ASBESTOS)

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK:

- A. Instruct and train each worker involved in asbestos abatement or maintenance and repair of friable asbestos-containing materials in proper respiratory use and require that each worker always wear a respirator, properly fitted on the face in the Work Area from the start of any operation which may cause airborne asbestos fibers until the Work Area is completely decontaminated. Use respiratory protection appropriate for the fiber level encountered in the work place or as required for other toxic or oxygen-deficient situations encountered.

1.2 SUBMITTALS:

- A. Before Start of Work submit the following to the Owner's Representative for review.
 - 1. Product Data: Submit manufacturer's product information for each component used, including NIOSH and MSHA Certifications for each component in an assembly and/or for entire assembly.
 - 2. System Diagram: When a Type "C" supplied air respiratory system is required by the work, submit drawing showing assembly of components into a complete supplied air respiratory system. Include diagram showing location of compressor, filter banks, backup air supply tanks, hose line connections in Work Area(s), routing of air lines to Work Area(s) from compressor.
 - 3. Operating Instruction: Submit complete operating and maintenance instructions for all components and systems as a whole. Submittal is to be in bound manual form suitable for field use.
 - 4. Respiratory Protection Program: Submit Contractor's written respiratory protection program manual as required by OSHA 1926.1101.

1.3 AIR QUALITY FOR SUPPLIED AIR RESPIRATORY SYSTEMS:

- A. Provide air used for breathing in Type "C" supplied air respiratory systems that meets or exceeds standards set for C.G.A. type 1 (Gaseous Air) Grade H or CSA Z180.1 whichever presents the more stringent quality standard:
- B. Provide air used for breathing in Type "C" supplied air respiratory systems that meets or exceeds standards set for C.G.A. type 1 (Gaseous Air) Grade D.

PART 2 - EQUIPMENT

2.1 SUPPLIED AIR RESPIRATOR SYSTEMS:

- A. Provide equipment capable of producing air of the quality and volume required by the above reference standards applied to the job site conditions and crew size. Comply with provisions of this specification if more stringent than the governing standard.
 - 1. Face Piece and Hose: Provide full face piece and hose by same manufacturer that has been certified by NIOSH/MSHA as an approved Type "C" respirator assembly operating in pressure demand mode with a positive pressure face-piece.

2. Auxiliary backup system: In atmospheres which contain sufficient oxygen (greater than or equal to 19.5% oxygen) provide a pressure-demand full face piece supplied air respirator equipped with an emergency backup HEPA filter.
3. Backup air supply:
 - a) Provide a reservoir of compressed air located outside the Work Area which will automatically maintain a continuous uninterrupted source of air automatically available to each connected face piece and hose assembly in the event of compressor shut-down, contamination of air delivered by compressor, power loss or other failure.
 - b) Provide sufficient capacity in the back-up air supply to allow a minimum escape time of one-half hour times the number of connections available to the Work Area. Air requirement at each connection is the air requirement of the respirators in use plus the air requirement of an average-sized adult male engaged in moderately strenuous activity.
4. Warning device: Provide a warning device that will operate independently of the building's power supply. Locate so that alarm is clearly audible above the noise level produced by equipment and work procedures in use in all parts of the Work Area and at the compressor. Connect alarm to warn of:
 - a) Compressor shut down or other fault requiring use of backup air supply
 - b) Carbon Monoxide (CO) levels in excess of 5 PPM/V
5. Carbon Monoxide (CO) Monitor: Continuously monitor and record on a strip chart recorder Carbon Monoxide (CO) levels. Place monitors in the air line between compressor and back-up air supply and between backup air supply and workers. Connect monitors so that they also sound an alarm as specified under "Warning Devices".
6. Compressor Shut Down: Interconnect monitors, alarms and compressor so that compressor is automatically shut down and the alarms sounded if any of the following occur:
7. Carbon Monoxide (CO) concentrations exceed 5 PPM/v in the air line between the filter bank and backup air supply.
8. Compressor temperature exceeds normal operating range.
9. Compressor Motor - Provide a compressor driven by an electric motor. Do not use a gas or diesel engines to drive compressor. Insure that electrical supply available at the work site is adequate to energize motor.
10. Compressor Location: Locate compressor outside of building in location that will not impede access to the building, and that will not cause a nuisance by virtue of noise or fumes to occupied portions of the building.
11. Air Intake: Locate air intake remotely from any source of automobile exhaust or any exhaust from engines, motors, auxiliary generator or buildings.
12. After-Cooler: Provide an after-cooler at entry to filter system which is capable of reducing temperatures to outside ambient air temperatures.

PART 3 - EXECUTION

3.1 GENERAL:

- A. Respiratory Protection Program: Comply with ANSI Z88.2 - 1980 "Practices for Respiratory Protection" and OSHA 29 CFR 1910 and 1926.
- B. Respiratory protection will be used at all times that there is any possibility of disturbance of asbestos-containing materials whether intentional or accidental.

- C. Respirators shall be worn by anyone in a Work Area at all times, regardless of activity, during a period that starts with any operation which could cause airborne fibers until the area has been cleared for re-occupancy in accordance with Section 01714.
- D. Regardless of Airborne Fiber Levels: The minimum level of respiratory protection used shall be a powered air-purifying respirator (PAPR) with high efficiency filters.
- E. Do not allow the use of single-use, disposable, or quarter-face respirators for any purpose.

3.2 FIT TESTING:

- A. Initial Fitting:
 - 1. Provide initial fitting of respiratory protection during a respiratory protection course of training set up and administered by a Certified Industrial Hygienist.
 - 2. Fit types of respirator to be actually worn by each individual.
 - 3. Allow an individual to use only those respirators for which training and fit testing has been provided.
- B. On a Weekly Basis, check the fit of each worker's respirator by having irritant smoke blown onto the respirator from a smoke tube.
- C. Upon Each Wearing: Require that each time an air-purifying respirator is put on it be checked for fit with a positive and negative pressure fit test in accordance with the manufacturer's instructions or ANSI Z88.2 (1980).

3.3 TYPE OF RESPIRATORY PROTECTION REQUIRED:

- A. Provide Respiratory Protection as indicated in paragraph below.
- B. Powered air purifying - full face mask:
 - 1. Supply a sufficient quantity of high efficiency respirator filters approved for asbestos so that workers can change filters at any time that flow through the face piece decreases to the level at which the manufacturer recommends filter replacement.
 - 2. Require that regardless of flow, filter cartridges be protected from wetting during showering.
 - 3. Require entire exterior housing of respirator, including blower unit, filter cartridges, hoses, battery pack, face mask, belt, and cords, be washed each time a worker leaves the Work Area. Caution should be used to avoid shorting battery pack during washing.
 - 4. Provide an extra battery pack for each respirator so that one can be charging while one is in use.

END OF SECTION - 01562

SECTION 01563 - DECONTAMINATION UNITS (ASBESTOS)

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK:

- A. Provide separate Personnel and Equipment Decontamination facilities. Require that the Personnel Decontamination Unit be the only means of ingress and egress for the Work Area. Require that all materials exit the Work Area through the Equipment Decontamination Unit.

PART 2 - EXECUTION

2.1 PERSONNEL DECONTAMINATION UNIT:

- A. Provide a Personnel Decontamination Unit consisting of a serial arrangement of connected rooms or spaces, Changing Room, Drying Room, Shower Room, and Equipment Room. Require all persons without exception to pass through this Decontamination Unit for entry into and exiting from the Work Area for any purpose. Do not allow parallel routes for entry or exit. Do not remove equipment or materials through Personnel Decontamination Unit. Provide temporary lighting within Decontamination Units as necessary to reach a lighting level of 100 foot candles.
- B. Changing Room (clean room): Provide a room that is physically and visually separated from the rest of the building for the purpose of changing into protective clothing.
 - 1. Maintain floor of changing room dry and clean at all times. Do not allow overflow water from shower to wet floor in changing room.
 - 2. Damp wipe all surfaces twice after each shift change with a disinfectant solution.
 - 3. Provide posted information for all emergency phone numbers and procedures.

2.2 EQUIPMENT DECONTAMINATION UNIT:

- A. Provide an Equipment Decontamination Unit consisting of a serial arrangement of rooms, Clean Room, Holding Room, Wash Room for removal of equipment and material from Work Area. Do not allow personnel to enter or exit Work Area through Equipment Decontamination Unit.
- B. Arrange with airlocks between rooms as required below.

2.3 CONSTRUCTION OF THE DECONTAMINATION UNITS:

- A. Walls and Ceiling: Construct airtight walls and ceiling using polyethylene sheeting, at least 6 mil in thickness. Attach to existing building components or a temporary framework.
- B. Floors: Use 2 layers (minimum) of 6 mil polyethylene sheeting to cover floors in all areas of the Decontamination Units. Use only clear plastic to cover floors.
- C. Flap Doors: Fabricated from three (3) overlapping sheets with openings a minimum of three feet (3') wide. Configure so that sheeting overlaps adjacent surfaces. Weigh sheets at bottoms as required so that they quickly close after being released. Put arrows on sheets to indicate direction of overlap and/or travel. Provide a minimum of six feet (6') between entrance and exit of any room. Provide a minimum of three feet (3') between doors to airlocks.

- D. If the Decontamination area is located within an area containing friable asbestos on overhead ceilings, ducts, piping, etc., provide the area with a minimum 1/4 inch hardboard or 1/2 inch plywood "ceiling" with polyethylene sheeting, at least 6 mil in thickness covering the top of the "ceiling".
- E. Visual Barrier: Where the Decontamination area is immediately adjacent to and within view of occupied areas, provide a visual barrier of opaque polyethylene sheeting at least 6 mil in thickness so that worker privacy is maintained and work procedures are not visible to building occupants. Where the area adjacent to the Decontamination area is accessible to the public, construct a solid barrier on the public side of the sheeting to protect the sheeting. Construct barrier with wood or metal studs covered with minimum 1/4 inch thick hardboard or 1/2 inch plywood. Where the solid barrier is provided, sheeting need not be opaque.
- F. Alternate methods of providing Decontamination facilities may be submitted to the Owner's Representative for approval. Do not proceed with any such method(s) without written authorization of the Owner's Representative.

2.4 CLEANING OF DECONTAMINATION UNITS:

- A. Clean debris and residue from inside of Decontamination Units on a daily basis or as otherwise indicated on Contract Drawings. Damp wipe or hose down all surfaces after each shift change. Clean debris from shower pans on a daily basis.
- B. If the Changing Room of the Personnel Decontamination Unit becomes contaminated with asbestos-containing debris, abandon the entire Decontamination Unit and erect a new Decontamination Unit. Use the former Changing Room as an inner section of the new Equipment Room.

END OF SECTION - 01563

SECTION 01701 - PROJECT CLOSEOUT (ASBESTOS)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for project closeout, including but not limited to:

1. Inspection procedures.
2. Project record document submittal.
3. Submittal of warranties.
4. Final cleaning.

- B. Closeout requirements for specific construction activities are included in the appropriate Sections in Divisions-2 through - 16.

1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for certification of Substantial Completion, complete the following. List exceptions in the request.

1. Advise Owner of pending insurance change over requirements.
2. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications and similar documents.
3. Obtain and submit releases enabling the Owner unrestricted use of the Work and access to services and utilities; include occupancy permits, operating certificates and similar releases.

- B. Inspection Procedures:

1. On receipt of a request for inspection, the Owner's Representative will either proceed with inspection or advise the Contractor of unfilled requirements.
2. The Owner's Representative will prepare the Certificate of Substantial Completion following inspection, or advise the Contractor of construction that must be completed or corrected before the certificate will be issued.
3. The Owner's Representative will repeat inspection when requested and assured that the work has been substantially completed.
4. Results of the completed inspection will form the basis of requirements for final acceptance.

1.4 FINAL ACCEPTANCE

- A. Preliminary Procedures: Before requesting final inspection for Certification of Final Acceptance complete the following. List exceptions in the request.

1. Submit an updated final statement, accounting for final additional changes to the Contract Sum.

2. Submit a certified copy of the Owner's Representative's final inspection list of items to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, and the list has been endorsed and dated by the Owner's Representative.
3. Submit final meter readings for utilities, and similar data as of the date of Substantial Completion, or when the Owner took possession of and responsibility for corresponding elements of the Work.
4. Submit a final liquidated damages settlement statement.
5. Submit evidence of final, continuing insurance coverage complying with insurance requirements.

B. Reinspection Procedure:

1. The Owner's Representative will reinspect the Work upon receipt of notice that the Work, including inspection list items from earlier inspections, has been completed, except items whose completion has been delayed because of circumstances acceptable to the Owner's Representative.
2. Upon completion of reinspection, the Owner's Representative will prepare a Certificate of Final Acceptance, or advise the Contractor of work that is incomplete or of obligations that have not been fulfilled but are required for Final Acceptance.
3. If necessary, reinspection will be repeated.

1.5 RECORD DOCUMENT SUBMITTALS

A. General:

1. Do not use record documents for construction purposes; protect from deterioration and loss in a secure, fire-resistive location; provide access to record documents for the Owner's Representative's reference during normal working hours.

B. Record Drawings:

1. Maintain a clean, undamaged set of blue or black line white-prints of Contract Drawings and Shop Drawings.
2. Mark the set to show the actual installation where the installation varies substantially from the work as originally shown.
3. Mark whichever drawing is most capable of showing conditions fully and accurately; where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings.
4. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
5. Mark record sets with red erasable pencil; use other colors to distinguish between variations in separate categories of the work.
6. Mark new information that is important to the Owner, but was not shown on Contract Drawings or Shop Drawings.
7. Note related Change Order numbers where applicable.
8. Organize record drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on the cover of each set.

C. Record Specifications:

1. Maintain one complete copy of the Project Manual, including addenda, and one copy of other written construction documents such as Change Orders and modifications issued in printed form during construction.
 2. Mark these documents to show substantial variations in actual work performed in comparison with the text of the Specifications and modifications.
 3. Give particular attention to substitutions, selection of options and similar information on elements that are concealed or cannot otherwise be readily discerned later by direct observation.
 4. Note related record drawing information and Product Data.
 5. Upon completion of the work, submit record Specifications to the Owner's Representative for the Owner's records.
- D. Miscellaneous Record Submittals:
1. Refer to other Specification Sections for requirements of miscellaneous record keeping and submittals in connection with actual performance of the work.
 2. Immediately prior to the date or dates of Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference.
 3. Submit to the Owner's Representative for the Owner's records.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General:
1. General cleaning during construction is required by the General Conditions and included in Section "Temporary Facilities".
- B. Cleaning:
1. Employ experienced workers or professional cleaners for final cleaning.
 2. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program.
 3. Comply with manufacturer's instructions.
 4. Complete the following cleaning operations before requesting inspection for Certification of Substantial Completion.
 5. Remove labels that are not permanent labels.
 6. Clean exposed exterior and interior hard-surfaced finishes to a dust-free condition. Leave concrete floors broom clean.
 7. Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication and other substances. Clean plumbing fixtures to a sanitary condition. Clean light fixtures and lamps.
 8. Clean the site, including landscape development areas, of rubbish, litter and foreign substances. Sweep paved areas broom clean; remove stains, spills and other foreign deposits. Rake grounds that are neither paved nor planted, to a smooth even-textured surface.

- C. Removal of Protection: Remove temporary protection and facilities installed for protection of the work during construction.
- D. Compliance:
 - 1. Comply with regulations of authorities having jurisdiction and safety standards for cleaning.
 - 2. Do not burn waste materials.
 - 3. Do not bury debris or excess materials on the Owner's property.
 - 4. Do not discharge volatile, harmful or dangerous materials into drainage systems. Remove waste materials from the site and dispose of in a lawful manner.
 - 5. Where extra materials of value remaining after completion of associated Work have become the Owner's property, arrange for disposition of these materials as directed.

END OF SECTION 01701

SECTION 01711 - PROJECT DECONTAMINATION (ASBESTOS)

PART 1 - EXECUTION

1.1 GENERAL:

- A. Work of This Section includes the decontamination of air in the Work Area which has been, or may have been, contaminated by the elevated airborne asbestos fiber levels generated during abatement activities, or which may previously have had elevated fiber levels due to friable asbestos-containing materials in the space.
- B. Work of This Section includes the cleaning, and decontamination of all surfaces (ceiling, walls, floor) of the Work Area, and all furniture or equipment in the Work Area.

1.2 START OF WORK:

- A. Previous Work: During completion of the asbestos abatement work specified in other sections, the Secondary Barrier of polyethylene sheeting will have been removed and disposed of along with any gross debris generated by the asbestos abatement work.
- B. Start of Work: Work of this section begins with the cleaning of the Primary Barrier. At start of work the following will be in place:
 - 1. Primary Barrier: Two layers of polyethylene sheeting on floor and two layers on walls.
 - 2. Critical Barrier: An airtight barrier between the Work Area and other portions of the building or the outside.
 - 3. Critical Barrier Sheeting: Over lighting fixtures and clocks, ventilation openings, doorways, convectors, speakers and other openings.
 - 4. Decontamination Units: For personnel and equipment in operating condition.
- C. Pressure Differential System: In operation.

1.3 FIRST CLEANING:

- A. First Cleaning:
 - 1. Carry out a first cleaning of all surfaces of the work area including items of remaining sheeting, tools, scaffolding and/or staging by use of damp-cleaning and mopping, and/or a High Efficiency Particulate Air (HEPA) filtered vacuum.
 - 2. Do not perform dry dusting or dry sweeping.
 - 3. Use each surface of a cleaning cloth one time only and then dispose of as contaminated waste.
 - 4. Continue this cleaning until there is no visible debris from removed materials or residue on plastic sheeting or other surfaces.
 - 5. Remove All Filters in Air Handling System(s) and dispose of as asbestos-containing waste in accordance with requirements of Section 02084 Disposal of Asbestos-Containing Waste Material.

B. SECOND CLEANING:

- 1. Second Cleaning: Carry out a second cleaning of all surfaces in the work area in the same manner as the first cleaning.
- 2. Encapsulation of substrate: Perform encapsulation of substrate from which asbestos-containing materials have been removed at this time. Maintain Pressure

Differential System in operation during encapsulation work. Perform work only after meeting the following requirements:

- a) Surfaces to be covered have met the requirements for a visual inspection in this section.
- b) Airborne fiber counts in the Work Area are at or below 0.01 fibers per cubic centimeter as measured by phase contrast microscopy.
3. Removal of Primary Barriers:
4. Immediately following the second cleaning of the Primary plastic, remove all Primary Barrier sheeting and Material Decontamination Unit, if there is one, leaving only:
 - a) Critical Barrier: Which forms the sole barrier between the Work Area and other portions of the building or the outside.
 - b) Critical Barrier Sheet: Over lighting fixtures and clocks, ventilation openings, doorways, convectors, speakers, and other openings.
 - c) Decontamination Unit: For personnel, in operating condition.
 - d) Pressure Differential System: Maintain in continuous operation.

1.4 FINAL CLEANING:

- A. Final Cleaning: Carry out a final cleaning of all surfaces in the Work Area in the same manner as the previous cleaning.
- B. Encapsulation of substrate: Perform encapsulation of substrate or installation of spray-applied fireproofing before Removal of Work Area Isolation as specified below. Maintain Pressure Differential System in operation during encapsulation work.

1.5 VISUAL INSPECTION:

- A. After the work area is allowed to dry for 24 hours, a final visual inspection of the entire Work Area including: all surfaces, ceiling, walls, floor, decontamination unit, all plastic sheeting, seals over ventilation openings, doorways, windows, and other openings; will be performed. If any debris, residue, dust or other matter is found, repeat final cleaning and continue decontamination procedure from that point. When the area is visually clean, and if no residue, dust, or other materials are found, the visual inspection is complete.
- B. Lifts: Provide ladders, scaffolding, and lifts as required to provide access to all surfaces in the area to be subjected to visual inspection. Access is to allow touching of all surfaces.

1.6 FINAL AIR SAMPLING PCM:

- A. Phase Contrast Microscopy (PCM): After the Work Area is found to be visually clean, aggressive air clearance will take place. The air will be agitated by use of an electric-powered leaf blower. Maintain air disturbance with the use of box fans. Air samples will be collected and analyzed in accordance with the procedure for Phase Contrast Microscopy set forth in Section 01714 Work Area Clearance:
 1. If Release Criteria are not met, repeat Final Cleaning and continue decontamination procedure from that point.
 2. If Release Criteria are met, proceed to work of this Section on Removal of Work Area Isolation.

1.7 REMOVAL OF WORK AREA ISOLATION:

- A. After all requirements of this section and Section 01714 Work Area Clearance have been met:
1. Shut down and remove the Pressure Differential System. Seal HEPA filtered fan units, HEPA vacuums and similar equipment with 6 mil polyethylene sheet and duct tape to form a tight seal at intake end before being moved from Work Area.
 2. Remove Personnel Decontamination Unit.
 3. Remove the Critical Barriers separating the Work Area from the rest of the building. Remove any small quantities of residual material found upon removal of the plastic sheeting with wet wiping, HEPA filtered vacuum cleaners and local area protection. If significant quantities, as determined by the Owner's Representative, are found then the entire area affected shall be decontaminated as specified in Section 01711 Cleaning & Decontamination Procedures.
 4. Remove all equipment, materials, debris from the work site.
 5. Dispose of all asbestos-containing waste material as specified in Section 02084 Disposal of Asbestos Containing Waste Material.

END OF SECTION - 01711

SECTION 01712 - CLEANING AND DECONTAMINATION PROCEDURES (ASBESTOS)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to work of this section.

1.2 DESCRIPTION OF THE WORK:

- A. The work includes the removal of any asbestos-containing debris that has fallen from insulation, firestop, etc. The work includes:
 - 1. Removal and disposal of visible debris.
 - 2. HEPA vacuuming the floor located in the vicinity of the material.
 - 3. Proceed with one layer of 6 mil poly on the ground under glovebag operations.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 GENERAL:

- A. Complete the following before start of work of this section:
 - 1. 01527 - Regulated Areas
 - 2. 01562 - Respiratory Protection

3.2 WET CLEANING:

- A. Accomplish wet cleaning during decontamination with paper towels or disposable rags:
 - 1. Immerse paper towel or rag in container of water with surfactant, or diluted removal encapsulant;
 - 2. Wring out;
 - 3. Fold into quarters;
 - 4. Wipe surface once and refold to a fresh face of cloth. Proceed in this manner until all available faces of paper towel or rag have been used;
 - 5. Dispose of paper towel or rag,
 - 6. Do not place rag back in container to rinse out or for any other purpose. If a used towel or rag comes in contact with water, empty container and refill.
 - 7. Material adhered to a surface with removal encapsulant may require the application of additional removal encapsulant to facilitate cleaning.

3.3 REMOVAL OF ASBESTOS-CONTAINING DEBRIS

- A. Work of this Section is limited to the cleanup of a small quantity of amassed debris which has fallen from an architectural finish or thermal insulation on pipes and other thermal equipment.
- B. Remove asbestos-containing debris and decontaminate the area involved using the following sequence:

1. Shut down all ventilation into room.
2. Start HEPA vacuum before entering the area.
3. Use the HEPA vacuum to clean a path at least 6 feet wide from the entry point of the work area to the site of the fallen material.
4. Remove all small debris with the HEPA vacuum.
5. HEPA vacuum surfaces of all pieces too large to be removed by the suction of the HEPA vacuum.
6. Pick up such pieces and place in the bottom of a 6 mil polyethylene disposal bag conforming to the requirements of Section 02084 Disposal of Asbestos-Containing Waste Material. Place pieces in the bag without dropping and avoiding unnecessary disturbance and release of material.
7. Remove all remaining visible debris with HEPA vacuum.
8. HEPA vacuum an area 3 feet beyond the location in which any visible debris was found in two directions each at right angles to the other.
9. Place a 6 mil polyethylene drop cloth in accordance with Section 01527, Local Area Protection, immediately on top of the HEPA vacuumed area before performing any repair work on site from which fall-out occurred.
10. HEPA vacuum the site from which material fell removing all loose material which can be removed by the vacuums suction.
11. Repair or remove remaining material.
12. HEPA vacuum ladder and/or any tools used and pass out of the work area.

3.4 CLEANING AND DECONTAMINATING OBJECTS

- A. Perform all work of decontaminating objects wherever possible on a plastic drop sheet installed in conformance with Section 01527.
- B. HEPA vacuum all surfaces of object and immediate area before moving the object.
- C. Pick-up object, if possible, and HEPA vacuum all surfaces.
- D. Hand to off-sheet worker who will wet-clean object, if possible, and place in storage location.
- E. Decontaminate area where object was located by HEPA vacuuming twice, in two perpendicular directions. Wet clean if necessary to remove any debris.
- F. Return object to its original location.

END OF SECTION - 01712

SECTION 01714 - WORK AREA CLEARANCE (ASBESTOS)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division - 1 Specification Sections, apply to work of this section.
 - 1. Visual Inspection: required as a prerequisite of air testing, is set forth in Section 01711 Project Decontamination.
 - 2. Air Monitoring: performed by the Owner during abatement work.

1.2 CONTRACTOR RELEASE CRITERIA:

- A. The Asbestos Abatement Work Area is cleared when the Work Area is visually clean and airborne asbestos fiber concentrations have been reduced to the level specified below.

1.3 VISUAL INSPECTION:

- A. Work of this Section will not begin until the visual inspection described in Section 01711 Project Decontamination is complete and has been certified by the Project Administrator.

1.4 AIR MONITORING:

- A. To determine if the elevated airborne asbestos structure concentration encountered during abatement operations has been reduced to the specified level, the Owner will secure samples and analyze them according to the following procedures.
 - 1. PCM samples will be secured as indicated below.
 - 2. Work Area Clearance: final clearance samples will be taken using aggressive sampling technique as per Texas Department of Health Regulations. Upon meeting the PCM Clearance requirements the work of Section 01711 Project Decontamination can continue.

1.5 PHASE CONTRAST MICROSCOPY:

- A. In each homogeneous Work Area after completion of all cleaning work, a minimum of 5 samples will be taken and analyzed according to NIOSH METHOD 7400.
- B. Release Criteria: Decontamination of the work site is complete when every Work Area sample is at or below 0.01 fibers/cc. If these conditions are not met then the decontamination is incomplete and the cleaning procedures of Section 01712 shall be repeated.

1.6 LABORATORY TESTING:

- A. PHASE CONTRAST MICROSCOPY:

1. The services of a testing laboratory will be employed by the Owner to perform laboratory analysis of the air samples. A microscope and technician will be set up at the job site, so that verbal reports on air samples can be obtained immediately. A complete record, certified by the testing laboratory, of all air monitoring tests and results will be furnished to the Owner's Representative, the Owner and the Contractor.

END OF SECTION - 01714

SECTION 02072 - LEAD ABATEMENT PROCEDURES

PART 1 - GENERAL

1.1 GENERAL

- A. Contractors must be familiar with the contents of this document, included but not limited to the following:
 - 1. Worker Protection
 - 2. All types of Lead-Based Paint (LBP) Testing
 - 3. Acceptable and unacceptable abatement methods
 - 4. Measures for control and containment of lead dust and debris
 - 5. Disposal requirements
- B. In addition, the Contractor must be able to substantiate sufficient prior de-leading experience and/or education providing same with the foresight of the prevailing LBP abatement techniques and safety practices contained herein.
- C. Contractors should be experienced in guidelines for control and the handling of toxic and hazardous materials and protection of the environment and the health of all occupants and workers, as per applicable EPA, OSHA, and NIOSH regulations.

1.2 SCOPE

- A. This portion of the work covers the removal and legal disposal of various materials which contain lead-based paint (LBP) **as outlined in Section 01013.**
- B. The Contractor shall provide all labor, materials, equipment, services, testing, supervision, and incidentals necessary to perform work of lead-based paint abatement or removal of items bearing lead-based paint under this contract in accordance with the following specifications.
- C. The following methods shall be adhered to during the abatement activities. Any deviation from this list shall require Consultant's prior approval:
 - a) HEPA vacuum visible debris in vicinity of proposed containment area.
 - b) HEPA vacuum loose lead-based paint from exterior surface of all painted ceilings and walls. Wash down with a 5% trisodium phosphate solution and remove loose paint chips.

D. APPLICABLE REGULATIONS, CODES AND STANDARDS

- 1. The Contractor shall acknowledge that he is aware of and will maintain strict compliance will all regulations, codes, standards, and ordinances governing the performance of his work. Furthermore, the Contractor shall be responsible for any failure to comply with applicable documents.
- 2. Applicable documents include but are not limited to the following:
 - a) OSHA 29 CFR 1926.62, Lead Exposure in Construction (Interim Final Rule);
 - b) OSHA 29 CFR 1910.1025, Lead, General Industry;

- c) OSHA 29 CFR 1910.1200, Hazard Communication;
 - d) OSHA 29 CFR 1910.134, Respiratory Protection;
 - e) OSHA 29 CFR 1910.145, Specifications for Accident Prevention Signs and Tags;
 - f) OSHA 29 CFR 1926.59, Hazard Communication;
 - g) US HUD, "Lead-Based Paint: Interim Guidelines for Hazard Identification and Abatement in Public and Indian Housing", September 1990;
 - h) Lead-Based paint Hazard Elimination; Interim Rule Title 24, Part 35, 905, 941, 965, and 968 of the Code of Federal Regulations; and
 - i) EPA 40 CFR 261, Resource Conservation and Recovery Act (RCRA.)
3. The most current issue of each document shall apply. Where conflict among requirements or with these specifications exists, the more strict or stringent requirement or interpretation shall apply.
 4. The Contractor shall provide at least one copy of any applicable EPA, OSHA, State or City regulation, code, or ordinance at the site available for review.
 5. Nothing is intended to relieve the Contractor of any responsibility for compliance with state or local laws, ordinances, codes or regulations governing lead-based abatement. Where state and local requirements are more stringent than the Federal regulations, those state and local requirements must be followed by the Contractor.

1.3 NOTICES AND SUBMITTALS

- A. Prior to commencing of the work, the Contractor shall provide to the Owner's Representative and OEHS:
 - a) The names and addresses of certified workers responsible for performing the lead paint abatement operations;
 - b) Assurance that the results of worker medical examinations for blood lead level tests are below OSHA guidelines;
 - c) Worker lead abatement training certificates;
 - d) Material Safety Data Sheets (MSDSs) for products and chemicals to be used for abatement or stored at the job site, so that waste can be properly identified;
 - e) Name of testing laboratory to be used for analytical testing of waste materials generated as a result of this project;
 - f) The starting and completion dates of the abatement work; and
 - g) Detailed Work Plan documenting the techniques used to comply with these specifications and applicable regulations.
 - (1) Location and layout of decontamination areas;

- (2) Sequencing of the work activities;
 - (3) Interface of trades involved in the work;
 - (4) Work schedule including work shift time and number of employees;
 - (5) Methods to be used to assure the safety of workers and visitors to the site;
 - (6) Product name and description of equipment and products utilized for removal operations;
 - (7) Air monitoring sample analyses;
 - (8) Plan for decontamination and personal hygiene facilities for workers.
2. Before abatement operations may commence, the Contractor shall submit his Work Plan to the Owner's Representative for review and approval.
 3. During performance of the work, the Contractor shall provide to the Owner's Representative:
 - a) Results of OSHA compliance air sampling conducted on Contractor's employees.
 - b) Daily Log.

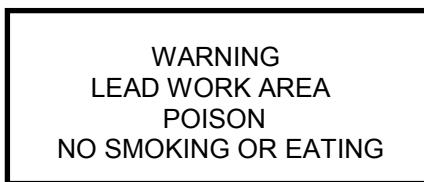
1.4 DAILY LOG

- A. The Contractor shall maintain a project log book which will, at a minimum, contain and conform to the following:
 1. Documentation of all notices and submittals
 2. Permits
 3. Medical records - proof of employee physicals
 4. Emergency notification data
 5. Respiratory fit test records for workers on the project.
 6. Training records for workers on the project.
 7. Sign-in log, filled out daily or as required:
 - a) Name
 - b) Time entered/exited
 - c) Affiliation and purpose
 - d) Date

- e) Description of activity performed
- f) Description of daily work performed
- g) Any damages to the structure
- h) Any accidents (including minor accidents)
- i) Results of any air samples collected by the Contractor
- j) Signature of the Contractor's on-site project superintendent.

1.5 SIGNAGE

- A. At least 24 hours before starting removal or handling of lead-painted components, the Contractor shall establish a regulated work area around the contaminated equipment and shall display a warning sign(s), as appropriate.



1.6 CONTROL OF ACCESS

- A. No one may enter or remain in a regulated work area at any time during a lead abatement procedure which involves the on-site removal of lead paint, unless that person is:
 - 1. The Contractor engaged in lead abatement procedure and his employees.
 - 2. The Owner's Representative's Representative or a state or local enforcement official or his designee.

1.7 WORKER PROTECTION

- A. The Contractor shall insure that his employees are protected in accordance with all applicable federal, state and local standards. Regulatory exposure limits are outlined in TABLE 1:
- B. The following procedures and protocols shall apply to all LBP removal:
 - 1. Prior to completion and submittal by the Contractor of the Exposure Assessment for this project and its approval by the Owner's Representative, exposure levels for workers shall be assumed by task, and interim protective measures shall be implemented. Personal air samples representative of a full shift including at least one sample for each job classification in each work area either for each shift or for the shift with the highest exposure level shall be collected and analyzed.
 - 2. Per TABLE 2, Interim Protective Measures Based on Work Activity Type, Lead Safety and Health Plan:

- a) Minimum respiratory protection for work assumed to result in interim exposure levels between 50 and 500 $\mu\text{g}/\text{m}^3$ is a half facepiece respirator with HEPA filters.
- b) Personal protective equipment provided by the Contractor shall include disposable clothing, e.g., TYVEK, for workers.
- c) Hygiene facilities including 2-chamber “clean” and “dirty” decontamination areas, showers, handwashing facilities, and lead-free eating facilities shall be provided.
- d) Waste water from showers and hand washing facilities shall be collected, filtered through a system capable of trapping particles 5 microns or larger, and disposed of into a local sanitary sewer system.
 - (1) It is the Contractor's responsibility to comply with any local wastewater systems' regulations regarding the disposal of wastewater from lead abatement activities.
 - (2) In the event contaminated water leaks from the work area, storage areas, trash receptacle, etc., the areas and surfaces coming in contact with the contaminated water shall be considered contaminated. Proper clean-up procedures shall commence at once.
 - (3) The Contractor is advised that discharges of lead into the water or in locations where it could be carried by rain water into storm sewers or bodies of water are strictly prohibited and shall be considered a violation of the Clean Water Act.
- e) Initial biological monitoring is required for interim work activities.
- f) Training of workers regarding Hazard Communication, use of respirators, and safety and health issues is required.
 - (1) After review and approval by the Owner's Representative of the Contractor's Exposure Assessment, worker protection measures shall be based on measured exposure levels and shall be per the Lead Safety and Health Plan and associated Lead Compliance Program.
- g) Respiratory protection of workers shall be per TABLE 3, Protective Measures Based on Measured Exposure, Lead Safety and Health Plan:
 - (1) All workers inside the work area shall wear the proper respirator for the lead dust level generated.
 - (2) Workers must be properly trained in the use, care, and maintenance of respirators. Contractor shall provide documentation for workers showing that all workers have been fit tested for respirator usage in accordance with Contractor's formal, written Respiratory Protection Program.
- h) Personal protective equipment of workers shall be per TABLE 3, Protective Measures Based on Measured Exposure, Lead Safety and Health Plan.

- (1) Workers will wear full body disposable suits with hoods and booties. A TYVEK or similar type of suit may be worn. Suits will be worn in the work area at all times after the pre-abatement inspection and shall remain in use until the area passes final clearance inspection. Light-weight nylon clothes may be worn under the disposable suit, but these underclothes must be changed before leaving the work area and should be laundered separately.
 - (2) Goggles with side shields will be worn when working with a material that may splash or fragment, or if protective eye wear is specified on the MSDS for that product.
 - (3) Additional respiratory protection by supplemental filters, such as organic vapor cartridges, may be needed when handling some coating products. The Contractor shall consult the MSDSs for the product(s) and shall obtain the proper filters as necessary.
- i) Decontamination and personal hygiene practices for workers shall be in accordance with applicable regulations and these specifications. Contractor shall provide "wet" decontamination enclosures for areas of LBP removal. At least one such enclosure shall be constructed on each floor. The Contractor may use the same decontamination enclosure for removal of asbestos and LBP.
 - j) Provide suitable Personnel Decontamination Unit consisting of a serial arrangement of connected rooms or spaces, with a minimum of a Changing Room, Shower Room, and Equipment Room. Require all persons without exception to pass through this decontamination unit for entry into and exiting from the work area for any purpose. Do not allow parallel routes for entry or exit. Provide temporary lighting within decontamination units as necessary to reach a lighting level of 100 foot candles.
 - k) Provide a completely water tight operational shower to be used for transit by cleanly dressed workers heading for the Work Area from the Changing Room, or for showering by workers headed out of the work area after undressing in the equipment room.
 - l) Personal hygiene practices by all workers in compliance with applicable regulations shall be enforced by the Contractor:
 - (1) No eating, drinking, or use of tobacco shall be allowed in the work area. The Contractor shall provide a clean space, separated from the work area, for eating and drinking purposes.
 - (2) Disposable clothing, such as TYVEK suits, and other personal protective equipment (PPE) must be donned prior to entering the work area. A clean room will be provided by the Contractor for workers to put on suits and other personal protective equipment and to store their street clothes. Disposable suits shall be used once, then shall be properly discarded.
 - (3) All workers must wash upon leaving the work area in a wash facility provided by the Contractor. Wash facility will consist of, at least, running potable water, towels, and a HEPA vacuum. Upon leaving

the work area, each worker will wash and dry face and hands, HEPA vacuum clothes, and remove and dispose of the work suit as contaminated waste.

(4) Lavatory facility must be provided by the Contractor and should be located outside the regulated work area. The eating and drinking area, the clean room, and the lavatory facility must be maintained in a clean and orderly fashion at all times. The Contractor will provide portable lavatories when needed and will disinfect them daily.

- m) If worker exposure to airborne lead exceeds 50 $\mu\text{g}/\text{m}^3$ (PEL),
- (1) Contractor must provide showering facilities. Shower water must be heated. All water must be collected and tested for hazardous wastes before disposal.
 - (2) All workers must shower upon leaving the work area.
 - (3) Decontamination shall be in three stage, i.e., Dirty Room - Airlock, Shower - Airlock, Clean Room.

1.8 CONTROL OF EMISSION AND DUST

- A. When handling/abating lead-contaminated building components outdoors, Contractor shall spread a minimum 10-mil polyethylene sheet beneath the work area under the component to be removed. The drop cloth shall extend a minimum of 3 ft. from the wall for every 10 ft. of vertical distance involved in the work. Lateral distance along the wall should match this distance on either side of the work area.
- B. Barriers shall have:
 1. Wood or metal studs, 16 in. on-center, faced with 3/8 in. plywood sheeting on work side only, and
 2. Both sides of barrier covered with at least one layer of 6-mil plastic sheet with joints staggered and sealed with tape. Edges of barrier connected to floor, walls, and ceiling shall be secured and sealed airtight.
- C. Interior Containment: Minimize creation of lead-contaminated dust and airborne particles by using methods and procedures that create the least amount of dust, in accordance with the Lead Compliance Program, including the utilization of HEPA filter on tools that have the potential for creating dust and airborne contamination.
- D. Isolate the work area from all adjacent areas or systems of the building with a pressure differential that will cause a movement of air from outside to inside at any breach in the physical isolation of the work area.
- E. Continuously maintain the work area at an air pressure that is lower than that in any surrounding space in the building, or at any location in the immediate proximity outside of the building envelope. This pressure differential when measured across any physical or critical barrier must equal or exceed a static pressure of 0.03 inches of water. Accomplish the pressure differential by exhausting a sufficient number of HEPA filtered fan units from the work area. The number of units required will depend on machine characteristics, the seal at barriers, and required air circulation. Vent HEPA filtered fan units to outside of building unless authorized in writing by Owner's Representative.

- F. When installing component(s) on lead-painted surfaces, Contractor shall exercise care to avoid dislodging any flaking paint from the substrate.
- G. Plastic drop cloths, contaminated paper towels, and other dust and debris generated during the abatement shall be carefully folded into the plastic sheeting to avoid shaking dust from the surface. Folded plastic sheeting shall be deposited for temporary storage and testing in a disposal bag.

1.9 AIR MONITORING, INSPECTION AND FINAL CLEARANCES

- A. The Contractor shall be responsible for compliance air monitoring of his workers, per OSHA regulation and as detailed in the Lead Safety and Health Plan.
- B. The Contractor is responsible for conducting the Exposure Assessment for the project. Personal air samples representative of a full shift including at least one sample for each job classification in each work area either for each shift or for the shift with the highest exposure level shall be collected and analyzed. Air samples should be taken in accordance with NIOSH Method 7082, or equivalent.
- C. Worker exposure levels shall be evaluated with respect to the OSHA Action Level ($30 \mu\text{g}/\text{m}^3$) and the Permissible Exposure Level ($50 \mu\text{g}/\text{m}^3$) as 8-hour Time-Weighted Averages. If measured exposure levels exceed the criteria set for respiratory protection and personal protection of workers, the Contractor shall stop work, shall notify the Owner's Representative, shall attempt to correct and control the operation to reduce the elevated contamination dust levels, and shall change protective measures for workers to the next higher level of protection (see TABLE 3) before re-assuming operations.
- D. After Contractor has completed final clean-up, and performed a visual inspection, the Consultant will perform a detailed visual inspection. All surfaces will be examined for the presence of dust or debris, especially flat surfaces. If dust or debris is found, Contractor shall reclean the entire work area and a repeat of the detailed visual inspection will occur.
- E. When the post abatement visual inspection has been completed, surface wipe sampling, using commercial wipes moistened with a non-alcohol wetting agent, shall be conducted by the Consultant. A minimum of three wipe samples will be collected and analyzed for each work area. Further cleaning will be required in any area where the result is in excess of 800 milligrams per square foot.
- F. The Owner will pay for the first set of wipe samples. The Contractor is responsible for payment of all subsequent tests, at a cost of \$150 per wipe sample.
- G. The Owner's Representative may provide other independent wipe testing and air monitoring services during the conduct of the project.

PART 2 - PRODUCTS

2.1 CLEANING SOLUTIONS

- A. Contractor shall provide solution containing at least one ounce of five percent trisodium phosphate per each gallon of water.

2.2 DISPOSAL

- A. Disposal bags shall be, as a minimum, individual, 6 mil thick, leak-tight, manufactured polyethylene bags.
- B. Polyethylene wrap shall be 6 mil and 10 mil polyethylene sheeting.
- C. Disposal drums shall meet US Department of Transportation (DOT) regulations for disposal of respective waste(s) generated.
- D. Disposal labels shall identify waste materials (before TCLP testing.) Hazardous wastes shall be identified as such in compliance with RCRA regulations for hazardous materials.

PART 3 - EXECUTION

3.1 METHODS OF ABATEMENT

- A. Removal: (Reserved)
- B. Abrasion: Remove lead-based paint by machine sanding, using a high efficiency particulate air (HEPA) filtered dust collection attachment.
 - 1. Sanders shall be of the dual action, rotary action, orbital or straight line system type, fitted with a HEPA dust pick-up system.
 - 2. Air compressors utilized to operate this equipment shall be designed to continuously provide 90 to 110 psi or as recommended by the manufacturer.
 - 3. Sanding shall only be done on flat surfaces which allow the HEPA dust collection system to come into tight contact with the surface being sanded. Surfaces to be sanded shall be wide enough to allow maximum efficiency of the HEPA dust collection system.
 - 4. All lead-based paints shall be removed down to the bare substrate surface. In cases where some pigment may remain embedded in wood grain and similar porous substrate, care shall be taken to avoid damage to the substrate with the sanding machine.
- C. Heat Blower Gun: Remove lead-based paint by heat, using a heat blower gun followed by scrapping.
 - 1. Electrically operated, heat-blower gun shall be a flameless electrical paint softener type. Heat-blower shall have electronically controlled temperature settings to allow usage below a temperature of 700°F. Heat-blower shall be DI type (non-grounded) 120v, AC application. Heat-blower shall be equipped with various nozzles to cover all common applications (cone, fan, glass protector, spoon reflector, etc.)
 - 2. Hot air stream from the heat-blower gun shall be directed at the painted surface and the paint allowed to blister and soften. Considerable lead is volatilized from lead-based paint and lead fumes are released at approximately 700°F. Heat-blower shall not be operated above 700°F and respirator protection is required for all persons in the work area.
 - 3. Softened paint shall be removed down to the substrate surface as completely as possible by scraping and/or brushing. In cases that some pigment may remain embedded in wood grain and similar porous substrate, care shall be taken to avoid damage to the substrate with the scraping or brushing.

4. Care shall be taken to protect glass in windows and doors, and adjacent areas from damage from thermal stresses induced by the concentrated heat of the heat-blower gun. Damages to non-protected glass and adjacent areas from thermal stresses shall be repaired at the Contractor's expense.
 - D. On-Site Chemical Removers: The following is not a recommended method. However, the Contractor may use this method, but only with the Consultant's prior approval.
 1. Remove lead-based paint by scraping and/or brushing after the paint has been softened by the application of a chemical stripping agent. Exterior applications may be removed by water jet washing method on masonry substrates only.
 2. Chemical removers shall contain no methylene chloride products.
 3. Chemical removers shall be compatible with, and not harmful, to the substrate that they are applied to.
 4. Chemical removers used on masonry surfaces shall contain anti-stain formulation that inhibits discoloration of stone, granite, brick and other masonry construction.
 5. Chemical removers used on interior surfaces shall not raise or discolor the surface being abated.
 6. Chemical stripping agent neutralizers may be used on exterior surfaces only. Neutralizers shall be compatible with and not harmful to the substrate they are applied to. Neutralizers shall be compatible with the stripping agent that has been applied to the surface substrate.
 7. Chemical stripping agents and neutralizers shall be applied in accordance with the recommendations of the manufacturer. Stripping agents shall not be allowed to penetrate wood or other fibrous substrates. Softened paint shall be removed by scraping or wire brush.
 8. Contractor shall protect adjacent areas from damage from stripping agent during the course of work. Damages to non-protected adjacent areas from stripping agent shall be repaired at the Contractor's expense.
 - E. Enclosure of Exterior Substrate: (Reserved)
- 3.2 CLEAN UP OF WORK AREA
- A. Clean-up shall be performed by lead abatement workers as follows:
 1. After the abatement work has been completed, remove all debris and dispose of it in designated containers;
 2. Deposit all lead-contaminated waste, including sealing tape, plastic sheeting, mop heads, sponges, filters, and disposable clothing, etc. in double plastic bags, at least 6 mil thick or single 10 mil thick, and seal the bags;
 3. Wrap disassembled lead-painted building components (door sections, handrails, pipe sections) in two layers of minimum 6 mil polyethylene sheeting, secure and seal with tape, label as waste, and temporarily store for testing and disposal.

4. HEPA vacuum clean all surfaces in the interior work area including woodwork, metal work, walls, windows, floors, ceilings, steps, etc.;
5. After vacuum cleaning, phosphate wash all floors in the work area with a solution containing at least 1 ounce of 5 percent trisodium phosphate to each gallon of water;
6. After floor washing has dried, HEPA vacuum clean surfaces until no visible residue remains;
7. After all the work is completed, but before release of the work area, perform final clean-up and request that DOE personnel conduct the wipe test(s) for final clearance.

3.3 WASTE DISPOSAL

- A. The Contractor shall remove daily all lead waste from the work area.
- B. The Contractor shall be responsible for removing, controlling, waste materials, all treated as hazardous waste until classification through testing is completed. This includes not only solid wastes but also waste water generated from interim and final clean-up.
 1. During the actual abatement, the Contractor shall not leave debris in the work area or adjacent property, incinerate debris, dump waste into landfills, or introduce lead-contaminated water into storm or sanitary sewers.
- C. For disposal of waste materials, the requirements of the Resource Conservation and Recovery Act (RCRA) as well as applicable state and local solid waste plan requirements shall be complied with.
 1. Testing of lead-contaminated waste materials per the US EPA's Toxicity Characteristics Leaching Procedure (TCLP) will be conducted.
 2. If the TCLP results equal or exceed 5.0 mg/l of lead, the waste must be handled as hazardous waste, to be transported to a licensed treatment, storage, and disposal facility (TSDF).
 3. If the TCLP results are below the regulatory threshold of 5.0 mg/l, the wastes are not considered as being hazardous and can be disposed of as construction debris.
 4. Results of TCLP testing and analysis will be submitted to the Consultant before disposal of the particular waste stream.
 5. The following waste materials will be tested to determine whether or not they are hazardous wastes:
 - a) Paint chips (having a lead concentration greater than 1% is considered a hazard);
 - b) Waste water;
 - c) Dust from HEPA filters and from damp sweeping;
 - d) Paint and plaster removed from building;

- e) Plastic sheets, duct tape, or tape used to cover floors and other services during the lead-based paint removal;
 - f) Solvents and caustics used during the stripping process;
 - g) Liquid waste, such as wash water used to decontaminate wood after solvents have been used, and liquid waste water from exterior water blasting;
 - h) Rags, sponges, mops, HEPA filters, respirator cartridges, scrapers, and other materials used for testing, abatement and cleanup;
 - i) Disposable work clothes and respirator filters;
 - j) Any other items contaminated with lead-based paint.
6. Non-hazardous solid wastes shall be placed in double (6 mil) or single (10 mil) polyethylene bags that are air tight and puncture resistant.
- a) The Contractor shall contain and properly dispose of all liquid waste, including lead-dust contaminated wash water.
 - b) Exteriors of all containers and disposal bags shall be HEPA vacuumed prior to their removal from the work area and shall be wet wiped. Containers and bags should then be moved into the designated storage area.
 - c) The Contractor shall carefully place the containers into a truck or dumpster used for disposal.
7. Disposal of Hazardous Waste (as determined by analytical testing): The Contractor shall be required to comply with the RCRA regulations.
- a) Lead-contaminated debris shall not be stored in the work area while awaiting testing and removal. A temporary hazardous waste storage area shall be designated and managed for storage, in compliance with all federal, state, and local regulations.
 - b) Waste containers used will comply with EPA and DOT regulations for containers used in storing and hauling hazardous wastes.
 - c) If the Contractor is not a certified hazardous waste transporter, a subcontract shall be entered into with a certified transporter to move the hazardous wastes. The third party hauler shall be required to follow RCRA regulations, and all manifestation of the transport and disposal of the hazardous wastes shall be completed and submitted to the Owner's Representative.
 - d) Copies of transport and disposal manifests shall be submitted to the Owner's representative for distribution to Owner's Project Management team and Environmental Management and Hazardous Waste Program.

3.4 POST ABATEMENT SUBMITTALS

- A. The Contractor shall provide a total of 5 copies of each submittal. The submittals will be provided to the Owner's Representative for distribution to Owner's Project Management team, and OEHS. Each set of submittals will be bound using three-hole punch paper.
- B. The Contractor shall submit to the Owner's Representative copies of all manifests for the transportation and disposal of solid and hazardous wastes generated.
- C. The Contractor shall submit to the Owner's Representative marked-up as-built drawings showing in bold letters that all components with surfaces with lead paint have been removed or abated and describing such locations.
- D. The Contractor shall submit to the Owner's Representative copies of all records indicating that the renovation work has been performed in compliance with applicable regulation, these specifications, and the Lead Safety and Health Plan.

PART 4 - LEAD SAFETY AND HEALTH PLAN

4.1 PURPOSE

- A. Inorganic lead is a systemic poison that adversely affects the blood, nervous and urinary (kidney) systems, the reproductive system for both males and females, and poses risks to the fetus. Exposure to inorganic lead in the oil industry stems primarily from activities involving lead-based paints which have been used in almost every field location at some time or other. This Lead Safety and Health Plan establishes the procedures required for workers when performing work activities where inorganic lead is present.

4.2 REFERENCES

- A. OSHA 29 CFR 1926.62, Lead Exposure in Construction (Interim Final Rule)
- B. OSHA 29 CFR 1910.1025, Lead, General Industry
- C. OSHA 29 CFR 1926.350-354, Welding, Cutting and Heating
- D. OSHA 29 CFR 1910.134, Respiratory Protection
- E. OSHA 29 CFR 1926.59, Hazard Communication
- F. US HUD, "Lead-Based Paint: Interim Guidelines for Hazard Identification and Abatement in Public and Indian Housing", September 1990

4.3 COVERED ACTIVITIES

- A. This Plan covers all work activities that involve materials containing greater than 0.05% or 1.0 mg/cm² inorganic lead. This Plan is not applicable to organic lead, such as lead alkyls.
- B. Work activities that are specifically covered by this Plan include, but are not limited to new construction, alteration, repair, or renovation of structures, substrates, or portions thereof, that contain lead, including:
 - 1. Spray painting with lead paint;
 - 2. Abrasive blasting lead-containing paint or rust or scale from equipment that has been in lead alkyl service (e.g., leaded gasoline); and
 - 3. Welding, cutting, torch burning on surfaces with lead-based paints.
 - 4. Removal or encapsulation of lead-containing materials.

5. Demolition or salvage of structures with lead-containing materials.
6. Installation of products containing lead.
7. Cleanup activities associated with abrasive blasting lead paint.
8. Transportation, disposal, storage, or containment of lead-containing materials.
9. Maintenance activities where there is the possibility of exposure to lead-containing measures.

4.4 WRITTEN COMPLIANCE PROGRAM

- A. A written compliance program is required for any job where workers may be exposed to lead.
- B. The program shall be specific project oriented.
- C. The compliance program shall, at a minimum, cover in detail the elements included in this Plan.
- D. A competent person shall be assigned responsibility for the project and the implementation of the compliance program and shall make frequent inspections of the project to assure compliance with the written program.
- E. The competent person shall be capable of identifying and/or predicting lead hazards on the job, and shall have the authorization to take corrective measures to remediate such hazards.

4.5 EXPOSURE LIMITS

- A. Certain exposure levels shall be assumed, and interim protective measures shall be implemented, for certain work activities until an exposure assessment has been made.
 1. These work activities and the assumed exposure levels are summarized in Sections H.2 and H.3, and TABLE 2.
- B. A Regulated Area shall be established in areas that exceed or can be reasonably expected to exceed the PEL without regard for the use of respirators, or where interim protective measures are required.

4.6 EXPOSURE MONITORING

- A. Initial monitoring must be conducted for all lead-related activities. Representative breathing zone measurements shall be made in accordance with OSHA regulations (29 CFR 1926.62).
 1. Initial monitoring is still required for the specific activities where interim protective measures have been implemented.
- B. Periodic monitoring shall be conducted based on the initial monitoring results according to the following schedule:
 1. TWA < 30 µg/m³ (TWA < Action Level): None required.
 2. µg/m³ < TWA < 50 µg/m³ (AL < TWA < PEL): Every 6 months.

3. TWA > 50 µg/m³ (TWA exposure > PEL): Quarterly.
 4. Periodic monitoring frequency may be reduced or curtailed based on the results of two consecutive measurements taken at least 7 days apart.
- C. Monitoring data collected by the Contractor within the past 12 months may be used as the exposure assessment provided the conditions under which the data were collected are representative of the current project, such as:
- D. Processes, type of material, control methods, work practices, and environmental conditions are similar to the current project.
- E. Workers shall be notified of the sampling results within 5 working days of completion of the exposure assessment.
- F. Workers or designated representatives may observe monitoring.
- 4.7 PROTECTIVE MEASURES**
- A. Protective measures are required if workers' measured exposures are greater than the PEL.
 - B. A summary of the protective measures required based on actual exposure data is given in TABLE 3.
 - C. Interim Protective Measures are required for certain work activities involving lead. An exposure level is "assumed" and appropriate worker protection measures must be implemented until the actual exposure is determined.
 1. The most common work activities where interim worker protection measures are required upon commencement of the work include:
 - a) Spray painting with lead paint, manual demolition, manual scraping;
 - b) Using a power tool to remove lead without a collection system, cleanup of lead contamination or of dry abrasive blasting materials containing lead.
 - c) Abrasive blasting lead-containing materials, welding, cutting, or torch burning on lead-containing materials.
 2. After the actual exposure level has been determined, and if the work activity is still on-going, the protection measures can be "tailored" to meet the requirements for that exposure level. Generally, respiratory protection requirements will be the major item of change once the actual exposure is determined. Additional measures such as showers and additional medical surveillance may be required if exposure >PEL is confirmed.
 - D. A summary of the interim protective measures required based on specific work activity is given in TABLE 2.
 - E. Respiratory protection shall be provided in accordance with TABLES 1 and 3.
 1. Powered Air Purifying Respirators (PAPR) shall be provided for half-facepiece respirators at the worker's request.
 2. When abrasive blasting in an open area, any worker within 50 ft of the operator shall have the equivalent respiratory protection as the operator.

F. Personal protective clothing

1. Disposable clothing, e.g., TYVEK, shall be provided.
2. Dedicated, re-usable clothing may be provided but must be laundered according to the schedule in TABLE 1.

G. The following hygiene facilities shall be provided:

1. Change areas segregated into a “clean” and “dirty” side to prevent cross-contamination.
2. A wet decontamination facility shall be constructed in each work area.
3. Reasonably accessible handwashing facilities must be provided for all lead work activities.
4. Eating facilities shall be provided outside of the area of contamination and shall be kept as free of lead contamination as practicable.

H. Specific worker hygiene practices are covered in detail in the written Compliance Program and shall be enforced by the employer.

4.8 MEDICAL SURVEILLANCE

- A. Biological monitoring shall consist of sampling and analyzing the blood for lead and zinc protoporphyrin (ZPP).
 1. Initial biological monitoring is required for interim work activities.
- B. Medical surveillance shall consist of sampling and analyzing the blood for lead and ZPP as well as a medical examination.
 1. Medical surveillance is required for workers exposed to > AL for more than 30 days in a consecutive 12 months.
- C. Additional biological monitoring is required every two months whenever the last blood sample indicates a blood level > 40 µg/deciliter (40 µg/dl).
- D. Workers must be removed from exposure (with benefits protected) if medical monitoring indicates a blood level in excess of 50 µg/dl of blood if the worker is exposed at or above the Action Level.

4.9 INFORMATION AND TRAINING

- A. Workers exposed at or above the Action Level shall be trained in the following:
 1. Contents of the OSHA Standard 29 CFR 1926.62.
 2. Specific nature of the operations where lead is present.
 3. Purpose, selection, fitting, use and limitations of respirators.
 4. Adverse health effects of lead, including reproductive effects to males and females and effects on the fetus.
 5. Engineering controls and work practices.
 6. Contents of the written Compliance Program for the project.

- 7. Instructions that chelating agents should not be routinely used and should not be used except under the direction of a physician.
 - 8. Medical surveillance program and access to medical records (29 CFR 1910.20).
- B. Workers shall also have appropriate Hazard Communication, Respiratory Protection, and other applicable safety and health training.

4.10 CONTRACTOR

- A. Contractor performing work subject to this Lead Safety and Health Plan shall be notified of their obligation and responsibility to conduct work according to this Plan or OSHA 29 CFR 1926.62.
- B. Contractor shall have a written Compliance Program for their work.
- C. Contractor may rely on their documented exposure data in developing their Compliance Program provided it is representative of the work activity and conditions under which the work will be performed.

TABLE 1 - EXPOSURE LIMITS

Time Weighted Average (TWA) Exposures ¹	8-Hour TWA	12-Hour TWA	Adjustment for Longer Shifts
Permissible Exposure Limit (PEL)	50 $\mu\text{g}/\text{m}^3$	33.3 $\mu\text{g}/\text{m}^3$	400 $\mu\text{g}/\text{m}^3$ /hours worked
Action Level (AL)	30 $\mu\text{g}/\text{m}^3$	20 $\mu\text{g}/\text{m}^3$	240 $\mu\text{g}/\text{m}^3$ /hours worked

TABLE 2 - INTERIM PROTECTIVE MEASURES BASED ON WORK ACTIVITY TYPE

Interim Protective Measures Required	Activity	Activity	Activity
The protective measures marked by (X) in the boxes below are required until actual exposures can be demonstrated. Once exposure assessment is determined, protection measures (particularly respiratory protection) can be tailored to the actual "measured" exposure level.	Manual demo of structures (e.g., dry wall); manual scraping; manual sanding; heat gun applications; power tool cleaning w/dust collection; spray painting w/lead paint	Cleaning w/power tool w/o dust collection; clean-up of lead contamination; rivet busting	Abrasive blasting; welding; cutting; torch burning
Interim Exposure ($\mu\text{g}/\text{m}^3$)	50-500	500-2500	>2500
Respiratory protection	X	X	X
- Half facepiece w/HEPA filters	X	NO	NO
- Hood/helmet or Type CE abrasive blasting supplied air respirator in continuous flow mode		NO	NO
- Full facepiece w/HEPA filters		X	NO

¹Without regard to respirators

- Powered Air Purifying Respirator (PAPR) w/HEPA filters		X	NO
- Fullface or Type CE abrasive blasting supplied air w/positive pressure			X
- SCBA or Type C or CE supplied air w/escape			X
Personal protective clothing and equipment	X	X	X
Change areas	X	X	X
Handwashing	X	X	X
Biological (blood) monitoring	X	X	X
Training	X	X	X
Warning signs - regulated area	X	X	X
Laundering (weekly; daily if > 200 $\mu\text{g}/\text{m}^3$)	REC	REC	REC
Showers	REC	REC	REC

* Respirators specified for higher concentrations may be used for lower concentrations of lead.

X = Required

N/R = Not Required

NO = Not Allowed

REC = Recommended

TABLE 3 - PROTECTIVE MEASURES BASED ON MEASURED EXPOSURE

“Measured” Exposure in $\mu\text{g}/\text{m}^3$	30-50	<500	<1250	<2500	<100000	>100000
Respiratory Protection	N/R					
- Half facepiece w/HEPA filters		X	NO	NO	NO	NO
- Hood/helmet or Type CE abrasive blasting supplied air respirator in continuous flow mode			X	NO	NO	NO
- Full facepiece w/HEPA filters				X	NO	NO
- Powered Air Purifying Respirator (PAPR) w/HEPA filters				X	NO	NO
- Fullface or Type CE abrasive blasting supplied air w/positive pressure					X	NO
- SCBA or Type C or CE supplied air w/escape						X
Personal protective clothing	N/R	X	X	X	X	X
Change areas	N/R	X	X	X	X	X
Handwashing	X	X	X	X	X	X
Biological (blood) monitoring	X	X	X	X	X	X
Training	X	X	X	X	X	X
Warning signs - regulated area	N/R	X	X	X	X	X
Laundering (weekly; daily if > 200 $\mu\text{g}/\text{m}^3$)	N/R	X	X	X	X	X
Showers	N/R	X	X	X	X	X
Medical surveillance	X	X	X	X	X	X

* Respirators specified for higher concentrations may be used for lower concentrations of lead.

X = Required

N/R = Not Required

NO = Not Allowed

END OF SECTION 02072

SECTION 02081 - REMOVAL OF ASBESTOS-CONTAINING MATERIALS**PART 1 - GENERAL****WET REMOVAL:**

Thoroughly wet to satisfaction of Owner's Representative asbestos-containing materials to be removed prior to stripping and/or tooling to reduce fiber dispersal into the air. Accomplish wetting by a fine spray (mist) of amended water or removal encapsulant. Saturate material sufficiently to wet to the substrate without causing excess dripping. Allow time for amended water or removal encapsulant to penetrate material thoroughly. If amended water is used, spray material repeatedly during the work process to maintain a continuously wet condition. If a removal encapsulant is used, apply in strict accordance with manufacturer's written instructions. Perforate outer covering of any insulation which has been painted and/or jacketed in order to allow penetration of amended water or removal encapsulant, or use injection equipment to wet material under the covering. Where necessary, carefully strip away while simultaneously spraying amended water or removal encapsulant on the installation to minimize dispersal of asbestos fibers into the air.

Mist work area continuously with amended water whenever necessary to reduce airborne fiber levels.

Remove saturated asbestos-containing material in small sections from all areas. Do not allow material to dry out. As it is removed, simultaneously pack material while still wet into disposal bags. Twist neck of bags, bend over and seal with minimum three wraps of duct tape. Clean outside and move to Wash Down Station adjacent to Material Decontamination Unit.

Evacuate air from disposal bags with a HEPA filtered vacuum cleaner before sealing.

Sprayed-on Fireproofing: Spray asbestos-containing fireproofing with a fine mist of amended water or removal encapsulant. Allow time for amended water or removal encapsulant to saturate material completely. Do not over-saturate to cause excess dripping. If surface of material has been painted or otherwise coated cut small holes as required and apply amended water or removal encapsulant from above. After removal of asbestos-containing materials, remove any overspray on walls, decking, and structure above using stiff nylon bristled brush. Use high pressure washer only with written authorization from Owner's Representative.

Pipe Insulation: Spray with a mist of amended water or removal encapsulant. Allow amended water or removal encapsulant to saturate material to substrate. If a removal encapsulant is used, use in strict accordance with manufacturer's instructions. Cut bands holding preformed pipe insulation, slit jackets at seams, remove and hand-place in a disposal bag. Remove job-molded fitting insulation in chunks and hand place in a disposal bag. Do not drop to floor. Remove any residue on pipe or fitting with stiff bristle nylon hand brush. In locations where pipe fitting insulation is removed from pipe with straight runs insulated with fibrous glass or other non-asbestos-containing fibrous material, remove fibrous material 6" from the point where it contacts the asbestos-containing insulation.

Floor Tile and/or Mastic: Remove of and dispose of carpet as asbestos-containing waste. Spray material continuously with amended water. Use caution not to overwet. All methods of removal must be approved by the consultant. If solvents are used, the solvent must conform to the following minimum conditions:

1. Flash point (open or closed cup) >200 F
2. Auto Ignition Temperature >600 F
3. Slight odor

4. Ph neutral
5. Aromatic vapors <100 ppm
6. Will not react violently with water

END OF SECTION - 02081

SECTION 02084 - DISPOSAL OF ASBESTOS-CONTAINING WASTE MATERIAL (ASBESTOS)

PART 1 - GENERAL

1.1 DESCRIPTION OF THE WORK:

- A. This section describes the disposal of Asbestos-Containing Materials. Disposal includes packaging of asbestos-containing waste materials. Disposal shall be accomplished by land filling at an approved landfill.

1.2 SUBMITTALS:

- A. Before Start of Work: Submit the following to the Owner's Representative for review. Do not start work until these submittals are approved by the Owner's Representative.
 - 1. Copy of state or local license for waste hauler.
 - 2. Name and address of landfill where asbestos-containing waste materials are to be buried. Include contact person and telephone number.
 - 3. Chain of Custody form and form of waste manifest proposed.
 - 4. Sample of disposal bag and any added labels to be used.
- B. At time of removal of waste submit copies of all manifests and disposal site receipts to Owner's Representative. Owner to receive first copy (green) and final copy (white) to be sent to OEHS. The Contractor must submit original manifests and disposal receipts.

PART 2 - PRODUCTS:

2.1 Disposal Bags: Provide 6 mil thick leak-tight polyethylene bags labeled with three labels with text as follows:

A. First Label:

CAUTION
 CONTAINS ASBESTOS FIBERS
 AVOID OPENING OR BREAKING CONTAINER
 BREATHING ASBESTOS IS HAZARDOUS TO YOUR HEALTH

B. Second Label: Provide in accordance with 29 CFR 1910.1200(f) of OSHA's Hazard Communication standard:

DANGER
 CONTAINS ASBESTOS FIBERS
 AVOID CREATING DUST
 CANCER AND LUNG DISEASE HAZARD
 BREATHING AIRBORNE ASBESTOS, TREMOLITE, ANTHOPHYLLITE, OR
 ACTINOLITE FIBERS IS HAZARDOUS TO YOUR HEALTH

C. Third Label: Provide in accordance with U. S. Department of Transportation regulation on hazardous waste marking. 49 CFR parts 171 and 172. Hazardous Substances: Final Rule. Published November 21, 1986 and revised February 17, 1987:

RQ, ASBESTOS, 9, NA2212, RQ = 116.

PART 3 - EXECUTION

Comply with the following sections during all phases of this work:

Section 01560 Worker Protection - Asbestos Abatement

Section 01562 Respiratory Protection

3.1 GENERAL:

- A. All waste is to be hauled by a waste hauler with all required licenses from all state and local authority with jurisdiction.
- B. Load all asbestos-containing waste material in disposal bags or leak-tight drums. All materials are to be contained in one of the following:
 1. Two 6 mil disposal bags or
 2. Two 6 mil disposal bags and a fiberboard drum or
 3. Sealed steel drum with no bag
- C. Protect interior of truck or dumpster with Critical and Primary Barriers as described in Section 01526 Temporary Enclosures.
- D. Carefully load containerized waste in fully enclosed dumpsters, trucks or other appropriate vehicles for transport. Exercise care before and during transport, to insure that no unauthorized persons have access to the material. Carry extra 6 mil disposal bags in truck.
- E. Do not store containerized materials outside of the Work Area. Take containers from the Work Area directly to a sealed truck or dumpster.
- F. Do not transport disposal bagged materials on open trucks. Label drums with same warning labels as bags. Uncontaminated drums may be reused. Treat drums that have been contaminated as asbestos-containing waste and dispose of in accordance with this specification.
- G. Advise the landfill operator or processor, at least ten days in advance of transport, of the quantity of material to be delivered.
- H. At disposal site unload containerized waste:
 1. At a disposal site, sealed plastic bags may be carefully unloaded from the truck. If bags are broken or damaged, rebag immediately on site. Clean entire truck and contents using procedures set forth in section 01711 Project Decontamination.
 2. At a processing site truck and loading dock are arranged as a controlled work area and containerized waste is transferred to storage area by site personnel. All bags including broken ones will be transferred. Clean truck, using procedures set forth in section 01711 Project Decontamination.
- I. Retain receipts from landfill or processor for materials disposed of.
- J. At completion of hauling and disposal of each load submit copy of waste manifest, chain of custody form, and landfill receipt to Owner's Representative.

END OF SECTION - 02084