

WINDOW IDIQ

Statement of Work

1. BACKGROUND

The **Chillicothe** VAMC, 17273 State Route 104, **Chillicothe**, Ohio 45601 is a campus of approximately 54 buildings, 308 acres, and 1.2 million square feet. The VAMC needs to make changes and improvements to accommodate furniture, equipment and personnel also to accommodate changing user requirements for numerous operational uses.

2. OBJECTIVE

The purpose of this contract is to provide a contractor services for window replacement, on an as needed basis, for the VAM Chillicothe, Ohio, and associated CBOCs.

3. GENERAL

Overview:

To achieve the above objective, the contractor shall use accepted contractor practices in all aspects of construction, maintenance and/or repairs. Contractor shall have knowledge and experience with materials and applications best suited for specific Window projects, approved and appropriate techniques and methods of using these materials, and ensure compatibility of these materials with existing materials. Contractor will also

be in compliance with applicable codes and/or Veterans Affairs (VA) requirements/regulations.

All demolition, modification, and construction work for any task order under this project will be performed in accordance with the Department of Veterans Affairs construction master specifications, which can be found at: <http://www.cfm.va.gov/til/spec.asp>

Contractor will ensure areas under modification are sealed to avoid dust and dirt from spreading to other areas of the facility. Contractor will ensure all areas, under modification, are cleaned up on a daily basis.

Project Requests:

VAMC Project Manager, Contracting Officer Technical Representative (COTR), or designee will outline individual project Task Orders to include timelines. Contractor will be asked to bid on individual project scopes as a percentage of R.S. Means. Each project Task Order will be provided to the contractor in writing by the Contracting office for pricing.

4. SCOPE OF WORK

Contractor will perform all projects within the project timelines. Work to be performed under this contract may include, but is not limited to all divisions as listed:

- [Division 0 - Special Sections](#)
- [Division 1 - General Requirements](#)
- [Division 2 - Existing Conditions](#)
- [Division 3 - Concrete](#)
- [Division 4 - Masonry](#)
- [Division 5 - Metals](#)
- [Division 7 - Thermal and Moisture Protection](#)
- [Division 8 - Doors and Windows](#)

Sections within the divisions may be found at: <http://www.cfm.va.gov/TIL/spec.asp>. Tasks may include one or several divisions simultaneously. Contractor must obtain the ability and resources to perform design-build services and turnkey medical equipment site preparations. Contractor must be knowledgeable of Historical Preservation requirements.

Potential Projects:

- Repair or replace Doors and Windows

5. LOGISTICAL SUPPORT, RELATIONSHIP AND RESPONSIBILITY

The contractor will be responsible for all the logistical support during each project, cleaning up work site on a daily basis, and ensure a safe work environment. Contractor will be responsible for following all Occupational Safety and Health Administration (OSHA) guidelines and regulations. The Contractor will work under the direction of the VAMC Project Manager, COTR or designee.

SCHEDULE A – CONTRACT COEFFICIENTS

Services to be furnished under this contract shall be in accordance with the standards, clauses and provisions of this document. The initial contract period shall be from the date of contract award with Base Year and Three (3) one-year options for renewal.

COEFFICIENT

Normal working hours: _____

(Between 7:00 A.M. to 5 P.M. - Monday thru Friday)

Other than normal working hours: _____

(between 5 P.M. to 7:00 A.M., Monday through Friday;

All day Saturday and Sunday; and all Federal
Holidays.)

NOTE: The contract coefficients shall apply to the base year and all option years. The Government reserves the right to exercise four 1-year option periods.

See “The Schedule”

DEPARTMENT OF VETERANS AFFAIRS
MASTER SPECIFICATIONS

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INFORMATION REGARDING BIDDING MATERIAL, BID GUARANTEE AND BONDS

1. PRICE PROPOSAL

a. The offer shall be the multiplier. Percent factors shall not extend beyond two decimal places. All components of price shall be included in the bidder's multiplier, and shall be fully supported, as no allowance for an omitted cost will be made later.

b. The offeror shall submit in "The Schedule" of this solicitation the price multiplier's to accomplish the tasks described herein. The offeror shall submit, with the offer, a completed Standard Form (SF) 1442, completed ACH Vendor/Miscellaneous Payment Enrollment Form if one is not on file with the Austin, TX, and completed "Representations and Certifications".

c. The contract resulting from this solicitation will not provide for periodic economic price adjustment. Consequently, the offeror should appraise and address potential for market and wage changes when developing and supporting the price proposal.

d. A clear audit trail must be evident as to the conversion of resource, overhead and profit to the multiplier/s, and be consistent with the offerors cost accounting system. The proposal should address general price components, including, but not limited to: materials, direct labor, indirect costs, overhead and profit. The proposed profit rate should be supported with a quantitative evaluation of market conditions, anticipated order volume and risk assessment, in addition to being justified with narrative rationale. (Not detailed.)

e. Bidding materials consisting of drawings, specifications and contract forms may be obtained by qualified General (Prime) Contractors interested in submitting bids direct to the Department of Veterans Affairs.

2. BONDS

a. Performance and Payment Bonds: The contractor shall be required to provide a Payment Bond (Standard Form 25A) and a Performance Bond (Standard Form 25) in accordance with FAR Clause 52.228-15, Performance and Payment Bonds-Construction, for all TOs priced at \$100,000.00 and above, for TOs under \$100,000.00 only Payment Bonds will be required. Bonds shall be delivered to the Contracting Officer no later than ten (10) calendar days after acceptance of a task order proposal. The Government will, upon request, only reimburse the contractor for the amount of premiums paid to the Surety, for the performance and payment bonds after receiving bonds and evidence of full payment to the Surety (see General Conditions Section, paragraph 1.68 entitled "Bonds").

b. Penal Sums: The penal sums of the performance and payment bonds are stated in VAAR Clause 852.236-73, Bonds. The contractor shall not begin work until both bonds, properly executed, are furnished to and accepted by the Contracting Officer.

c. The furnishing of bonds is a part of contract performance, and failure to provide required bonds within the time frames specified may be grounds for default.

3. DESCRIPTION OF WORK: Perform work as described by various task orders issued.

Cost Range: \$25,000.00 to \$499,999.00
(End of Clause)

4. CONTRACT VALUE

- a. Minimum Value: The guaranteed minimum which will be required under this contract, and which will be initiated by the first task order of \$25,000 for the initial contract period and the life of the contract to include options.
- b. Maximum Value: The total contract amount shall not exceed \$4,999,999.00

5. TASK ORDER LIMITATION:

- a. Minimum Value: The guaranteed minimum value of each task order \$25,000
- b. Maximum Value: The maximum value of each task order is \$499,999.00.

**INSTRUCTIONS, CONDITIONS AND OTHER STATEMENTS TO
BIDDERS/OFFERORS**

PART I – THE SCHEDULE
SCHEDULE A

a. This is a Firm Fixed Price, Indefinite Delivery-Indefinite Quantity (IDIQ) type contract for Non-Recurring Maintenance Window Replacement and Repair projects for the Department of Veterans Affairs Medical Center, Chillicothe, Ohio. This contract will have a base year with the Government's option to extend the base contract annually for four (4) additional years.

b. During the contract period, Facility Management Service will identify projects for task orders (TOs) which will be issued by the Contracting Officer. [The Government has the right to withdraw a proposed TO before and after the receipt of the contractor's proposal for the proposed TO.]

c. The offeror's contract coefficients shall be based on the Overhead and Profit (O&P) column of the Unit Price Book

STATEMENT OF WORK

**THE DEPARTMENT OF VETERANS AFFAIRS MEDICAL CENTER,
CHILLICOTHE, OHIO INDEFINITE-DELIVERY INDEFINITE QUANTITY (IDIQ)
CONTRACT(S) FOR WINDOW REPLACEMENT WORK.**

1. BACKGROUND & OBJECTIVES:

The Chillicothe VAMC, 17273 State Route 104, Chillicothe, Ohio 45601 is a campus of approximately 54 buildings, 308 acres, and 1.2 million square feet. The VAMC needs to make changes and improvements to accommodate furniture, equipment and personnel also to accommodate changing user requirements for numerous operational uses.

6. OBJECTIVE

The purpose of this contract is to provide a window IDIQ contractor services, on an as needed basis, for the VAMC and associated CBOCs.

a. TYPE OF CONTRACT(s):

The resulting contract will be Indefinite Delivery Indefinite Quantity (IDIQ) for Construction. A unique feature of the Department of Veterans Affairs Indefinite Delivery Indefinite Quantity (IDIQ) Contract (s) for Construction is the use of a published Unit Price Book (UPB) to establish the direct material, labor, and equipment price for the specific work to be performed for each individual

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construction project. After reaching a negotiated agreement as to which UPB line items and quantities meet the task order requirements, the indirect costs, overhead, and profit are then included by multiplying the UPB "raw" costs by the appropriate coefficient factor established for the contract. This will result in a definitive firm fixed price for the specific project task order.

The Primary NAICS Code is 236220 Commercial and Institutional Building Construction and the size standard is \$33.5Million.

b. BASE & OPTIONS:

(1) The minimum amount of any individual task order issued for each contract will be \$25,000 and the maximum amount for any individual order will not exceed \$499,999.00.

(2) Minimum Obligation. In accordance with FAR 16.504(a) the Contracting Officer has determined that the minimum obligation for each separate IDIQ contract awarded under this solicitation will be (\$25,000.00). This minimum obligation falls within the size limits for individual orders. Therefore, the minimum obligation will be met by the issuance of one or more task orders. This minimum obligation amount applies to the entire contract, even if the options for up to four additional one year ordering periods are exercised.

The contractor shall specify the coefficient as a percentage for each contract year in the spaces below.

PART I - THE SCHEDULE

SECTION B - SUPPLIES OR SERVICES AND PRICE/COSTS

BASIC YEAR:	JULY 1, 2012 – JUNE 30, 2013
0001	PROVIDE CONSTRUCTION, MAINTENANCE, REPAIR, AND ALTERATIONS OF EXISTING REAL PROPERTY FACILITIES AND ASSETS, INCLUDING SITE AND UTILITY, LOCATED AT THE VA MEDICAL CENTER AND SUPPORTED FACILITEIS IN ACCORDNACE WITH THE GENERAL SCOPE OF WORK.
0002	CONTRACT COEFFICIENT-DURING NORMAL WORKING HOURS (MON-FRI 7:00 AM – 5:00 PM) _____
0003 HOURS HOLIDAYS	CONTRACT COEFFICIENT – OUTSIDE NORMAL WORKING (MON-FRI 5:00 PM -7:00AM) PLUS WEEKENDS AND FEDERAL _____
0004 PREPRICED	OVERHEAD AND PROFIT COEFFICIENT FOR ALL NON-ITEMS FOR THE BASE YEAR _____
OPTION YEAR ONE:	JULY 1, 2013 – JUNE 30, 2014
1001	PROVIDE CONSTRUCTION, MAINTENANCE, REPAIR, AND ALTERATIONS OF EXISTING REAL PROPERTY FACILITIES AND ASSETS, INCLUDING SITE AND UTILITY, LOCATED AT THE VA MEDICALCENTER AND SUPPORTED FACILITEIS IN ACCORDNACE WITH THE GENERAL SCOPE OF WORK.
1002	CONTRACT COEFFICIENT-DURING NORMAL WORKING HOURS (MON-FRI 7:00 AM – 5:00 PM) _____
1003 HOURS HOLIDAYS	CONTRACT COEFFICIENT – OUTSIDE NORMAL WORKING (MON-FRI 5:00 PM -7:00AM) PLUS WEEKENDS AND FEDERAL _____
1004 PREPRICED	OVERHEAD AND PROFIT COEFFICIENT FOR ALL NON-ITEMS FOR THE FIRST OPTION YEAR

OPTION YEAR TWO: JULY 1, 2014 – JUNE 30, 2015

2001 PROVIDE CONSTRUCTION, MAINTENANCE, REPAIR, AND ALTERATIONS OF EXISTING REAL PROPERTY FACILITIES AND ASSETS, INCLUDING SITE AND UTILITY, LOCATED AT THE VA MEDICAL CENTER AND SUPPORTED FACILITEIS IN ACCORDNACE WITH THE GENERAL SCOPE OF WORK.

2002 CONTRACT COEFFICIENT-DURING NORMAL WORKING HOURS (MON-FRI 7:00 AM – 5:00 PM)

2003 CONTRACT COEFFICIENT – OUTSIDE NORMAL WORKING HOURS (MON-FRI 5:00PM -7:00AM) PLUS WEEKENDS AND FEDERAL HOLIDAYS

2004 OVERHEAD AND PROFIT COEFFICIENT FOR ALL NON-PREPRICED ITEMS FOR THE SECOND OPTION YEAR

OPTION YEAR THREE: JULY 1, 2015 – JUNE 30, 2016

2001 PROVIDE CONSTRUCTION, MAINTENANCE, REPAIR, AND ALTERATIONS OF EXISTING REAL PROPERTY FACILITIES AND ASSETS, INCLUDING SITE AND UTILITY, LOCATED AT THE VA MEDICAL CENTER AND SUPPORTED FACILITEIS IN ACCORDNACE WITH THE GENERAL SCOPE OF WORK.

2002 CONTRACT COEFFICIENT-DURING NORMAL WORKING HOURS (MON-FRI 7:00 AM – 5:00 PM)

2003 CONTRACT COEFFICIENT – OUTSIDE NORMAL WORKING HOURS (MON-FRI 5:00PM -7:00AM) PLUS WEEKENDS AND FEDERAL HOLIDAYS

2004 OVERHEAD AND PROFIT COEFFICIENT FOR ALL NON-PREPRICED ITEMS FOR THE SECOND OPTION YEAR

OPTION YEAR FOUR: JULY 1, 2016 – JUNE 30, 2017

2001 PROVIDE CONSTRUCTION, MAINTENANCE, REPAIR, AND ALTERATIONS OF EXISTING REAL PROPERTY FACILITIES AND

2002	ASSETS, INCLUDING SITE AND UTILITY, LOCATED AT THE VA MEDICAL CENTER AND SUPPORTED FACILITEIS IN ACCORDNACE WITH THE GENERAL SCOPE OF WORK. CONTRACT COEFFICIENT-DURING NORMAL WORKING HOURS (MON-FRI 7:00 AM – 5:00 PM) <hr/>
2003 HOLIDAYS	CONTRACT COEFFICIENT – OUTSIDE NORMAL WORKING HOURS (MON-FRI 5:00PM -7:00AM) PLUS WEEKENDS AND FEDERAL <hr/>
2004	OVERHEAD AND PROFIT COEFFICIENT FOR ALL NON-PREPRICED ITEMS FOR THE SECOND OPTION YEAR <hr/>

**INSTRUCTIONS, CONDITIONS AND OTHER STATEMENTS TO
BIDDERS/OFFERORS**

1. STATEMENT OF WORK:

a. The contractor shall furnish all labor, materials, tools, equipment, transportation and qualified supervision necessary to accomplish these TOs (Task Orders). The TOs will vary in size and dollar amounts. TOs will involve, but will not be limited to trades, such as asphalt and concrete paving.

b. This contract does not include medical facilities engineering support services such as: utility plant operation, ground maintenance, refuse collection and disposal, maintenance and repair of equipment or systems, and similar work. No TO shall include Architect/Engineering services, however, information (shop) drawings, incidental to the job, reflecting the plan of action and the completed project may be included.

c. The contractor shall be required to be located, either by virtue of his main office or a satellite operation base, within an area permitting a maximum of a two (2) hour response time to the Medical Center location listed above. Said office or satellite base must be operational prior to award of the contract and throughout the duration of the contract, and must be open for business from 7:30 a.m. to 4:30 p.m., Monday through Friday, excluding federal holidays.

2. UNIT PRICE BOOK (UPB)

a. The Unit Price Book (UPB) contains pricing information for the work to be accomplished and for the units of measure specified. The UPB that is applicable to this contract consists of the following publication:

RS Means "Cost Works Software, current edition at the time of the task order"

b. The UPB referenced above shall be used for the entire life of the contract, including any option years exercised.

c. Contractor shall obtain the publications and any related computer software or hardware for this contract.

d. The contractor must furnish pricing (proposals) for each individual Task Order using the RS MEANS Cost Works current Master Format unit data. Each line item must include the Assigned Line Number from Cost Works. Each line item price will be derived from the Overhead and Profit column in the Unit Price Book multiplied by the coefficient.

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e. All prices in the UPB are for completed and in-place construction unless explicitly described otherwise. Incidental nails, screws, weldments, and connectors are considered in the UPB line item cost. Unless a connector is specifically omitted in the UPB line item description, testing, adjusting, balancing, and start-up of installed equipment is included in the installed line item price in the UPB. This includes items such as, but not limited to, pipe testing; equipment start-up; system adjusting and balancing; concrete testing; and compaction and testing of compacted back-fill. Line items are for end finishes. For example, the line item price for concrete broom finish includes all finishes necessary to result in the broom finish.

f. Demolition. Selective removal type demolition are listed in an additional column in the UPB for all tasks that can be demolished, and do not include hauling costs. Site demolition (Division 02) are assembly type of removals, and shall be used when appropriate. Line item demolition includes all attached appurtenances, for example, demolishing a door includes the hardware and removing pipe includes all in-line fittings and valves. Unless explicitly required in the scope of work, demolition includes handling. Handling line items in the UPB are for the handling of debris that is present prior to the task order. Handling is also allowed when use of a chute or elevator is required. Line item demolition prices include disposal costs, whether salvageable or non-salvageable material.

g. Bare (Direct) Costs. (1) The contractor must furnish pricing (proposals) for each Task Order on a Line Item Basis (per RS Means Cost Works line items). The unit prices in the Base O&P Costs column, as listed in the Unit Price Book, include all costs; direct labor, material, equipment and O&P. Each line item price, as derived from the software, shall consist of Bare Costs only, and shall not include (Indirect) costs, such as: overhead (OH), general and administrative (G&A) cost, and profit. The contractor's OH/G&A and profit are to be included in the coefficient factors. (2) The Bare Cost for all Task Orders shall be based upon RS Means pricing in effect at the time the proposal is due to the Government. Bare Costs shall be the total cost for each line item using the applicable total column multiplied by the number of units required for the project. Allowable bare costs shall only include Divisions 2-34 and shall exclude Division # 1 (General Requirements) because these are included in the coefficient. (Reference: <http://www.cfm.va.gov/til/spec.asp>)

3. COEFFICIENTS

(1) The Unit Price Book "Bare Costs" will be multiplied by the applicable Coefficient. The contract coefficient is used as a factor to adjust the Unit Price Book "Bare Costs" to arrive at the final Firm Fixed Price for the given task order. The coefficient will result in either a "net" (e.g., 1.0) amount, or a percentage "increase" (e.g., 1.25), or a percentage "decrease" (e.g., 0.95) from the unit prices listed in the Unit Price Book (UPB). As percentage factor for multiplication, the coefficient shall be limited to two decimal places or less.

(2) The offeror's contract coefficients shall address all costs except: (1) Unit Prices in the Unit Price Book (these prices include direct costs for labor, material and equipment); and (2) the City Cost Index (which will be included prior to adding the coefficient).

(3) Examples of coefficient cost components include, but are not limited to:

- Overhead, Profit, Labor Burden, Contingencies;
- Proposal Preparation;
- Subcontractor Profit and Overhead;
- Mobilization and Close Out For Total Contract and Each Task Order;
- Projected Increases (Cost Risk) In Construction Costs over the 1-Year Ordering Period;
- All Wastes and Excess Material;
- Final Clean Up (Day-To-Day Clean Up Included In Material Costs);
- Project Management and Supervision;
- Office Management and Equipment;
- Quality Control;
- Submittals (Including As-Built Drawings), Permits, Licenses;
- Protection of Government Property;
- Compliance with Safety Laws (I.E., Safety Rails, Face and Clothing Protection, Etc.);
- Compliance with Environmental Laws (Including Permits & Reporting Requirements, Etc.);
- Compliance with Tax Laws;
- Traffic and Work Site Signs and Barriers;
- Depreciation of Equipment and Assets (Including On-Site Mobile Offices);
- Insurance; and
- Any Other Risks of Doing Business

NOTE: All components of price shall be included in the offeror's coefficient, and shall be fully supported, as no allowance for an omitted cost will be made later.

4. TASK ORDER PRICING

(1) The price of any individual task order is determined as follows.

(2) Within each applicable CSI Division (other than Division One General Conditions) the RS Means Bare Costs for Material, Labor, and Equipment for all appropriate line items are totaled. This will result in a total Bare Costs for Material, Labor, and Equipment. NOTE: For most items, the Equipment cost column is blank because any incidental equipment costs (such as tools, etc.) are already included in the labor costs.

(3) The Bare Cost totals for each Division are then adjusted by the applicable City Cost Index Weighted Average for the Division.

(4) The CCI adjusted unit price totals of for all categories and Divisions are totaled to produce the fully-adjusted bare cost total. This amount is then multiplied by

appropriate contract Coefficient to establish the total Firm Fixed Price for the Task Order.

5. NON-PREPRICED ITEMS

Items of work not covered by the Unit Price Book, but within scope, may be negotiated by the Contracting Officer, or his designated representative, and added at any time during the contract. Added items of work shall be incorporated into and made a part of the task order, and shall be performed at the negotiated unit price. Non-prepriced work shall be supported with verifiable documentation supporting competition, quotes (minimum of two), catalogue prices, etc. for all non-prepriced work. Non-prepriced items shall be proved in bare costs only (materials, equipment and labor) multiplied by the quantity and the overhead and profit (see Bid Schedule A). Repetitive items may be negotiated and incorporated to the Unit Price Book by modification to the contract, thereby making it a pre-priced item for the remainder of the contract.

6. CONTRACTOR STAFF AND EMPLOYEES

a. Prior to the issuance of the first TO, the contractor shall provide the Contracting Officer with the telephone number at which the contractor or his representative may be contacted at any time during the regular working hours and an emergency number at which the contractor may be contacted in situations requiring immediate attention. The above-mentioned representative, if provided, must have full power and authority to act upon the behalf of the contractor.

b. The contractor shall maintain a Project Manager and provide the Contracting Officer a personnel list ten (10) days prior to performance of the contract. The individual designated as the project manager shall have full authority to act for the contractor. The personnel shall meet or exceed the position requirements submitted on the contractor's proposal. The Government reserves the right to approve or disapprove personnel based on the position requirements stated in the proposal. The contractor shall provide experienced and knowledgeable personnel in civil, structural, architectural, mechanical, and electrical disciplines.

c. Supervision. The Government will not exercise any supervision or control over the contractor's employees performing services under this contract. Such employees shall be accountable not to the Government, but solely to the contractor, who, in turn, is responsible to the Government. At all times during the performance of each TO under this contract, and until the work under that TO is completed and accepted, the contractor shall directly oversee the work under each TO, or assign, and have on the work site, a competent representative who is satisfactory to the Contracting Officer and has authority to act for the contractor. This may include a working supervisor.

d. Contractor's Employees: The contractor's employees shall adhere to the rules and regulations of the Medical Center applicable to employees' conduct/behavior. The Contracting Officer may require, in writing, the contractor to remove from the job site any employee the Contracting Officer deems incompetent, careless, or otherwise objectionable. The contractor shall select personnel who are well qualified to perform the required work, for supervising techniques used in their work, and for keeping them informed of all improvements, changes, and methods of operation. In addition, the contractor shall take appropriate personnel action, as required, in the event employee(s) become involved with law enforcement authorities as a result of misconduct.

7. SUPERVISION

a. A superintendent must be present at work site at all times a Contractor has his/her forces or subcontractor forces working. A letter (an original and one copy) designating the superintendent shall be sent to the Contracting Officer within ten (10) calendar days of receipt of the Notice to Proceed. This letter shall provide the superintendent's complete name, address, daytime and after hours phone numbers. The superintendent must have the authority to act on behalf of the contractor (FAR 52.236-6 SUPERINTENDENCE BY THE CONTRACTOR (APR 1984)). A designation letter shall be submitted for each and every task order issued under this contract.

b. The superintendent shall have on site the drawings and specifications for this project (FAR 52.236-21 SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (FEB 1997)). Drawings shall be redlined (as necessary) and kept current for submission at the completion of the project. Drawings must always be available for COTR review throughout the project.

8. POST-AWARD CONFERENCE

Before the issuance of the first task order under the contract, a post-award conference shall be conducted by the Contracting Officer, with the COTR in attendance, to acquaint the contractor with Government policies and procedures that shall be observed during the prosecution of the work, and to develop a mutual understanding relative to the administration of the contract. It is strongly suggested that the contractor's Project Manager, Quality Control Manager, Superintendent, and other appropriate employees attend this conference.

Individual task order conference: At the discretion of the Contracting Officer and/or the COTR, a pre-construction conference may be conducted prior to the commencement of work on individual task orders.

9. PROGRESS MEETINGS

A monthly meeting (or more frequent, if deemed necessary) shall be held between the contractor, engineer and Contracting Officer, or his/her authorized

representative, if necessary, to discuss work progress, problems, and potential modification.

10. ORDERING PROCEDURES

a. The Contracting Officer, or his/her authorized representative, will notify the contractor that a requirement exists for the ID/IQ contract via RFP. The notification will include a Statement of Work, which includes the scope of work; any applicable drawings and technical documents (specifications, etc.); and a list of material submittals.

b. The Contractor shall coordinate a site visit with the Contracting Officer, or his/her authorized representative, by telephone within two (2) working days after receipt of the notification. The contractor, COTR, and Contracting Officer or his/her duly authorized representative will participate in the site visit. The purpose of the site visit is to familiarize the Government and contractor with the condition of the site, and to identify any special conditions which may be present. During the site visit, the contractor shall confer with the COTR, and agree on a sequence of procedures and means of access to premises and buildings; space for storage of materials and equipment; delivery of materials and use of approaches; use of corridors; stairways and similar means of passage; and the location of partitions, eating spaces and restrooms for the contractor's employees.

c. After the site visit has been conducted, the contractor shall submit his proposal to the Contracting Officer at the time mutually agreed upon by the contractor and the Contracting Officer.

d. The contractor's proposal shall be submitted using the UPB, and shall be accompanied by necessary technical documentation to identify that adequate engineering and planning has been accomplished to meet the performance requirements. Examples of documentation that might reasonably be expected would include drawings or sketches, catalog cuts, calculations, specifications, bills of materials, etc. Any non-prepriced work must be supported by verifiable documentation outline in paragraph 7 of this section.

e. Upon receipt of the contractor's proposal, the government will review the contractor's proposal for completeness. If the contractor's proposal is deemed complete, the Government will negotiate with the contractor on:

- a. Items not priced in the UPB;
- b. Performance times;
- c. and quantities.

f. If there are quantity differences to be resolved, or if the Government or the contractor determines quantity verification is necessary, a second site visit may be made to measure and reach an agreement on quantities. The contractor, COTR, and Contracting Officer or his/her duly authorized representative will participate in this site visit.

g. The contractor shall acknowledge that circumstances may prohibit the Government from issuing an individual TO even after the receipt and/or negotiation of the contractor's task order proposal. The Government has the right to withdraw a proposed TO before and after the receipt of the contractor's proposal.

11. GOVERNMENT FURNISHED PROPERTY

Government furnished property will be identified in the task order.

12. CONTRACT PERIOD OF PERFORMANCE

a. This is an indefinite quantity contract for the Non-recurring Maintenance Construction of real property. Task Orders may be issued under this contract from July 1, 2012 through July 31, 2017.

b. A specific period of performance shall be negotiated for each task order issued under this contract.

NOTE: Exercise of option will extend the dates specified herein by the length of the option period.

13. OPTION TO EXTEND SERVICES

a. The initial performance period of this contract is June 15, 2012 through July 1, 2013. The Government has the option to extend the services for three (4) additional twelve (12) month periods, which may be exercised by the Contracting Officer as follows under the FAR Clause 52.217-9, Option to Extend the Term of the Contract:

<u>Period</u>	<u>Preliminary Notice Date</u>	<u>Option Exercise Date</u>
Option 1	June 1, 2013	July 1, 2013
Option 2	June 1, 2014	July 1, 2014
Option 3	June 1, 2015	July 1, 2015
Option 4	June 1, 2016	July 1, 2016

b. Preliminary notice of intent to exercise the option shall not commit the Government to renewal; however, the option must be exercised by the "Option Exercise Date" or a later date if mutually agreeable.

c. Exercise of this option will extend the dates specified in paragraph 15(a) by the length of the option period.

d. During any extended period, prices in the schedule shall apply.

e. Exercise of option will be evidenced on Standard Form (SF) 30, Change Order, citing this section as the authority for modification. Option shall be considered to have been exercised at the time the Government deposits written notification to the contractor in the mail. Options may be exercised subject to funds becoming available prior to commencement of any performance.

14. PRE-CONSTRUCTION CONFERENCE

a. Initial conference. When determined appropriate by the Contracting Officer, before the issuance of the first task order under the contract, a pre-construction conference may be conducted to acquaint the contractor with Government policies and procedures that are to be observed during the prosecution of the work, and to develop mutual understanding relative to the administration of the contract. It is strongly suggested that the contractor's Project Manager, Quality Control Manager, Superintendent, and other appropriate employees attend this meeting.

b. Individual task order conference. At the discretion of the Contracting Officer, or his/her authorized representative, a pre-construction conference may be conducted prior to the commencement of work on individual task orders.

15. SCHEDULING OF WORK

a. Before commencement of work under an individual TO, the contractor shall confer with the Contracting Officer's Representative and agree on a sequence of procedures; means of access to premises and building; space for storage of materials and equipment; delivery of materials and use of approaches; use of corridors, stairways, elevators, and similar means of communication; location of partitions, eating spaces, and restrooms for contractor employees; and the like.

b. Delivery of materials and equipment shall be made with a minimum of interference to Government operations and personnel.

c. The work shall, so far as practicable, be done in definite sections or divisions, and confined to limited areas which shall be completed before work in other sections or divisions is begun. Most work will be performed in occupied areas.

d. The contractor shall take all precautions to ensure that no damage will result from his operations to private or public property. All damage shall be repaired or replaced by the contractor at no cost to the Government.

e. The contractor shall provide all dust barriers, access barriers, and other site protective barriers and site control devices. This includes, but is not limited to: protective fences; protective tapes; and protective signage.

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f. At the beginning of each working day, the contractor shall notify the COTR of the location(s) of work to be accomplished that day.

g. All temporary outages of any utility services required for the performance of work shall be scheduled with the COTR not less than ten (10) working days in advance of such outages.

16. TOILET FACILITIES

The contractor's personnel will be permitted to use toilet facilities on the premises. In the event none are available, the contractor shall, at his/her own expense, provide portable facilities, as required. In addition, toilet facilities desired at the contractor's management office shall be provided at the expense of the contractor.

17. FINAL CLEANUP COSTS

The contract percentage factors include the cost of final cleanup on each individual task order, pursuant to the paragraph entitled "Commencement, Prosecution, and Completion of Work and Environmental Protection", and pursuant to FAR Clause 52.236-12 entitled "Cleaning Up (April 1984)". Payments will not be made for final cleaning for work on individual task orders.

18. PRICE ADJUSTMENT MODIFIERS

The Unit Price Book presented under this contract contains unit pricing data to be used by the contractor in development of price proposals for each TO. The pricing data is presented as basic items and as price adjustment modifiers to the basic item. Price adjustment modifiers provide a method for adding to or deducting from the basic item prices for optional materials and/or methods of installation. One or more modifiers can be utilized to adjust the basic item price as listed by the appropriate suffix number of basic lines.

19. CONTRACTOR ACCESS

Most work will be in occupied areas. The area wherein work is to be performed under this contract may be occupied by Government services during the construction period. The contractor shall have access to that portion of the area within which work is to be performed. The movement of contractor personnel, his equipment, materials, and tools shall be confined to this area so as not to interfere with ongoing operations in the work areas.

20. WORK BY THE GOVERNMENT

The Government reserves the right to undertake performance by Government forces or other contractors, for the same type or similar work as contracted for herein, as the Government deems necessary or desirable, and to do so will not breach or otherwise violate this contract

21. CONTRACTOR QUALITY CONTROL

a. The Contractor Quality Control (CQC) Plan, with which the contractor proposes to implement the requirements of FAR clause 52.246-12, entitled "Inspection of construction", shall identify personnel, procedures, instructions, records, and form to be used. After contract award, and prior to commencement of work under individual task orders, the contractor's Quality Control Plan shall be received, reviewed and formally accepted in writing by the Contracting Officer. Failure to execute the Quality Control Plan shall result in withholding of funds from progress payments in accordance with FAR Clause 52.232-5, entitled "Payment under Fixed-Price Construction Contracts".

b. The Quality Control Plan shall include as a minimum, the following:

- (1) The qualifications, duties, responsibilities, and authorities of each person assigned to a quality control function.
- (2) Procedures for scheduling and managing submittals, including those of subcontractors, offsite fabricators, suppliers, and purchasing agent.

c. Notification of Changes: The contractor shall notify the Contracting Officer in writing of any proposed changes. Proposed changes are subject to acceptance by the Contracting Officer. The Government reserves the right to require the contractor to make changes in his CQC Plan and operations as necessary.

d. Control: Contractor quality control is the means by which the contractor assures himself that his construction complies with the requirements of the contract plans and specifications. The controls shall be adequate to cover all construction operations, including both on-site and off-site fabrication, and shall be keyed to the proposed construction sequence. Quality control includes, as a minimum, the following functions:

- (1) All submittals are submitted in a timely fashion.
- (2) The submittals are approved.
- (3) The supplies that are delivered are the same as the ones on the submittal.
- (4) The supplies are in the proper condition when delivered.
- (5) The supplies are stored properly.
- (6) The construction equipment is correct and meets contract requirements.

- (7) Testing provisions are reviewed and testing equipment and personnel are available and correct.
- (8) All tests are performed at the proper times and in the proper places.
- (9) All test reports meet contract requirements.
- (10) The workers are cognizant of the required level of workmanship.
- (11) Inspect each area of work to ensure the preparation for the work is correct.
- (12) Inspect each feature of the work to ascertain that no deficient work is covered up by succeeding work.
- (13) Inspections shall continue throughout the contract.
- (14) Document all inspections.
- (15) The documentation covers both conforming and defective work.
- (16) All deficiencies are corrected.
- (17) Develop procedures to ensure that deficiencies do not recur.
- (18) Develop a "punch list" for the completion inspection.
- (19) Government officials are notified at the proper times of inspections and/or tests that are required.

22. RELEASE OF QUALITY CONTROL PLAN

The Government reserves the right, upon award of this contract, to disseminate within the Government, for official use, without prior approval of the contractor, the Quality Control Plan and other plans and documents identified and submitted by the contractor for the intended use of inspection, surveillance, or any administrative or contractual function under this contract.

23. DEVIATION FROM PROPOSED LIST OF SUBCONTRACTORS

a. The contractor shall update his list of subcontractors as frequent as subcontracting changes (increases/decreases) occur, and submit the updated list to the Contracting Officer within ten (10) working days of each change/deviation. This list shall contain all subcontractor deviations (increases/decreases) that vary from the original list of subcontractors provided in the quality proposal.

b. The contractor shall submit a list of subcontractors for each task order.

24. LABOR – ADDITIONAL REQUIREMENTS

a. Application of Wage Rates and Fringe Benefits: For the application of the wage rates and fringe benefits, contained in the Decisions of the Secretary of Labor, attached to and made a part of this contract, all work shall be considered building construction.

b. The Wage Decision applicable to the work performed will be reflected on each TO.

25. SAFETY ASSURANCE

a. **Preconstruction Safety Meetings:** If a pre-construction conference is held, representatives of the contractor shall meet with the Contracting Officer and/or the COTR prior to the start of repair, alteration, or construction activities for the purpose of reviewing the contractor's safety and health programs, and discussing implementation of all safety and health provisions pertinent to the work to be performed under the contract. The contractor shall be prepared to discuss, in detail, the measures he/she intends to take in order to control any unsafe or unhealthy conditions associated with the work to be performed under the contract. This meeting may be held in conjunction with the preconstruction conference, if so directed by the Contracting Officer or his/her designated representative. The conduct of this meeting is not contingent upon a general preconstruction meeting. The level of detail for the safety meeting is dependent upon the nature of the work and the potential inherent hazards. The contractor's principal representative(s), the general superintendent, and his/her safety representative(s) shall attend this meeting as determined by the Contracting Officer.

b. **Contractor Responsibility:** The contractor shall assume full responsibility and liability for compliance with all applicable regulations pertaining to the health and safety of personnel during the execution of work, and shall hold the Government harmless for any action on his part or that of his employees or subcontractors, which results in illness, injury, or death. Contractors shall report, timely, any accidents or injuries to the Contracting Officer.

c. **Inspection, Tests, and Reports:** The required inspections, tests, and reports made by the contractor, subcontractors, specially trained technicians, equipment manufacturers, and others, as required by a task order, shall be furnished in accordance with the terms of the task order.

d. **Materials and Equipment:** Special facilities, devices, equipment, clothing, and similar items used by the contractor in the execution of work shall comply with the applicable regulations.

26. KEYS

All keys provided the Contractor for use during performance of individual task orders shall be returned to the Contracting Officer's Technical Representative (COTR) at completion of the work or upon request. No keys shall be reproduced by the Contractor. There shall be a charge of \$50.00 for each key that is lost or not returned to the COTR. Payment shall be made to the Agent Cashier at the VAMC Chillicothe Ohio upon receipt of a Bill of Collection.

27. COMMENCEMENT OF WORK

The contractor shall commence any mobilization and phase-in activities prior to actual work on individual task orders as soon after contract award as practicable. However, within 30 calendar days after contract award, the contractor shall be operational and capable of immediately starting work on any required task orders.

28. NORMAL WORKING HOURS

Offerors shall perform any or all work during normal working hours in accordance with the scope of work in individual task orders against this contract for the unit price sum specified in the Unit Price Book, multiplied times the coefficient for Normal Working Hours. (See paragraph entitled "Work Hours".)

29. OTHER THAN NORMAL WORKING HOURS

Offers shall perform any or all work other than normal working hours (acceleration, or work to be performed outside the normal working hours (7:30 a.m. to 4:30 p.m., Monday through Friday) in accordance with the scope of work in individual task orders against this contract for the unit price sum specified in the Unit Price Book, multiplied times the coefficient for other than normal work hours, and will be used when the Government requires the contractor to perform work outside the facility's normal working hours. (See paragraph entitled "Work Hours".)

30. WORK HOURS

Normal work hours are from 7:30 a.m. to 4:30 p.m., Monday through Friday. Holidays falling on Saturday will be observed the preceding Friday, and holidays falling on Sunday will be observed the following Monday. The following federal holidays are observed:

New Year's Day	Labor Day
Martin Luther King's Birthday	Columbus Day
President's Day	Veteran's Day
Memorial Day	Thanksgiving Day
Independence Day	Christmas Day

31. WASTE AND EXCESS QUANTITIES INCLUDED IN THE COMPLETED-IN-PLACE CONSTRUCTION QUANTITIES

Waste or excess material quantities are incidental costs that are included within the contract coefficient unless explicitly stated otherwise. Quantities used on individual task order proposals shall be taken from field measurements or design plans, as appropriate, without allowance for waste. Contractor shall verify and/or investigating all dimensions and quantities to be used. Unless specifically stated in statement of work, the VA will not be responsible for any incorrect quantities.

32. OPERATIONS AND MAINTENANCE

Prior to final acceptance and payment of each task order, the contractor shall submit one (1) complete equipment listing, to include all name-plate data, and three (3)

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copies of all operation and maintenance manuals to the Contracting Officer for HVAC systems, electrical controls, etc. The contractor shall conduct a training session of not less than two (2) hours per piece of equipment and /or system, to brief Government personnel on the operation and maintenance procedures of such systems. The contractor shall provide three (3) complete teardown/overhaul/repair manuals for the chillers provided. The contractor shall provide two (2) complete service literature catalogs for the chiller manufacturer's engineering machinery products.

33. VETS 100:

Title 38, USC Section 4212(d) and Public Law 105-339, requires that federal contractors report, at least annually, the number and category of veterans who are within their workforce. Submission of the VETS 100 reporting information can be done electronically at: <http://vets100.cudenver.edu>. For procurement awards in excess of \$30,000, this report must be completed and accepted prior to any Federal contract award. Therefore, all potential contractors are encouraged to file every year.

34. CENTRAL CONTRACTOR REGISTRATION (CCR):

Federal Acquisition Regulations require that federal contractors register in the Central Contractor Registration (CCR) database at <http://www.ccr.gov> and enter all mandatory information into the system. Award cannot be made until the contractor has registered. Bidders are encouraged to ensure that they are registered in CCR prior to submitting their bid.

35. REQUIRED REGISTRATION WITH CONTRACTOR PERFORMANCE SYSTEM (CPS)

a. As prescribed in Federal Acquisition Regulation (FAR) Part 42.15, the Department of Veterans Affairs (VA) evaluates contractor past performance on all contracts that exceed \$100,000, and shares those evaluations with other Federal Government contract specialists and procurement officials. The FAR requires that the contractor be provided an opportunity to comment on past performance evaluations prior to each report closing. To fulfill this requirement VA uses an online database, the Contractor performance System (CPS) which is maintained by the National Institutes of Health (NIH). The CPS database information is shared with the Past Performance Information Retrieval System (PPIRS) database, which is available to all Federal agencies.

b. Each contractor whose contract award is estimated to exceed \$100,000 is required to register with the NIH CPS database at the following web address: <https://cpscontractor.nih.gov>. Help in registering can be obtained by contacting CPS Support E-mail (cps-support-1@list.nih.gov) or by calling (301) 451-2771. Registration should occur no later than thirty days after contract award, and must be kept current should there be any change to the contractor's registered representative.

c. For contracts with a period of one year or less, the contracting officer will perform a single evaluation when the contract is complete. For contracts exceeding one year, the contracting officer will evaluate the contractor's performance annually. Interim reports will be filed each year until the last year of the contract, when the final report will be completed. The report shall be assigned in CPS to the contractor's designated representative for comment. The

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contractor representative will have thirty days to submit any comments and reassign the report to the VA contracting officer.

d. Failure to have a current registration with the NIH CPS database, or to reassign the report to the VA contracting officer within those thirty days, will result in the Government's evaluation being placed on file in the database with a statement that the contractor failed to respond.

36. SPECIFICATIONS

Work shall be accomplished in accordance with the 'VA MASTER CONSTRUCTION SPECIFICATION PG-08-1" (provided on disk at contract award). This regulation is available for review at the Medical Center's Engineering Office. A copy of all sections will be provided to the contractor for work required under this contract.

37. CONFORMANCE TO CODES AND REGULATIONS.

National and international codes and regulations for building construction and safety will be used where applicable. Current architectural, engineering, and construction practices shall be incorporated in the project design to obtain quality and to provide a functional, complete, and usable facility. The applicable list of National Codes and Regulations (Latest Edition) includes, but is not limited to, the following:

- BOCA Code;
- International Building Code
- National Electric Code
- National Fire Protection Code
- National Safety Code
- OSHA Regulations
- ASHRA-E, Codes, Standards
- International Plumbing Code

38. NOTICE OF COMPLETION OF TASK ORDER.

The contractor shall notify the Contracting Officer, or his/her authorized representative in writing upon completion of each individual task order. The contractor shall give advance notice of the date the work will be fully completed and ready for final inspection.

SUBMISSION OF PROPOSAL AND EVALUATION CRITERIA

1. In as much as the proposal shall describe the capability of the Offeror to perform any resulting contract, the proposal should be specific and complete in every detail. The proposal should be prepared simply and economically, providing a straightforward and concise description of capabilities to satisfactorily perform the contract. The proposal should be practical, legible, clear, and coherent.

2. PROPOSAL SUBMISSION INSTRUCTIONS

2.1 Who May Submit: Any legally organized Verified Certified Service Disabled Veteran Owned Small Business may submit a proposal. **THE SDVOSB MUST BE VERIFIED WITH THE CVE OFFICE IN WASHINGTON, DC.**

2.2 Where to Submit: Offerors shall submit their proposals to the VAMC at the address shown in Block 8 of the Standard Form 1442.

2.3 Submission Deadline: Proposals shall be received no later than the time and date specified in Block 13 of Standard Form 1442.

2.4 General Requirements.

2.4.1 In order to effectively and equitably evaluate all proposals, the Contracting Officer must receive information containing sufficient detail to allow review and evaluation by the Government. Proposal clarity, organization, and cross-referencing are mandatory. Failure to submit and organize proposals as requested may adversely affect an Offeror's evaluation. Offerors should provide sufficient detail and clearly define all items required in this section.

2.4.2 Tabs. Proposal shall be organized and tabbed as shown in paragraph 2.5 Submission Format.

2.4.3 Size of Printed Matter Submissions.

2.4.3.1 Written materials shall be prepared on 8-1/2" x 11" paper.

2.4.4 Number of Copies. Offerors shall submit four (4) hard copies of Volume I, Technical Proposal and one (1) hard copy of Volume II, Cost Proposal.

2.5 Submission Format.

2.5.1 The proposals shall contain a detailed table of contents. If more than one binder is used, the complete table of contents shall be included in each. Any materials submitted but not required by the solicitation, (such as company brochures), shall be

relegated to appendices. The Proposal will be tabbed and submitted in three ring binders in the following format:

3. VOLUME I – Technical Proposal

The Technical Proposal will be submitted as a separately bound volume and will be evaluated separately from the Price Proposal. The following technical (non-priced) evaluation factors, listed in descending order of importance, will be used to determine the acceptability standards for non-cost factors. The subfactors within each evaluation factor are approximately equal in importance.

TECHNICAL PROPOSAL SHALL NOT INCLUDE ANY COST INFORMATION.

TAB A - FACTOR 1. RELEVANT EXPERIENCE

TAB B - FACTOR 2. CONTRACTOR ORGANIZATION (to include Sub Factors)

TAB C - FACTOR 3. TECHNICAL APPROACH (to include Sub Factors)

TAB D - FACTOR 4: PAST PERFORMANCE

4. VOLUME II: CONTRACT DOCUMENTS AND CONTRACT COEFFICIENT PROPOSAL

The Contract Documents & Price Proposal volume will be evaluated for completeness to insure that all mandatory pro-forma contract documents have been submitted (to include the cover letter, completed Standard Form 1442 (Solicitation, Offer, and Award), acknowledgment of receiving all amendments (by number), Offer Guarantee (Bid Bond), and all Representations & Certifications.

Offerors are reminded that as a basis for award, all technical evaluation factors, other than cost or price, when combined, are significantly more important than cost or price. Therefore, the Government reserves the right to award to other than the lowest proposed contract coefficient(s).

FACTOR 5: CONTRACT COEFFICIENTS-PROPOSAL

3.1. TAB A – SF 1442, completed and signed by an authorized person from the company or team

3.2. TAB B – Supplies or Services and Price/Costs Schedule (page 9 of RFP)

3.3. TAB C - Representations and Certifications or Statement of ORCA.

3.4. TAB D – PROPOSAL DATA SHEET – Ensure to include Offeror's telephone number, FAX number, e-mail address, Tax ID Number, and DUNS number. Duns number will be used to access CCASS data. Joint Ventures (J-V) must submit a DUNS number for each member of the J-V. If a separate DUNS has been created for the J-V it must be submitted as well.

3.5. TAB E – Bid Bond

(a) A bid guarantee is required in an amount not less than 20 percent of the maximum task order amount (\$500,000) but shall not exceed \$3,000,000. Failure to furnish the required bid guarantee in the proper form and amount, by the time set for opening of bids, will require rejection of the bid in all cases except those listed in FAR 28.101-4, and may be cause for rejection even then.

(b) If the contract will exceed \$150,000 (see FAR 28.102-1 for lesser amount), the bidder to whom award is made will be required to furnish two bonds, a Payment Bond, SF 25A, and a Performance Bond, SF 25, each in the penal sum as noted in the General Conditions of the Specification. Copies of SFs 25 and 25A may be obtained upon application to the issuing office.

3.6. TAB F – Financial Information (e.g. Latest Financial Statement, Annual Reports, Dun and Bradstreet ratings and/or number, etc.). A bank reference and a letter from your company on company letterhead authorizing the release of financial information from your bank, with point of contact and telephone number for verification.

3.7 TAB G – CVE Certification Letter

EVALUATION CRITERIA FOR AWARD (IAW FAR 15.204-5(c))

1. The process used for this solicitation will be a Best Value Request for Proposals (RFP) as outlined in the Federal Acquisition Regulation (FAR) Subpart 15.3 using the trade-off approach. Proposals will be evaluated in accordance with the criteria outlined in this document. One (1) contract will be awarded to the selected Offeror using competitive proposals. The objective of the selection process is to identify Offerors that can best meet the requirements set forth in the solicitation. This procedure will ensure evaluations are impartial, equitable, and comprehensive and will provide the Source Selection Authority with sufficient, detailed information to make a "best value" selection decision. Offerors will be provided Standard Form 1442, Solicitation Offer and Award, specifications and plans, submittal requirements, and the evaluation factors to be used. The Government will evaluate the offerors' qualifications against the evaluation criteria.

2. The Trade-Off process allows the flexibility to subjectively compare technical and cost factors to determine the value of relative strengths, weaknesses, and risks of the proposals. The tradeoff process is essential to evaluate and compare factors in addition to price in order to select the most advantageous proposal and obtain the best value to

the Government. This process also permits impartial and comprehensive evaluation of offerors' proposals and permits discussions if necessary. An award may also be made without discussion or any contact concerning the proposals received.

3. **EXCEPTIONS.** Exceptions to the contractual terms and conditions of the solicitation (e.g., standard company terms and conditions) may result in a determination to reject a proposal.

4. **RESTRICTIONS.** Failure to submit all the data in the format indicated in this section may be cause for determining a proposal incomplete and, therefore, not considered for evaluation, and for subsequent award.

A. The following information is provided in regards to evaluation factors:

The Technical Proposal will be submitted as a separately bound volume and will be evaluated separately from the Price Proposal. The following technical (non-priced) evaluation factors, listed in descending order of importance, will be used to determine the acceptability standards for non-cost factors. The subfactors within each evaluation factor are approximately equal in importance.

FACTOR 1. RELEVANT EXPERIENCE

A.1 Contractor shall demonstrate the overall qualifications and experience of the key personnel to include but not limited to the; 1) owner, 2) project estimators, 3) project managers and, 4) project superintendents. Contractor shall demonstrate each key personnel and their experience and qualifications related to but not limited to the following: 1) familiarity with codes, 2) safety, 3) infection control, and 4) historical preservation.

A.2 Contractor shall list all the projects as a prime contractor completed or currently accomplishing over the past three years to include; 1) Agency or owner, 2) Project Scope, and 3) Project Dollar Value.

A.3. Contractor shall list all subcontractors and projects completed or currently accomplishing over the past three years to include; 1) Agency or owner, 2) Project Scope, and 3) Project Dollar Value.

FACTOR 2. CONTRACTOR ORGANIZATION

B. **ORGANIZATION:** Contractor shall be evaluated on the following sub factors. The sub factors listed below are all approximately equal in importance.

B.1 Contractor shall demonstrate sufficient resources and depth to accomplish current and future projects both with the VA and other customers.

B.2 Contractor shall demonstrate the contractor's individual project bonding capability and total bonding capability.

Sub Factor 2.1 QUALIFICATIONS OF KEY PERSONNEL

The element for Qualifications of Key Personnel shall be evaluated as a measure of how the offeror's proposed staffing provides appropriate staffing levels with individuals who possess the experience, education, and proven capabilities necessary to successfully execute the potential workload described in the Statement of Work.

Sub Factor 2.2 ABILITY TO PROVIDE ON-SITE MANAGEMENT

The element for ability to provide on-site management shall be evaluated as a measure of how the offeror's proposed office will support the requirement to provide effective on-site management and timely responses to requests for on-site meetings within the two (2) hour minimum response time.

Sub Factor 2.3 KEY SUBCONTRACTORS

The element for Key Subcontractors shall be evaluated as a measure of how the offeror's proposed list of Key Subcontractors demonstrates effective business relationships necessary to execute specialty trade work that is typically subcontracted out. Offeror's shall list a minimum of one (1) and a maximum of three (3) proposed subcontractors for the following specialty trades: Mechanical; Electrical; Plumbing; and Sitework. The proposed Key Subcontractors will be evaluated on their qualification, capability, availability, and willingness to perform subcontract work for the Offeror.

FACTOR 3 TECHNICAL APPROACH

C. The Technical Approach factor shall be evaluated as a measure of how the offeror's proposed methods for the elements listed below will meet stated objectives of the Statement of Work and terms and conditions of the resulting contract(s) during the execution of projects (task orders) from initial development to project completion.

Within the Technical Approach factor, three (3) elements will be evaluated.

Sub Factor 3.1 QUALITY CONTROL

C.1. QUALITY CONTROL: Contractor shall demonstrate the Quality Control processes used by the contractor to ensure safe and quality projects are accomplished.

Sub Factor 3.2 TIMELINESS

The element for Timeliness shall be evaluated as a measure of how the offeror's proposed plan for executing projects (task orders) from the initial development to project completion will best meet the Government's requirements.

Sub Factor 3.3 INFECTION CONTROL

Discuss your ability to comply with the requirement of Infection Control in a hospital or medical center setting during the past three (3) years.

Sub Factor 3.4 SAFETY PLAN

Discuss your safety program in general, and provide as a minimum, details on training, documentation and your plan to ensure adherence to OSHA standards. Include with your proposal a full Safety Plan.

FACTOR 4. PAST PERFORMANCE

D. Past Performance: Prospective bidders/offerors are hereby notified that past performance evaluations will be conducted using the above requested information as well as information obtained from the Contractor Performance System (CPS), Past Performance Information Retrieval System (PPIRS), and /or any other sources deemed appropriate.

D.1 List all Contracts for hospital repair/renovation that were completed over the last 3 years where offeror was the prime/general contractor and the work involved multiple subcontractors with multiple projects running concurrently. Contractor shall provide owner reference (name, title, organization, address, phone number). Send "Past Performance Data Collection Form" (page 215) to each owner referenced and instruct him/her to complete form and return to VA prior to solicitation response due date.

D.2 Contractor shall be evaluated on the sub criterion listed below. The five (5) sub factors listed below are all approximately equal in importance.

D.2.1 How did the contractor perform related to providing a reasonable approach for items of change?

D.2.2 How did the contractor perform regarding the provision of feedback on design work in advance of work?

D.2.3 How did the contractor perform relative to completing the project in a timely fashion?

D.2.4 How did the contractor perform relative to completing the punch list in a timely and thorough manor?

D.2.5 What quality did the contractor achieve for the overall project?

FACTOR 5. CONTRACT COEFFICIENT-PROPOSAL

The contract coefficients for work during normal work hours and work during other than normal work hours will be evaluated using cost-price analysis techniques to determine if they are complete and reasonable. The non-pre-priced coefficients will be evaluated for reasonableness based on an analysis and comparison of the non-pre-priced coefficient as compared to the pre-priced coefficients(s). In evaluating the proposed coefficients, a clear audit trail must be evident as to the conversion of resource, overhead, and profit to the coefficients, and be consistent with the offeror's cost accounting system.

B. EVALUATION OF PROPOSAL.

1. The Government will evaluate the information submitted in response to the evaluation factors listed: Relevant I Experience, Contractor Organization & Technical Approach; Past Performance; and Contract Coefficients (price). The technical (non-price related) evaluation factors are listed in descending order of importance. Factor 1 is significantly more important than Factor 2. Factor 2 is more important than Factor 3. Factor 3 is more important than Factor 4. When combined, Factor 1 is more important than Factor 2, Factor 3, Factor 4 and Factor 5. Each of the sub-factors listed under the factors for Contractor Organization and Technical Approach are approximately equal in importance.

While the coefficients (price) evaluation factor is significantly less important than the Technical (non-price) factors, price will still be a substantial factor to determine overall value in the evaluation for award. The greater the equality of proposals, the more important price becomes in selecting the best value to the Government. Proposal risk is used to portray the evaluation of weaknesses in the offeror's proposals.

2. Proposals submitted in response to RFP VA-247-12-R-0127 shall include sections addressing Contractor Organization & Technical Approach; Past Performance; Relevant Experience, and Contract Coefficients (price). An Offeror's failure to provide the information specified in solicitation may result in that proposal not being considered for award. The proposal shall represent the Offeror's best effort to respond to the solicitation.

3. VA will use the general criteria in proposal evaluation as outlined in FAR 15.3.

4. BASIS FOR AWARD

4.1. As a basis for award, all technical evaluation factors, other than cost or price, when combined, are significantly more important than cost or price. THEREFORE, THE GOVERNMENT RESERVES THE RIGHT TO AWARD TO OTHER THAN THE

LOWEST PROPOSED CONTRACT COEFFICIENT(S). However, the degree of importance of price as a factor could become greater depending upon the equality of the proposals for factors evaluated. The greater the equality of proposals, the more important price, and other price factors become in selecting the best value to the Government. Unreasonably high or low proposed prices may be grounds for eliminating a proposal from competition either on the basis that the Offeror does not understand the requirement or the Offeror has made an unreasonable/unrealistic proposal.

Submittal requirements for the evaluation are contained in the "Evaluation Factors For Award" section of the solicitation. Offerors will also be required to separately submit their price proposals.

4.2. The Trade-Off process allows the flexibility to subjectively compare technical and cost factors to determine the value of relative strengths, weaknesses, and risks of the proposals. The tradeoff process is essential to evaluate and compare factors in addition to price in order to select the most advantageous proposal and obtain the best value to the Government.

END OF SECTION

SECTION 01 00 00
GENERAL REQUIREMENTS

B. 1.1 GENERAL INTENTION

- A. Contractor shall completely prepare site for building operations, including demolition and removal of existing items, and furnish labor and materials and perform work for project 538-12-104, entitled Window IDIQ at VAMC, Chillicothe, Ohio, as required by drawings and specifications.
- B. Visits to the site by bidders will be in accordance with FAR 52.236-27, Site Visits.
- C. COTR's of VAMC Chillicothe, Ohio will render technical services during construction. Such services shall be considered as advisory to the Government and shall not be construed as expressing or implying a contractual act of the Government without affirmations by Contracting Officer or his duly authorized representative. All inquiries and/or questions shall be directed to the Contracting Officer as outlined in paragraph 1.1G below.
- D. All employees of general contractor and subcontractors shall comply with VA security management program and obtain permission of the VA police, be identified by project and employer, and restricted from unauthorized access.
- E. Prior to commencing work, general contractor shall provide proof that an OSHA Construction Outreach "competent person" (CP) (29 CFR 1926.20 will maintain a presence at the work site whenever the general or subcontractor(s) are present.
- F. Training:
 - 1. All employees of general contractor or subcontractors shall have the 10-hour OSHA Construction Outreach Safety course and/or other relevant competency training required by OSHA, as determined by VA CP with input from the VA Infection Control Risk Assessment (ICRA) team.

2. Submit all related training records of all such employees for approval before the start of work.

G. Request for Information:

1. In the event an explanation or interpretation of the drawings or specifications is necessary, submit the request using RFI (Request for Information) Form included in the EXHIBITS SECTION of these specifications. Such requests shall be submitted to the Contracting Officer soon enough to allow a reply so as to effect the project as little as possible.

C. 1.2 STATEMENT OF BID ITEM(S)

- A. BID ITEM I (BASE BID): Contractor shall completely prepare the site for building operations, including demolition, removal of existing items, and furnish labor, materials and equipment necessary to complete all new construction which includes but not limited to demolition, architectural, construction phasing, interior finishes, mechanical, electrical and plumbing as shown and specified. Work to be completed within 180 calendar days after receipt of Notice to Proceed.

D. 1.3 SPECIFICATIONS AND DRAWINGS FOR CONTRACTOR

- A. AFTER AWARD OF CONTRACT, zero sets of specifications and drawings will be furnished.

E. 1.4 FIRE AND SAFETY PRECAUTIONS

- A. Applicable Publications: Publications listed below form part of this Article to extent referenced. Publications are referenced in text by basic designations only.
 1. American Society for Testing and Materials (ASTM):
 - F. E84-1998 Surface Burning Characteristics of Materials
 2. National Fire Protection Association (NFPA):
 - G. 10-1998 Standard for Portable Fire Extinguishers
 - H. FCLCH-30-2000 Flammable and Combustible Liquids Code

- I. 51B-1999 Standard for Fire Prevention During Welding, Cutting and Other Hot Work
 - J. 70-2000 National Electric Code
 - K. 241-2000 Standard for Safeguarding Construction, Alterations and Demolition Operations
3. Occupational Safety and Health Administration (OSHA):
- L. 29 CFR 1926 Safety and Health Regulations for Construction
 - M. 29 CFR 1910 Safety and Health Regulations for General Industry
- B. Fire Safety Plan: Establish and maintain a fire protection program in accordance with 29 CFR 1926 and NFPA. Prior to start of work, prepare a plan detailing project-specific fire safety measures, including periodic status reports, and submit to Resident Engineer for review for compliance with contract requirements in accordance with Section 01 33 23 , SHOP DRAWINGS, PRODUCT DATA AND SAMPLES. Prior to any worker for the contractor or subcontractors beginning work, they shall undergo a safety briefing (toolbox talks) provided by the general contractor's competent person per OSHA requirements. This briefing shall include information on the construction limits, VAMC safety guidelines, means of egress, break areas, work hours, locations of restrooms, use of VAMC equipment, etc. Documentation shall be provided to the Resident Engineer that individuals have undergone contractor's safety briefing. A monthly status report shall be provided during the entire construction detailing the status of each measure.
- C. The contractor is to keep all tools and equipment under his direct, personal control so that no unauthorized use of tools and equipment can occur.
- D. All tools, equipment, and materials are to be placed within locked, physically secure, and weather proof enclosures at the end of each workday.
- E. Temporary Construction Partitions:

1. Install and maintain temporary construction partitions to provide smoke-tight separations between construction areas during each phase and adjoining areas. Construct partitions of gypsum board or treated plywood (flame spread rating of 25 or less in accordance with ASTM E84) on both sides of fire retardant treated wood or metal steel studs. Extend the partition through suspended ceilings to floor slab deck or roof. Seal joints and penetrations. At door openings, install Class C, 3/4 hour fire/smoke rated doors with self closing devices.
 2. Install one-hour fire-rated temporary construction partitions as shown on the drawings to maintain integrity of existing smoke barriers and openings enclosures.
 3. Close openings in smoke barriers and fire-rated construction to maintain fire ratings. Seal penetrations with listed through-penetration fire stop materials in accordance with Section 07 84 00, FIRESTOPPING.
- F. Site and Building Access: Exits for VA occupied areas of a building including rooms, suites, corridors and floors shall not be blocked by the construction or by construction materials in accordance with NFPA 241. Exits may be blocked temporarily if it is unavoidable and adequate alternate measures are provided such as signage, instructions to occupants and a heat detection system.
- G. Existing Fire Protection: Do not impair automatic sprinklers, smoke and heat detection, and fire alarm systems, except for portions immediately under construction, and temporarily for connection. Provide fire watch for impairments more than 4 hours in a 24-hour period. Request interruptions in accordance with Article, OPERATIONS AND STORAGE AREAS, and coordinate with Resident Engineer. All existing or temporary fire protection systems (fire alarms, sprinklers) located in construction areas shall be tested by the Contractor in the presence of the Resident Engineer. Parameters for the testing shall be approved by the Resident Engineer. Results of any tests performed shall be recorded by the Contractor and copies provided to the Resident Engineer.
- H. All work areas are to be kept clear of accumulated debris at all times in accordance with NFPA 241. At the end of each workday, combustible packaging and crating materials for building products and equipment to be installed shall be

removed from construction area, stored in approved container or area, until removal from station by contractor. All work areas are to be in a broom clean condition at the end of each workday.

- I. Fire Extinguishers: Provide and maintain extinguishers in construction areas and temporary storage areas in accordance with 29 CFR 1926, NFPA 241 and NFPA 10.
- J. As required by the Joint Commission on Accreditation of Healthcare Organizations, smoking shall be prohibited in or adjacent to all construction areas in existing buildings. Smoking shall be prohibited at or near or throughout demolition areas. See Medical Center Smoking Policy located in the EXHIBITS SECTION of the Specifications.
- K. Weekly fire and safety hazard inspections shall be conducted by the contractor once construction starts and until the project is turned over to the Government. A report shall be provided to the Resident Engineer listing all hazards and corrective actions taken.
- L. Temporary structures, including trailers that are used for storage or offices, shall be a minimum of 30 feet from any VA occupied building in accordance with NFPA 241.
- M. Temporary Heating and Electrical: Install, use and maintain installations in accordance with 29 CFR 1926, NFPA 241 and NFPA 70.
- N. All flammable liquids shall be handled, stored and used in accordance with 29 CFR 1926, NFPA 241 and NFPA 30.
- O. Installation of sprinkler systems, standpipe systems, fire hydrants, and fire alarm systems, shall be given priority and placed into service as soon as practical.
- P. Maintain construction site to permit access of fire department vehicles as necessary. Clear building construction areas of unnecessary obstructions so that all portions are accessible for fire department apparatus and permit emergency egress of construction and other personnel.

- Q. All necessary precautions shall be taken by the contractor to prevent accidental operation of any existing smoke detectors by minimizing the amount of dust generated in the vicinity of any smoke detectors.
- R. All construction activities not already covered above shall be in accordance with NFPA 241.
- S. Perform other construction, alterations and demolition operations in accordance with 29CFR 1926/1910.
- T. The contractor shall notify the Contracting Officer, in writing, of any on-site job related injuries/illnesses which occur during performance of work under this contract. This notification is to be provided to the Contracting Officer as soon as possible but not later than 24 hours after the incident occurs.

N. 1.5 OPERATIONS AND STORAGE AREAS

NOTE: The following paragraphs are in addition to FAR 52.236-10 Clause OPERATIONS AND STORAGE AREAS.

- A. The contractor shall confine all operations (including storage of materials) on Government premises to areas authorized or approved by the Contracting Officer. The Contractor shall hold and save the Government, its officers and agents, free and harmless from liability of any nature occasioned by the Contractor's performance.
- B. Temporary buildings (e.g., storage sheds, shops, offices) and utilities may be erected by the Contractor only with the approval of the Contracting Officer and shall be built with labor and materials furnished by the Contractor without expense to the government. The temporary buildings and utilities shall remain the property of the Contractor and shall be removed by the Contractor at its expense upon completion of the work.
- C. The Contractor shall, under regulations prescribed by the Contracting Officer, use only established roadways, or use temporary roadways constructed by the Contractor when and as authorized by the Contracting Officer. When materials are transported in prosecuting the work, vehicles shall not be loaded beyond the

loading capacity recommended by the manufacturer of the vehicle or prescribed by any Federal, State or local law or regulation. When it is necessary to cross curbs or sidewalks, the Contractor shall protect them from damage. The Contractor shall repair or pay for the repair of any damaged curbs, sidewalks, roads and lawn areas.

D. Working space and space available for storing materials shall be as shown on the drawings and as determined by the Resident Engineer.

E. Workmen are subject to rules of Medical Center applicable to their conduct.

F. Execute work so as to interfere as little as possible with normal functioning of Medical Center as a whole, including operations of utility services, fire protection systems and any existing equipment, and with work being done by others. Use of equipment and tools that transmit vibrations and noises through the building structure, are not permitted in buildings that are occupied, during construction, jointly by patients or medical personnel, and Contractor's personnel, except as permitted by Resident Engineer where required by limited working space.

1. Do not store materials and equipment in other than assigned areas.

2. Schedule delivery of materials and equipment to immediate construction working areas within buildings in use by Department of Veterans Affairs in quantities sufficient for not more than two work days. Provide unobstructed access to Medical Center areas required to remain in operation.

3. Where access by Medical Center personnel to vacated portions of buildings is not required, storage of Contractor's materials and equipment will be permitted subject to fire and safety requirements and approval of the Contracting Officer's Technical Representative (COTR).

G. Phasing: To insure such executions, Contractor shall furnish the Resident Engineer with a schedule of approximate phasing dates on which the Contractor intends to accomplish work in each specific area of site, building, or portion thereof. In addition, Contractor shall notify the Resident Engineer two weeks in advance of the proposed date of starting work in each specific area of site, building, or portion thereof. Arrange such phasing dates to insure

accomplishment of this work in successive phases mutually agreeable to Resident engineer and contracting officer.

1. The Contractor shall take all measures and provide all material necessary for protecting existing equipment and property in affected areas of construction against dust and debris, so that equipment and affected areas to be used in the Medical Center's operations will not be hindered. Contractor shall permit (safe) access to Veterans Affairs personnel and patients through other construction areas which serve as routes of access to such affected areas and equipment. Coordinate alteration work in areas occupied by Department of Veterans Affairs so that hospital operations will continue during the construction period.

I. Construction Fence: Before construction operations begin, Contractor shall provide a chain link construction fence around the construction area(s) indicated on the drawings and as directed by the resident engineer. Provide gates as required for access with necessary hardware, including hasps and padlocks. Details of fence construction and finish thereof shall be submitted to Resident Engineer for approval. Remove the fence when directed by the Resident Engineer.

J. Utilities Services: Maintain existing utility services for Medical Center at all times. Provide temporary facilities, labor, materials, equipment, connections, and utilities to assure uninterrupted services. Where necessary to cut existing water, steam, gases, sewer or air pipes, or conduits, wires, cables, etc. of utility services, or of fire protection systems or communications systems (including telephone), they shall be cut and capped at suitable places where shown; or, in absence of such indication, where directed by Resident Engineer.

1. No utility service such as water, gas, steam, sewers or electricity, or fire protection systems and communications systems may be interrupted without prior approval of Resident Engineer.

2. Contractor shall submit a request to interrupt any such services to Resident Engineer, in writing, five (5) working days in advance of proposed interruption. Request shall state reason, date, exact time of, and approximate duration of such interruption.

3. Contractor will be advised (in writing) of approval of request, or of which other date and/or time such interruption will cause least inconvenience to operations of Medical Center. Interruption time approved by Medical Center may occur at other than Contractor's normal working hours.

4. In case of a contract construction emergency, services will be interrupted on approval of Resident Engineer. Such approval will be confirmed in writing as soon as practical.

5. Major interruptions of any system must be requested, in writing, at least 15 calendar days prior to the desired time and shall be performed as directed by the Resident Engineer.

K. Abandoned Lines: All service lines such as wires, cables, conduits, ducts, pipes and the like, and their hangers or supports, which are to be abandoned but are not required to be entirely removed, shall be sealed, capped or plugged. The lines shall not be capped in finished areas, but shall be removed and sealed, capped or plugged in ceilings, within furred spaces, in unfinished areas, or within walls or partitions; so that they are completely behind the finished surfaces.

L. To minimize interference of construction activities with flow of Medical Center traffic, comply with the following:

1. Keep roads, walks and entrances to grounds, to parking and to occupied areas of buildings clear of construction materials, debris and standing construction equipment and vehicles.

2. Method and scheduling of required cutting, altering and removal of existing walks and entrances must be approved by the Resident Engineer.

M. Coordinate the work for this contract with other construction operations as directed by Resident Engineer. This includes the scheduling of traffic and the use of roadways, as specified in Article, USE OF ROADWAYS.

N. Hours of Work: The work of this contract is to be executed between 7:15 a.m. and 3:45 p.m., Monday through Friday, except as required by the specifications and/or otherwise authorized by the Resident Engineer. Work in occupied spaces shall be scheduled at times convenient to the occupant and the Medical Center.

No work will be performed on Government recognized holidays, except as required by the specifications and/or otherwise authorized by the Resident Engineer.

- O. Keys: Any keys necessary to gain entry to work areas or other spaces associated with performing work will be issued to the Contractor's representative on a daily basis. Keys will be signed out after 7:15 a.m. and returned before 3:45 p.m. from the Engineering Office, Building 21, each day when necessary to gain access. Failure to return any issued keys may result in a charge to include costs to re-key areas associated with the keys involved.

O. 1.6ALTERATIONS

- A. Survey: Before any work is started, the Contractor shall make a thorough survey with the Resident Engineer and a representative of VA Acquisition and Materiel Management Service of areas of buildings in which alterations occur and areas which are anticipated routes of access, and furnish a report, signed by all three, to the Contracting Officer. This report shall list by rooms and spaces:
 - 1. Existing condition and types of resilient flooring, doors, windows, walls and other surfaces not required to be altered throughout affected areas of buildings.
 - 2. Existence and conditions of items such as plumbing fixtures and accessories, electrical fixtures, equipment, venetian blinds, shades, etc., required by drawings to be either reused or relocated, or both.
 - 3. Shall note any discrepancies between drawings and existing conditions at site.
 - 4. Shall designate areas for working space, materials storage and routes of access to areas within buildings where alterations occur and which have been agreed upon by Contractor and the Resident Engineer.
- B. Any items required by drawings to be either reused or relocated or both, found during this survey to be nonexistent, or in opinion of Resident Engineer and Acquisition and Materiel Management Service, to be in such condition that their use is impossible or impractical, shall be furnished and/or replaced by Contractor with new items in accordance with specifications which will be furnished by Government. Provided the contract work is changed by reason of this

subparagraph B, the contract will be modified accordingly, under provisions of clause entitled "DIFFERING SITE CONDITIONS" (FAR 52.236-2) and "CHANGES" (FAR 52.243-4 and VAAR 852.236-88).

C. Re-Survey: Thirty days before expected partial or final inspection date, the Contractor and Resident Engineer together shall make a thorough re-survey of the areas of buildings involved. They shall furnish a report on conditions then existing, of resilient flooring, doors, windows, walls and other surfaces as compared with conditions of same as noted in first condition survey report.

1. Re-survey report shall also list any damage caused by Contractor to such flooring and other surfaces, despite protection measures; and, will form basis for determining extent of repair work required of Contractor to restore damage caused by Contractor's workmen in executing work of this contract.

D. Protection: Provide the following protective measures:

1. Wherever existing roof surfaces are disturbed they shall be protected against water infiltration. In case of leaks, they shall be repaired immediately upon discovery.

2. Temporary protection against damage for portions of existing structures and grounds where work is to be done, materials handled and equipment moved and/or relocated.

3. Protection of interior of existing structures at all times, from damage, dust and weather inclemency. Wherever work is performed, floor surfaces that are to remain in place shall be adequately protected prior to starting work, and this protection shall be maintained intact until all work in the area is completed.

4. Dampen debris to keep down dust and provide temporary construction partitions in existing structures where directed by Resident Engineer. Blank off ducts and diffusers to prevent circulation of dust into occupied areas during construction.

a. When local building code requires temporary closures to have a fire rating, the design of the closures and the materials of which they are constructed shall be such as will provide the required fire rating.

P. 1.7 INFECTION PREVENTION MEASURES

- A. Implement the requirements of VAMC's Infection Control Assessment (ICRA) team. ICRA Group may monitor dust in the vicinity of the construction work and require the Contractor to take corrective action immediately if the safe levels are exceeded.
- B. Establish and maintain a dust control program as part of the contractor's infection preventive measures in accordance with the guidelines provided by ICRA Group as specified here. Prior to start of work, prepare a plan detailing project-specific dust protection measures, including periodic status reports, and submit to Resident Engineer thru the Contracting Officer for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES and the Addendum included at the end of this section.
 - 1. All personnel involved in the construction or renovation activity shall be educated and trained in infection prevention measures established by the Medical Center.
- C. Medical Center Infection Control personnel shall monitor for airborne disease (e.g. aspergillosis) as appropriate during construction. A baseline of conditions may be established by the Medical Center prior to the start of work and periodically during the construction stage to determine impact of construction activities on indoor air quality. In addition:
 - 1. The COTR and VAMC Infection Control personnel shall review pressure differential monitoring documentation to verify that pressure differentials in the construction zone and in the patient-care rooms are appropriate for their settings. The requirement for negative air pressure in the construction zone shall depend on the location and type of activity. Upon notification, the Contractor shall implement corrective measures to restore proper pressure differentials as need.
 - 2. In case of any problem, the Medical Center, along with assistance from the Contractor, shall conduct an environmental assessment to find and eliminate source.
- D. In general, the following preventive measures shall be adopted during construction to keep down dust and prevent mold.

1. Dampen debris to keep down dust and provide temporary construction partitions in existing structures where directed by Resident Engineer. Blank off ducts and diffusers to prevent circulation of dust into occupied areas during construction.
2. Do not perform dust producing tasks within occupied areas without the approval of the Resident Engineer. For construction in any areas that will remain jointly occupied by the Medical Center and Contractor's workers, the Contractor shall COMPLY with the provisions set forth in the attached addendum at the end of this section.

Q. 1.8DISPOSAL AND RETENTION:

A. Materials and equipment accruing from work removed and from demolition of structures, or parts thereof, shall be disposed of as follows:

1. Reserved items which are to remain property of the Government are noted on drawings or in specifications as items to be stored. Items which remain property of the Government shall be removed or dislodged from present locations in such a manner as to prevent damage which would be detrimental to reinstallation and reuse. Store such items where directed by Resident Engineer.
2. Items not reserved shall become property of the Contractor and be removed by Contractor from Medical Center.
3. Items of portable equipment and furnishings located in rooms and spaces in which work is to be done under this contract shall remain the property of the Government. When rooms and spaces are vacated by the Department of Veterans Affairs during the alteration period, such items which are NOT required by drawings and specifications to be either relocated or reused will be removed by the Government in advance of work to avoid interfering with Contractor's operation.

**R. 1.9PROTECTION OF EXISTING VEGETATION, STRUCTURES,
EQUIPMENT, UTILITIES, AND IMPROVEMENTS**

NOTE: The following paragraph is in addition to FAR 52.236-9 Clause PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS.

- A. The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site,

which are not to be removed and which do not reasonably interfere with the work required under this contract. The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during contract performance, or by the careless operation of equipment, or by workman, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree pruning compound as directed by the Contracting Officer.

- B. Refer to Articles, "Alterations," "Restoration," and "Operations and Storage Areas" for additional instructions concerning repair of damage to structures and site improvements.

S. 1.10 RESTORATION

- A. Remove, cut, alter, replace, patch and repair existing work as necessary to install new work. Except as otherwise shown or specified, do not cut, alter or remove any structural work, and do not disturb any ducts, plumbing, steam, gas, or electric work without approval of the Resident Engineer. Existing work to be altered or extended and that is found to be defective in any way, shall be reported to the Resident Engineer before it is disturbed. Materials and workmanship used in restoring work, shall conform in type and quality to that of original existing construction, except as otherwise shown or specified.
- B. Upon completion of contract, deliver work complete and undamaged. Existing work (walls, ceilings, partitions, floors, mechanical and electrical work, lawns, paving, roads, walks, etc.) disturbed or removed as a result of performing required new work, shall be patched, repaired, reinstalled, or replaced with new work, and refinished and left in as good condition as existed before commencing work.
- C. At Contractor's own expense, Contractor shall immediately restore to service and repair any damage caused by Contractor's workmen to existing piping and conduits, wires, cables, etc., of utility services or of fire protection systems and

communications systems (including telephone) which are indicated on drawings and which are not scheduled for discontinuance or abandonment.

- D. Expense of repairs to such utilities and systems not shown on drawings or locations of which are unknown will be covered by adjustment to contract time and price in accordance with clause entitled "CHANGES" (FAR 52.243-4 and VAAR 852.236-88) and "DIFFERING SITE CONDITIONS" (FAR 52.236-2).

T. 1.11 PROFESSIONAL SURVEYING SERVICES

A registered professional land surveyor or registered civil engineer whose services are retained and paid for by the Contractor shall perform services specified herein and in other specification sections. The Contractor shall certify that the land surveyor or civil engineer is not one who is a regular employee of the Contractor, and that the land surveyor or civil engineer has no financial interest in this contract.

U. 1.12 LAYOUT OF WORK

- A. The Contractor shall layout the work from Government established base lines and bench marks, indicated on the drawings, and shall be responsible for all measurements in connection with the layout. The Contractor shall furnish, at Contractor's own expense, all stakes, templates, platforms, equipment, tools, materials, and labor required to lay out any part of the work. The Contractor shall be responsible for executing the work to the lines and grades that may be established or indicated by the Contracting Office.
- B. Establish and plainly mark center lines for each addition to each existing building and such other lines and grades that are reasonably necessary to properly assure that location, orientation, and elevations established for each such structure and/or addition are in accordance with lines and elevations shown on the contract drawings.
- C. Following completion of general mass excavation and before any other permanent work is performed, establish and plainly mark (through use of appropriate batter boards or other means) sufficient additional survey control

points or system of points as may be necessary to assure proper alignment, orientation, and grade of all major features of work. Survey shall include, but not limited to, location of lines and grades of footings, exterior walls, center lines of columns in both directions, major utilities and elevations of floor slabs:

1. Such additional survey control points or systems of points thus established shall be checked and certified by a registered land surveyor or registered civil engineer. Furnish such certification to the Resident Engineer before any work (such as footings, floor slabs, columns, walls, utilities and other major controlling features) is placed.

- D. Whenever changes from contract drawings are made in line or grading requiring certificates, record such changes on a reproducible drawing bearing the registered land surveyor or registered civil engineer seal, and forward these drawings upon completion of work to Resident Engineer.
- E. The Contractor shall perform the surveying and layout work of this and other articles and specifications in accordance with the provisions of Article "PROFESSIONAL SURVEYING SERVICES".

V. 1.13 AS-BUILT DRAWINGS

- A. The contractor shall maintain two full size sets of as-built drawings which will be kept current during construction of the project, to include all contract changes, modifications and clarifications.
- B. All variations shall be shown in the same general detail as used in the contract drawings. To insure compliance, as-built drawings shall be made available for the Resident Engineer's review, as often as requested.
- C. Contractor shall deliver two approved completed sets of as-built drawings to the Resident Engineer within 15 calendar days after each completed phase and after acceptance of the project by the Resident Engineer.
- D. Paragraphs A, B, and C shall also apply to all shop drawings.

W. 1.14 USE OF ROADWAYS

For hauling, use only established public roads and roads on Medical Center property and, when authorized by the Resident Engineer, such temporary roads which are necessary in the performance of contract work. Temporary roads shall be constructed by the Contractor at Contractor's expense. When necessary to cross curbing, sidewalks, or similar construction, they must be protected by well-constructed bridges.

X. 1.15 TEMPORARY TOILETS

Contractor may have for use of Contractor's workmen, such toilet accommodations as may be assigned to Contractor by Medical Center. Contractor shall keep such places clean and be responsible for any damage done thereto by Contractor's workmen. Failure to maintain satisfactory condition in toilets will deprive Contractor of the privilege to use such toilets.

Y. 1.16 AVAILABILITY AND USE OF UTILITIES

NOTE: The following paragraphs are in addition to FAR 52.236-14 AVAILABILITY AND USE OF UTILITY SERVICES.

- A. Heat: Furnish temporary heat necessary to prevent injury to work and materials through dampness and cold. Use of open salamanders or any temporary heating devices which may be fire hazards or may smoke and damage finished work, will not be permitted. Maintain minimum temperatures as specified for various materials.
 - 1. Obtain heat by connecting to Medical Center heating distribution system.
 - a. Steam is available at no cost to Contractor.
- B. Electricity (for Construction and Testing): Furnish all temporary electric services.
 - 1. Obtain electricity by connecting to the Medical Center electrical distribution system. The Contractor shall meter and pay for electricity required for electric cranes and hoisting devices, electrical welding devices and any electrical heating devices

providing temporary heat. Electricity for all other uses is available at no cost to the Contractor.

C. Water (for Construction and Testing): Furnish temporary water service.

1. Obtain water by connecting to the Medical Center water distribution system.

Provide reduced pressure backflow preventer at each connection. Water is available at no cost to the Contractor.

2. Maintain connections, pipe, fittings and fixtures, and conserve water-use so none is wasted. Failure to stop leakage or other wastes will be cause for revocation (at Resident Engineer's discretion) of use of water from Medical Center's system.

D. Steam: Furnish steam system for testing required in various sections of specifications.

1. Obtain steam for testing by connecting to the Medical Center steam distribution system. Steam is available at no cost to the Contractor.

2. Maintain connections, pipe, fittings and fixtures and conserve steam-use so none is wasted. Failure to stop leakage or other waste will be cause for revocation (at Resident Engineer's discretion), of use of steam from the Medical Center's system.

Z. 1.17 TESTS

A. Pre-test mechanical and electrical equipment and systems and make corrections required for proper operation of such systems before requesting final tests. Final test will not be conducted unless pre-tested.

B. Conduct final tests required in various sections of specifications in presence of an authorized representative of the Contracting Officer. Contractor shall furnish all labor, materials, equipment, instruments, and forms, to conduct and record such tests.

C. Mechanical and electrical systems shall be balanced, controlled and coordinated. A system is defined as the entire complex which must be coordinated to work together during normal operation to produce results for which the system is designed. For example, air conditioning supply air is only one part of entire system which provides comfort conditions for a building. Other related

components are return air, exhaust air, steam, chilled water, refrigerant, hot water, controls and electricity, etc. Another example of a complex which involves several components of different disciplines is a boiler installation. Efficient and acceptable boiler operation depends upon the coordination and proper operation of fuel, combustion air, controls, steam, feed water, condensate and other related components.

- D. All related components as defined above shall be functioning when any system component is tested. Tests shall be completed within a reasonably short period of time during which operating and environmental conditions remain reasonably constant.
- E. Individual test result of any component, where required, will only be accepted when submitted with the test results of related components and of the entire system.

AA. 1.18 INSTRUCTIONS

- A. Contractor shall furnish Maintenance and Operating manuals and verbal instructions when required by the various sections of the specifications and as hereinafter specified.
- B. Manuals: Maintenance and operating manuals (four copies each) for each separate piece of equipment shall be delivered to the Resident Engineer coincidental with the delivery of the equipment to the job site. Manuals shall be complete, detailed guides for the maintenance and operation of equipment. They shall include complete information necessary for starting, adjusting, maintaining in continuous operation for long periods of time and dismantling and reassembling of the complete units and sub-assembly components. Manuals shall include an index covering all component parts clearly cross-referenced to diagrams and illustrations. Illustrations shall include "exploded" views showing and identifying each separate item. Emphasis shall be placed on the use of special tools and instruments. The function of each piece of equipment, component, accessory and control shall be clearly and thoroughly explained. All

necessary precautions for the operation of the equipment and the reason for each precaution shall be clearly set forth. Manuals must reference the exact model, style and size of the piece of equipment and system being furnished. Manuals referencing equipment similar to but of a different model, style, and size than that furnished will not be accepted.

- C. Instructions: Contractor shall provide qualified, factory trained manufacturers' representatives to give detailed instructions to assigned Department of Veterans Affairs personnel in the operation and complete maintenance for each piece of equipment. All such training will be at the job site. These requirements are more specifically detailed in the various technical sections. Instructions for different items of equipment that are component parts of a complete system, shall be given in an integrated, progressive manner. All instructors for every piece of component equipment in a system shall be available until instructions for all items included in the system have been completed. This is to assure proper instruction in the operation of inter-related systems. All instruction periods shall be at such times as scheduled by the Resident Engineer and shall be considered concluded only when the Resident Engineer is satisfied in regard to complete and thorough coverage. The Department of Veterans Affairs reserves the right to request the removal of, and substitution for, any instructor who, in the opinion of the Resident Engineer, does not demonstrate sufficient qualifications in accordance with requirements for instructors above.

BB. 1.19 GOVERNMENT-FURNISHED PROPERTY

- A. There is no Government Furnished Property for this project.

CC. 1.20 RELOCATED EQUIPMENT ITEMS

- A. Contractor shall disconnect, dismantle as necessary, remove and reinstall in new location, all existing equipment and items shown to be relocated by the Contractor.
- B. Perform relocation of such equipment or items at such times and in such a manner as directed by the Resident Engineer.

- C. Suitably cap existing service lines, such as steam, condensate return, water, drain, gas, air, vacuum and/or electrical, whenever such lines are disconnected from equipment to be relocated. Remove abandoned lines in finished areas and cap as specified hereinbefore under paragraph "Abandoned Lines."
- D. Provide all mechanical and electrical service connections, fittings, fastenings and any other materials necessary for assembly and installation of relocated equipment; and leave such equipment in proper operating condition.
- E. All service lines such as noted above for relocated equipment shall be in place at point of relocation ready for use before any existing equipment is disconnected. Make relocated existing equipment ready for operation or use immediately after reinstallation.

DD. 1.21 HISTORIC PRESERVATION

Where the Contractor or any of the Contractor's employees, prior to, or during the construction work, are advised of or discover any possible archeological, historical and/or cultural resources, the Contractor shall immediately notify the Resident Engineer verbally, and then with a written follow up.

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ADDENDUM TO GENERAL REQUIREMENTS
INTERIM INFECTION CONTROL MEASURES

PART 1 • GENERAL

1.1 QUALITY ASSURANCE

A. The VAMC-Chillicothe has designated this project to require Interim Infection Control Measures, and has determined that Class IV requirements shall be met during construction:

B. Healthcare associated infections of immune compromised patients, staff and visitors may be
caused by exposure to airborne contaminants.

1. Construction, renovation and repair activities may generate suspended fungal spores
and/or bacterial contaminants from dust, debris and earthwork excavation dust.

2. Fungal spores can be carried by air currents to remote locations within a facility.

3. Control of airborne contaminants in smoke, construction dust, debris and excavation dust as required by this Section is imperative.

C. Interim Infection Control Measures (IICM) shown on the Infection Control Plan shall provide an appropriate level of safety when there are conditions that increase the risk of healthcare-associated infections.

D. The VAMC-Chillicothe may provide baseline particle counts and conduct periodic air sampling of protection areas during construction to monitor effectiveness of IICM.

E. The Contractor shall comply with applicable codes, VA guidelines and use installation procedures and methods that satisfy applicable code requirements and procedures.

F. The Contractor shall verify the maintenance of negative air pressure in containment area
relative to protection areas on a continuous basis by use of differential pressure monitors.

G. If the Contractor fails to maintain infection control procedures:

1. The VAMC-Chillicothe may issue written warning or Non-conformance Notice.
2. The Contractor shall correct non-conformance immediately.
3. If situation is not corrected within four (4) hours of receipt of warning or Non- conformance Notice, the VAMC-Chillicothe will have cause to stop Work as provided in Contract Documents at no additional cost to the VAMC-Chillicothe.
4. If determined to be an immediate threat to health and well-being, an immediate stop work may be issued.

H. If environmental contaminants or asbestos are discovered during construction operations, the Contractor shall stop work Immediately In the area and notify the COTR.

I. Employees that are sick shall not work without prior approval from the COTR and the Infection Control Nurse (ICN).

1.2 DEFINITIONS

A. A contaminant producing activities include but are not limited to:

1. Demolition and removal of walls, floors, ceilings, and other finish materials.
2. Demolition of plumbing, mechanical and electrical systems and equipment.
3. Finish operations such as sanding, painting, and application of special surface coatings.
4. All other construction activity that may generate dust, smoke or fumes.

B. Primary Containment Area: The largest area of project work around which temporary dust partitions are built.

C. Secondary Containment Area: Areas of Work within the Protection Area outside of the Primary Containment Area that requires a form of dust control.

D. Protection Areas: Interior occupied areas within facilities, which are adjacent to a Primary Containment Area, either occupied or used for passage, as well as areas connected to construction area by mechanical system air intake, exhaust and ductwork.

E. Preparation Area: specific area located as designated by the COTR for

donning and removing protective clothing prior to entering the Containment Area.

1.3 SUBMITTALS

A. Project Information:

1. Submit drawings indicating Work areas and procedure for containment of airborne contaminants for the VAMC-Chillicothe review and approval.

a. Indicate locations of temporary enclosures, barriers, isolation vestibules, negative air machines, exhaust fans, capped ductwork and airflow direction indicator.

b. Drawings shall indicate, as a minimum, containment areas, protection areas, enclosure types, vestibules, location of negative air machines with calculations for minimum air exchanges and capped ductwork.

2. Specific means and methods of achieving and maintaining control of airborne contaminants during construction for VAMC-Chillicothe's review and approval.

3. Submit Daily inspection reports, noting employees that are ill, on a weekly basis to the COTR.

4. Submit copy of HEPA/ULPA vacuum aerosol challenge test for negative air machines conducted by an independent testing agency, dated within the past six (6) months and maintenance record of equipment.

5. Submittals must be approved and identified practices must be in place before work can begin.

PART 2 • PRODUCTS

2.1 MATERIALS

A. HEPA/ULPA, Ultra-Low Penetration Air vacuum cleaners:

1. HEPA/ULPA vacuum shall trap 99.999% of particles 0.12 microns and larger. Vacuum shall have a minimum air flow of 90 cfm.

B. Polyethylene: (For use above ceiling) 6 mil or 8 mil thick reinforced laminated polyethylene film; shall meet requirements of NFPA 701 large scale flammability test and ASTM E84 Class A.

1. Include compatible fire retardant tape.

C. Adhesive-Faced Contamination Control Mats (sticky walk-off mats):

1. Size of mats shall be the width of the opening and 30" (minimum) depth. Mats shall be replaced daily at a minimum, and more often depending on use and build up of dust and debris.

D. Negative Air Machine: A machine with a fan or blower, typically with HEPA/ULPA filters, which is able to negatively pressurize a room or area for a continuous period of time. Provide unit sized to meet room requirements. If unit does not exhaust air to the outside of the building, see Class III.4a.

1. Units shall include pre-filters, final filters, HEPA/ULPA-filters and filter static pressure gauges.

2. HEPA/ULPA filters shall be 99.997% efficient at 0.3 micron particle size.

E. Temporary Prefabricated Enclosure Units:(Limited use to one shift only)

1. Provide the enclosure with an inspection window and pressure differential porthole.

F. Airflow Direction Indicator:

(Note: this product is for drywall or other "hard" or non-plastic partitions; where plastic dust barriers are used, the plastic barrier will serve this purpose)

G. Dust Catching Device:

1. Disposable, dry, electrostatic cloths or mitts for dust removal.

2. Disposable, wet cloths, presoaked with cleaning solution, for dust removal.

PART 3 – EXECUTION

3.1 GENERAL

A. The COTR will make regular visits to the project site to ensure compliance of policy. The VAMC-Chillicothe reserves the right to inspect the work at any time to verify that the Contractor is complying with these infection control requirements.

B. Notify the COTR at least fourteen (14) calendar days prior to preparing a containment area or starting work activity outside of the containment area or in VAMC- Chillicothe occupied spaces.

C. Instruct the Contractor's personnel to refrain from tracking dust into adjacent areas or opening windows or doors that would allow airborne contaminants into adjacent hospital areas.

D. For exterior work, direct exhaust from equipment away from building air intakes, windows and doors. Ensure that filters on building air intakes are operational and protected from excessive quantities of airborne contaminants.

E. Workers shall wear clean clothing and footwear.

F. Disposable protective clothing shall be replaced if torn or dirty. Washable protective clothing shall be washed when dirty or weekly, as a minimum.

3.2 CLEANING – GENERAL

A. Maintain Containment Area free of waste materials, debris and rubbish. Maintain site in clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums and other closed or remote spaces, prior to enclosing the space.

C. Clean interior areas using HEPA/ULPA vacuum prior to start of surface finishing and continue cleaning to eliminate dust. The use of brooms for cleaning floors is not acceptable.

D. Remove waste materials, debris and rubbish from the site daily at predetermined times and dispose of off site using a predetermined debris route using covered carts.

3.3 STANDARD OPERATION PROCEDURES FOR CLASS I AREAS

A. Operation in Class I Areas:

1. Execute work by methods to minimize raising dust from construction operations.
2. Immediately replace ceiling tile displaced for visual inspection.
3. Wet mop *and/or* HEPA/ULPA vacuum before leaving area.

3.4 STANDARD OPERATION PROCEDURES FOR CLASS II AREAS

A. Preparation and Operation of Class II Areas:

1. Water misting of work surfaces is not permitted except for cleaning debris carts and work surfaces.
2. To contain dust and debris, duct tape doors before demolition *and or* construction activities that produce large amounts of dust or utilize "work enclosures".
3. Block off and seal HVAC supply, return and exhaust terminal, registers, grilles and diffusers in the rooms affected by construction.
4. Masks are optional by the person doing the cutting.
5. Holes cut or punctured in walls and partitions, ceilings, floors and doors cannot be left exposed longer than four (4) hours. If work cannot be completed within the four (4) hour time period, the holes shall be covered in addition to using ILSM's.

B. Flooring removal in Class II Secondary Containment areas:

1. Construction materials and equipment shall be stored within designated areas.
2. Only flooring area of a size that can be removed, replaced and completed in one work period shall be worked on.
3. Removal of flooring:
 - a. Vacuum using HEPA/ULPA vacuum and wet mist carpet before removal.
 - b. Damp mop sheet vinyl and vinyl composition tile flooring before removal.
 - c. Use motions and methods that minimize the dispersing of dust and debris while removing flooring.
 - d. HEPA/ULPA vacuum floor after removal of flooring, adhesive and leveling of area prior to installation of new flooring.
 - e. Sweeping compounds may be used with prior approval of (ICN).

C. Miscellaneous work activities which is required within existing ceiling spaces in a protection area which can be confined shall be performed as follows:

1. Scheduled in advance and notify the COTR at least seven (7) calendar days prior to commencing work in ceiling or interstitial spaces above Protection Areas to allow the VAMC-Chillicothe to relocate or protect occupants.

2. Inform the COTR so that doors to Protection spaces near ceiling work can be kept closed while Work is in progress.
3. Cover all horizontal surfaces, except flooring, to protect from dust and debris.
4. HEPA/ULPA vacuum the top of the ceiling system to be removed, and surrounding affected area, to remove dust prior to removal.
5. Acoustical ceiling panels or ceiling access panels opened for investigation outside of the containment areas shall be closed when unattended.
6. Whenever acoustical ceiling panels or access panels are opened in Protection Areas, provide a portable enclosure that encloses the ladder and seals off opening. Fit enclosure tight to ceiling.
7. Exercise caution when handling fluids within ceiling or interstitial spaces.
8. When working with fluids provide a watertight barrier beneath the work area to catch and retain all spillage before it reaches the ceiling below.
9. Vacuum and clean surfaces free of dust before their removal.

D. Clean-up of Class II areas:

1. At the completion of the work, the following shall occur:
 - a. Clean work surfaces and debris carts with water.

- b. Contain construction waste before transport in clean, tightly covered containers or sealed plastic bags.
- c. Wet mop and/or vacuum with HEPA/ULPA-filtered vacuum before leaving the work area.
- d. Remove isolation of HVAC system in areas where work is being performed.

3.5 STANDARD OPERATION PROCEDURES FOR CLASS III AREAS

A. Preparation of Class III Areas:

1. Refer to the drawings for location of pathways to the Containment Area. Entry and exit locations to the Containment Area shall be coordinated with the COTR.
2. The Contractor shall completely install all infection control measures before the balance of the Work begins. Dust barriers shall be set up around the specific areas of the project.
 - a. Provide temporary barriers and ceilings to separate work areas (Containment Areas) from VAMC-Chillicothe-occupied areas (Protection Areas) and to prevent penetration of dust into VAMC-Chillicothe-occupied areas.
 - b. Barriers to be constructed of temporary framing supports and fire-retardant

gypsum board with sealed joints and sealed edges at intersections with existing surfaces.

c. Doors located in temporary gypsum partitions shall be zipper type attached to the polyethylene sheet material.

d. Seal all penetrations of the temporary partitions with duct tape as necessary to maintain the dust containment and the fire rating of the partition.

e. The dust barriers shall be partitions from the floor to a smoke resistance ceiling, completely enclosing the Containment Area.

f. The dust barriers shall remain around the selected construction area until that specific work has been satisfactorily completed.

3. Provide adhesive-faced contamination control mats at the exit of the construction site. Workers shall step on both mats when exiting a containment area. Carts shall be moved across both mats. Replace tacky mat surface when 75% of surface is soiled.

4. Provide the necessary quantity of negative air machines to maintain each separate project work area at a negative pressure with respect to the patient care areas to control the spread of contaminants from the Containment Areas to adjacent Protection Areas.

a. Negative air pressure machines equipped with high efficiency particulate (HEPA/ULPA) filters shall be used in conjunction with a sealed work area to maintain a negative pressure inside the work area relative to non-work areas.

1. A sufficient quantity of negative pressure ventilation units equipped with filtration shall be utilized to provide one workplace air change every 15 minutes. This requirement shall apply to the removal of the dust and contaminants from the air.

2. To calculate total air flow requirement:

Total cubic feet/minute = volume of work area (in cubic feet)/ 15 minutes

3. To calculate the quantity of units needed for the dust control in a specific work area:

Quantity of units needed = total cubic feet/minute
capacity of unit in cubic feet/minute

4. The total quantity of negative air machines required is dependent upon the total quantity of simultaneous containment areas being occupied by the Contractor. Refer to the plans to calculate the quantity of negative air machines required assuming the construction barriers indicated on the drawings.

5. Connect the negative air machine discharge to the existing building return or exhaust system if indicated by the Mechanical Drawings.

6. Change dust filter media as needed for the negative air machines.

b. Make-up air for the air exhausted from the spaces shall be taken from the existing HVAC system.

c. Vent negative air machines to outside by removing existing windows and replacing them with vented panels having fittings for exhaust holes, outside plenum or traffic hallways.

d. Change filters as frequently as recommended by the manufacturer for duration of work within the Containment Area to maintain a negative pressure of 0.1 - 0.2 IN of water gauge.

e. Negative air units shall to be aerosol challenge tested and certified prior to being placed in service, and when dropped, damaged or moved extensively.

5. Each phase of construction shall be considered a separate area.

6. Duct Caps: Block off all existing return, exhaust and supply air ductwork within the Containment Area by capping ducts to withstand airflow, and so they are dust tight.

B. Operation in Class III Areas:

1. The containment control mats shall be monitored and replaced as they become loaded with dirt.

2. The dust partitions shall be wiped down daily with a moist cloth or dust catching device.

3. Traffic between containment areas and protection areas shall be kept to a minimum.

4. Keep doors into containment areas closed at all times.
5. All vacuuming of area outside of the work area not within the barriers shall be done by the Contractor with HEPA/ULPA vacuums.
6. All holes, pipes, conduit, punctures and exposures shall be sealed appropriately.
7. Removal of debris from the project work areas shall be as follows:
 - a. If debris is removed from the project site through an occupied Patient Care Area (Protection Area), the following procedure shall be followed:
 1. Removal of debris shall be done by the Contractor. The Contractor shall advise the COTR when there is debris to be removed. Debris shall be removed on an "as needed" basis. Transport removed material in tightly sealed, rubber tired containers provided by the Contractor to protect Protection Areas. The COTR will review the type of cart and condition of the cars proposed for use. Containers shall be fitted with clean, tight fitting plastic cover or polyethylene covers, completely sealed at perimeters by taping. Before leaving the Containment Area all containers shall be wiped or HEPA/ULPA vacuumed clean to prevent tracking of dust. The cart shall be rolled over the adhesive faced contamination control mats inside and outside the entrances.
 2. Place covers over debris boxes between periods when they are being filled.

b. Supplies and tools shall be brought into the Containment Area in accordance with the following procedure:

1. For tools and supplies moved to the Containment Area the following procedures shall apply:

a. Tools and supplies shall be wiped clean or wrapped in plastic sheeting and moved by Contractor provided rubber tired carts/containers, from a staging area to the containment area (construction site).

b. The containers shall be vacuumed with HEPA/ULPA vacuum cleaners by the Contractor prior to moving through the occupied space to the Containment Area. The Contractor shall notify the COTR of the need to *move* these containers through Protection Areas prior to entering the Containment Area.

c. Tool and supply removal from the Containment Area shall follow the procedure specified for debris removal from the Containment Area.

8. The following procedure shall be implemented when construction personnel are required to pass through a Protection Area to enter a Containment Area:

a. Personnel shall don protective clothing required by the VAMC-Chillicothe's Representative within the Preparation Area before passing through Protection Areas.

b. Protective clothing shall be removed upon entering the Containment Area and shall be stored in plastic bags.

9. The following procedure shall be implemented when construction personnel are required to pass from a Containment Area through a Protection Area:

a. Construction workers shall vacuum themselves with the HEPA/ULPA filtered vacuum cleaners. After being vacuumed the workers shall re-don protective clothing before re-entering the Protection Area.

b. Personnel shall remove the protective clothing in the Preparation Area.

c. All dust and debris tracked outside the Containment Area shall be vacuumed up immediately by the Contractor.

C. Flooring removal in Class III Secondary Containment areas:

1. Construction materials and equipment shall be stored within designated areas.

2. Only flooring area of a size that can be removed, replaced and completed in one work period shall be worked on.

3. Removal of flooring:

a. Vacuum carpet with a HEPA/ULPA vacuum and wet mist before removal.

b. Damp mop sheet vinyl and vinyl composition tile flooring.

c. Use motions and methods that minimize the dispersing of dust and debris while removing flooring. Vacuum floor after removal of flooring, adhesive and leveling of area prior to installation of new flooring.

d. Sweeping compound may be used with prior approval of ICN.

D. Miscellaneous work activities which is required within existing ceiling spaces in a protection area which can be confined shall be performed as follows:

1. Scheduled in advance and notify the COTR at least seven (7) calendar days prior to commencing work in ceiling or interstitial spaces above Protection Areas to allow the VAMC-Chillicothe to relocate or protect occupants.
2. Inform the COTR so that doors to Protection spaces near ceiling work can be kept closed while Work is in progress.
3. Cover all horizontal surfaces, except flooring, to protect from dust and debris.
4. HEPA/ULPA vacuum the top of the ceiling system to be removed, and surrounding affected area, to remove dust prior to removal.
5. Acoustical ceiling panels or ceiling access panels opened for investigation outside of the containment areas shall be closed when unattended.

6. Whenever acoustical ceiling panels or access panels are opened in Protection Areas, provide a portable enclosure that encloses the ladder and seals off opening. Fit enclosure tight to ceiling.

7. Exercise caution when handling fluids within ceiling or interstitial spaces.

8. When working with fluids provide a watertight barrier beneath the work area to catch and retain all spillage before it reaches the ceiling below.

9. Vacuum and clean surfaces free of dust before their removal.

E. Cleaning Class III Areas:

1. Clean up and disposal:

a. Removal of barrier requires approval if ICN.

b. Barriers may not be removed from work areas until the completed project is inspected by the COTR and thoroughly cleaned by the Contractor.

c. Remove all debris, extra materials and equipment from the Containment Area before beginning final cleaning.

d. Work areas shall be vacuumed with HEPA/ULPA filtered vacuums and or wet mopped by the Contractor.

e. When construction is complete, the temporary partitions (both sides) shall be wiped down using a moist cloth or dust catching device

before removal. The partitions shall be removed carefully, rolling the inside over the outside.

- f. Clean the blockage of air vents, diffusers and registers before their removal. Then remove them.

3.6 STANDARD OPERATION PROCEDURES FOR CLASS IV AREAS

A. Preparation of Class IV Areas:

1. Refer to the drawings for location of pathways to the Containment Area. Entry and exit locations to the Containment Area shall be coordinated with the COTR.

2. The Contractor shall construct an anteroom and require all personnel and tools to pass through this room so they can be vacuumed using a HEPA/ULPA vacuum cleaner before leaving the Containment Area.

3. The Contractor shall completely install all barriers before construction begins. Dust barriers shall be set up around the specific areas of the project before the balance of the work begins.

- a. Full height, noncombustible, fire-rated construction, with minimum 1/2 inch thick fire-rated gypsum board both sides with 3-1/2 inch thick R-11 insulation or acoustical insulation to reduce noise.

- b. Use 3 inch fire retardant tape to tightly seal top, bottom, and all seams, to prevent spread of dust to occupied areas, including above ceiling.

c. Doors shall be 4'-0" minimum width, fire-rated, solid core wood with hollow metal frame and finish hardware, including mortise classroom lockset, door closer:

1. heavy weight 5" x 4-1/2" ball bearing hinges, door sweep and weather-stripping to prevent flow of dust. Door and frame shall match the adjacent door and frame color/finish.

2. Swing door into the construction area. Keep enclosure door locked during non-working hours.

3. Three keys for emergency access shall be furnished to the VAMC Chillicothe's Representative or key to the VAMC Chillicothe's existing building key system.

d. Install an airflow direction indicator within the temporary barrier following the manufacturer's installation procedures to indicate if improper directional airflow exists. Unit shall be installed adjacent to door opening.

e. The location and details of the enclosure construction shall be as indicated on the drawings.

f. Materials for enclosure shall be precut off-site to the greatest extent possible.

g. No explosive or pneumatic driven fasteners will be allowed.

h. Provide fire rated partitions and doors when required to maintain integrity of an existing rated partition, and where indicated or required by governing authorities.

4. Provide adhesive-faced contamination control mats at the construction entry point on both sides of the temporary partition. Workers shall step on both mats when exiting a containment area. Carts shall be moved across both mats

5. Provide the necessary quantity of negative air machines to maintain each separate project work area at a negative pressure with respect to the patient care areas to control the spread of contaminants from the Containment Areas to adjacent Protection Areas.

a. Negative air pressure machines equipped with high efficiency particulate (HEPA/ULPA) filters shall be used in conjunction with a sealed work area to maintain a negative pressure inside the work area relative to non-work areas.

1. A sufficient quantity of negative pressure ventilation units equipped with filtration shall be utilized to provide one workplace air change every 15 minutes. This requirement shall apply to the removal of the dust and contaminants from the air.

2. To calculate total air flow requirement:

Total cubic feet/minute = volume of work area (in cubic feet)/15 minutes

3. To calculate the quantity of units needed for the dust control in a specific work area:

Quantity of units needed = total cubic feet/minute
capacity of unit in cubic feet/minute

4. The total quantity of negative air machines required is dependent upon the total quantity of simultaneous

Containment Areas being occupied by the Contractor. Refer to the plans to calculate the quantity of negative air machines required assuming the construction barriers indicated on the drawings.

5. Connect the negative air machine discharge to the existing building return or exhaust system if indicated by the Mechanical Drawings.

6 Change dust filter media as recommended by the manufacturer for the negative air machines.

b. Make-up air for the air exhausted from the spaces shall be taken from the existing HVAC system.

c. Vent negative air machines to outside by removing existing windows and replacing them with vented panels having fittings for exhaust holes, outside, plenum or low traffic hallways.

d. Change filters as frequently as recommended by the manufacturer for duration of work within the Containment Area to maintain a negative pressure of 0.1 - 0.2 IN of water gauge.

e. Negative air units shall to be DOP tested and certified prior to being placed in service, and when dropped, damaged or moved extensively.

6. Each phase of construction shall be considered a separate area.

7. Duct Caps: Block off all existing return, exhaust and supply air ductwork within the Containment Area by capping ducts to withstand airflow, and so they are dust tight.

B. Operation in Class IV Areas:

1. The following procedure shall be implemented when construction personnel are required to pass through a Protection Area to enter a containment area:

- a. Personnel shall don protective clothing required by the COTR within the Preparation Area before passing through Protection Areas.
- b. The Contractor shall provide an anteroom within the dustproof enclosure.
- c. Protective clothing shall be removed in the anteroom prior to entering the Containment Area and placed in a plastic bag.

2. The following procedure shall be implemented when construction personnel are required to pass from a containment area through a protection area:

- a. Construction workers shall vacuum themselves with the HEPA/ULPA filtered vacuum cleaners. After being vacuumed the workers may leave the containment area (construction site) into the anteroom.

- b. Personnel shall re-don protective clothing in the anteroom before re-entering the protection area.
 - c. Personnel shall remove the protective clothing in the Preparation Area.
 - d. All dust and debris tracked outside the construction area shall be vacuumed up immediately by the Contractor.
- 3. Supplies and tools shall be brought into the Containment Area in accordance with the following procedure:
 - a. For tools and supplies moved to the Containment Area the following procedures shall apply:
 - 1. Tools and supplies shall be wiped clean or wrapped in plastic sheeting and moved by Contractor provided rubber tired carts/containers, from a staging area to the containment area (construction site).
 - 2. The containers shall be vacuumed with HEPA/ULPA vacuum cleaners by the Contractor prior to moving through the occupied space to the Containment Area. The Contractor shall notify the COTR of the need to move these containers through Protection Areas prior to entering the Containment Area.
 - b. Tool and supply removal from the Containment Area shall follow the procedure specified for debris removal from the Containment Area.

E. Flooring removal in Class IV Secondary Containment areas:

1. Construction materials and equipment shall be stored within designated areas.
2. Only flooring area of a size that can be removed, replaced and completed in one work period shall be worked on.
3. Removal of flooring:
 - a. Vacuum with a HEPA/ULPA vacuum and wet mist carpet before removal.
 - b. Damp mop sheet vinyl and vinyl composition tile flooring before removal.
 - c. Use motions and methods that minimize the dispersing of dust and debris while removing flooring.
 - d. HEPA/ULPA vacuum floor after removal of flooring, adhesive and leveling of area prior to installation of new flooring.
 - e. Sweeping compounds may be used with prior approval of ICN.

F. Clean-up of Class IV areas:

1. Removal of debris from the project work areas shall be as follows:

a. If debris shall be removed from the project site through an occupied Patient Care Area, the following procedure shall be followed:

1. Removal of debris shall be done by the Contractor. The Contractor shall advise the COTR when there is debris to be removed. Debris shall be removed on an "as needed" basis. Transport removed material in tightly sealed, rubber tired containers provided by the Contractor to protect hospital areas. The COTR shall review the type of cart and condition of the cars proposed for use. Containers shall be fitted with clean, tight fitting plastic cover or polyethylene covers, completely sealed at perimeters by taping. Before leaving the Containment Area all containers shall be wiped or HEPA/ULPA vacuumed clean to prevent tracking of dust. The cart shall be rolled over the adhesive faced contamination control mats inside and outside the entrances. Place dust mats inside and outside of the construction site entrances and keep them cleaned.

2. Place covers over debris boxes between periods when they are being filled.

2. Cleaning Class IV Areas:

- a. Barriers may not be removed from work areas until the completed project is inspected by the COTR and thoroughly cleaned by the Contractor.

- b. Remove all debris, extra materials and equipment from the Containment Area before beginning final cleaning.
- c. Work areas shall be vacuumed with HEPA/ULPA filtered vacuums and or wet mopped by the Contractor.
- d. When construction is complete the temporary partitions shall be wiped down using a moist doth or dust catching device before removal. The partitions shall be removed without creating additional dust in the area.
- e. Clean blockage of air vents, diffusers and registers, before removal. Then remove.

3.7 WORK ENCLOSURE OUTSIDE OF THE PRIMARY CONTAINMENT AREA (SECONDARY CONTAINMENT)

- A. Whenever work is necessary outside of a primary containment area:
 - 1. Work shall be scheduled in advance with the COTR.
 - 2. Contain work within a full height portable enclosure. Contractor may use prefabricated enclosure unit.
 - 3. Seal opening upon entering or leaving enclosure.
 - 4. At no time shall construction equipment or material be stored outside of the enclosure.

5. Dust tracked outside of construction area shall be cleaned up immediately.
6. The Contractor shall have necessary manpower and equipment (HEPA/ULPA filtered vacuum, dust and wet mops, brooms, buckets and clean wiping rags) to keep adjacent occupied areas clean at all times.

3.8 WORK CONFINED TO INDIVIDUAL ROOMS

A. Work activities which are required within a protection area which can be confined to individual rooms may be permitted as follows:

1. Scheduled in advance and notify the COTR at least seven (7) calendar days prior to commencing work in the room to allow the VAMC-Chillicothe to relocate or protect occupants.
2. The room shall be treated as a primary containment area.
3. Keep the door to such areas closed and sealed while work is being performed.
4. Cap HVAC ductwork or seal air supply diffusers and return grills.
5. Provide negative pressure in the room by use of negative air machine.
6. Traffic between the room and adjacent areas shall be kept to a minimum.
7. Transport materials and waste into and from the room through adjacent areas by

transporting in tightly covered and sealed containers or carts.

8. At no time shall construction equipment or material be stored outside the room.

9. All dust tracked outside of the room shall be cleaned up immediately.

10. Vacuum and dean surfaces free of dust after completion of the Work.

11. Have necessary manpower and equipment (HEPA/ULPA filtered vacuum, walk off mats, dust and wet mops, buckets and clean wiping rags) to keep adjacent areas clean at all times.

---END---

SECTION 01 33 23
SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

- 1-1. Refer to Articles titled SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (FAR 52.236-21) and, SPECIAL NOTES (VAAR 852.236-91), in GENERAL CONDITIONS.
- 1-2. For the purposes of this contract, samples (including laboratory samples to be tested), test reports, certificates, and manufacturers' literature and data shall also be subject to the previously referenced requirements. The following text refers to all items collectively as SUBMITTALS.
- 1-3. Submit for approval, all of the items specifically mentioned under the separate sections of the specification, with information sufficient to evidence full compliance with contract requirements. Materials, fabricated articles and the like to be installed in permanent work shall equal those of approved submittals. After an item has been approved, no change in brand or make will be permitted unless:
 - A. Satisfactory written evidence is presented to, and approved by Contracting Officer, that manufacturer cannot make scheduled delivery of approved item or;
 - B. Item delivered has been rejected and substitution of a suitable item is an urgent necessity or;
 - C. Other conditions become apparent which indicates approval of such substitute item to be in best interest of the Government.

- 1-4. Forward submittals in sufficient time to permit proper consideration and approval action by Government. Time submission to assure adequate lead time for procurement of contract - required items. Delays attributable to untimely and rejected submittals (including any laboratory samples to be tested) will not serve as a basis for extending contract time for completion.
- 1-5. Submittals will be reviewed for compliance with contract requirements by Architect-Engineer, and action thereon will be taken by Contracting Officer's Technical Representative (COTR) on behalf of the Contracting Officer.
- 1-6. Upon receipt of submittals, Architect-Engineer will assign a file number thereto. Contractor, in any subsequent correspondence, shall refer to this file and identification number to expedite replies relative to previously approved or disapproved submittals.
- 1-7. The Government reserves the right to require additional submittals, whether or not particularly mentioned in this contract. If additional submittals beyond those required by the contract are furnished pursuant to request therefore by Contracting Officer, adjustment in contract price and time will be made in accordance with Articles titled CHANGES (FAR 52.243-4) and CHANGES - SUPPLEMENT (VAAR 852.236-88) of the GENERAL CONDITIONS.
- 1-8. Schedules called for in specifications and shown on shop drawings shall be submitted for use and information of Department of Veterans Affairs and Architect-Engineer. However, the Contractor shall assume responsibility for coordinating and verifying schedules. The Contracting Officer and Architect-Engineer assumes no responsibility for checking schedules or layout drawings for exact sizes, exact numbers and detailed positioning of items.
- 1-9. Submittals must be submitted by Contractor only and shipped prepaid. Contracting Officer assumes no responsibility for checking quantities or exact numbers included in such submittals.
 - A. Submit samples in single units unless otherwise specified. Submit shop drawings, schedules, manufacturers' literature and data, and certificates in quadruplicate, except where a greater number is specified.

B. Submittals will receive consideration only when covered by a transmittal letter signed by Contractor. Letter shall be sent via first class mail and shall contain the list of items, name of Medical Center, name of Contractor, contract number, applicable specification paragraph numbers, applicable drawing numbers (and other information required for exact identification of location for each item), manufacturer and brand, ASTM or Federal Specification Number (if any) and such additional information as may be required by specifications for particular item being furnished. In addition, catalogs shall be marked to indicate specific items submitted for approval.

1. A copy of letter must be enclosed with items, and any items received without identification letter will be considered "unclaimed goods" and held for a limited time only.

2. Each sample, certificate, manufacturers' literature and data shall be labeled to indicate the name and location of the Medical Center, name of Contractor, manufacturer, brand, contract number and ASTM or Federal Specification Number as applicable and location(s) on project.

3. Required certificates shall be signed by an authorized representative of manufacturer or supplier of material, and by Contractor.

C. In addition to complying with the applicable requirements specified in preceding Article 1.9, samples which are required to have Laboratory Tests (those preceded by symbol "LT" under the separate sections of the specification shall be tested, at the expense of Contractor, in a commercial laboratory approved by Contracting Officer.

1. Laboratory shall furnish Contracting Officer with a certificate stating that it is fully equipped and qualified to perform intended work, is fully acquainted with specification requirements and intended use of materials and is an independent

establishment in no way connected with organization of Contractor or with manufacturer or supplier of materials to be tested.

2. Certificates shall also set forth a list of comparable projects upon which laboratory has performed similar functions during past five years.

3. Samples and laboratory tests shall be sent directly to approved commercial testing laboratory.

4. Contractor shall forward a copy of transmittal letter to COTR simultaneously with submission to a commercial testing laboratory.

5. Laboratory test reports shall be sent directly to COTR for appropriate action.

6. Laboratory reports shall list contract specification test requirements and a comparative list of the laboratory test results. When tests show that the material meets specification requirements, the laboratory shall so certify on test report.

7. Laboratory test reports shall also include a recommendation for approval or disapproval of tested item.

D. If submittal samples have been disapproved, resubmit new samples as soon as possible after notification of disapproval. Such new samples shall be marked "Resubmitted Sample" in addition to containing other previously specified information required on label and in transmittal letter.

E. Approved samples will be kept on file by the COTR at the site until completion of contract, at which time such samples will be delivered to Contractor as Contractor's property. Where noted in technical sections of specifications, approved samples in good condition may be used in their proper locations in contract work. At completion of contract, samples that are not approved will be

returned to Contractor only upon request and at Contractor's expense. Such request should be made prior to completion of the contract. Disapproved samples that are not requested for return by Contractor will be discarded after completion of contract.

- F. Submittal drawings (shop, erection or setting drawings) and schedules, required for work of various trades, shall be checked before submission by technically qualified employees of Contractor for accuracy, completeness and compliance with contract requirements. These drawings and schedules shall be stamped and signed by Contractor certifying to such check.
1. For each drawing required, submit one legible photographic paper or vellum reproducible.
 2. Reproducible shall be full size.
 3. Each drawing shall have marked thereon, proper descriptive title, including Medical Center location, project number, manufacturer's number, reference to contract drawing number, detail Section Number, and Specification Section Number.
 4. A space 120 mm by 125 mm (4-3/4 by 5 inches) shall be reserved on each drawing to accommodate approval or disapproval stamp.
 5. Submit drawings, ROLLED WITHIN A MAILING TUBE, fully protected for shipment.
 6. One reproducible print of approved or disapproved shop drawings will be forwarded to Contractor.
 7. When work is directly related and involves more than one trade, shop drawings shall be submitted to Architect-Engineer under one cover.

- 1-10. Samples (except laboratory samples), shop drawings, test reports, certificates and manufacturers' literature and data, shall be submitted for approval to the COTR.

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SECTION 01 42 19
REFERENCE STANDARDS

PART 1 - GENERAL

EP-1.1 DESCRIPTION

This section specifies the availability and source of references and standards specified in the project manual under paragraphs APPLICABLE PUBLICATIONS and/or shown on the drawings.

EP-1.2 AVAILABILITY OF SPECIFICATIONS LISTED IN THE GSA INDEX OF FEDERAL SPECIFICATIONS, STANDARDS AND COMMERCIAL ITEM DESCRIPTIONS FPMR PART 101-29 (FAR 52.211-1) (AUG 1998)

- A. The GSA Index of Federal Specifications, Standards and Commercial Item Descriptions, FPMR Part 101-29 and copies of specifications, standards, and commercial item descriptions cited in the solicitation may be obtained for a fee by submitting a request to – GSA Federal Supply Service, Specifications Section, Suite 8100, 470 East L'Enfant Plaza, SW, Washington, DC 20407, Telephone (202) 619-8925, Facsimile (202) 619-8978.
- B. If the General Services Administration, Department of Agriculture, or Department of Veterans Affairs issued this solicitation, a single copy of specifications, standards, and commercial item descriptions cited in this solicitation may be obtained free of charge by submitting a request to the addressee in paragraph (a) of this provision. Additional copies will be issued for a fee.

EP-1.3 AVAILABILITY FOR EXAMINATION OF SPECIFICATIONS NOT LISTED IN THE GSA INDEX OF FEDERAL SPECIFICATIONS, STANDARDS AND COMMERCIAL ITEM DESCRIPTIONS (FAR 52.211-4) (JUN 1988)

The specifications and standards cited in this solicitation can be examined at the following location:

DEPARTMENT OF VETERANS AFFAIRS
Office of Construction & Facilities Management
Facilities Quality Service (00CFM1A)
811 Vermont Avenue, NW - Room 462
Washington, DC 20420
Telephone Numbers: (202) 461-8217 or (202) 461-8292
Between: 9:00 AM - 3:00 PM

**EP-1.4 AVAILABILITY OF SPECIFICATIONS NOT LISTED IN THE GSA INDEX OF
FEDERAL SPECIFICATIONS, STANDARDS AND COMMERCIAL ITEM
DESCRIPTIONS (FAR 52.211-3) (JUN 1988)**

The specifications cited in this solicitation may be obtained from the associations
or organizations listed below.

- AA Aluminum Association Inc.
<http://www.aluminum.org>
- AABC Associated Air Balance Council
<http://www.aabchq.com>
- AAMA American Architectural Manufacturer's Association
<http://www.aamanet.org>
- AAN American Nursery and Landscape Association
<http://www.anla.org>
- AASHTO American Association of State Highway and Transportation Officials
<http://www.aashto.org>
- AATCC American Association of Textile Chemists and Colorists
<http://www.aatcc.org>
- ACGIH American Conference of Governmental Industrial Hygienists
<http://www.acgih.org>
- ACI American Concrete Institute
<http://www.aci-int.net>

ACPA	American Concrete Pipe Association http://www.concrete-pipe.org
ACPPA	American Concrete Pressure Pipe Association http://www.acppa.org
ADC	Air Diffusion Council http://flexibleduct.org
AGA	American Gas Association http://www.aga.org
AGC	Associated General Contractors of America http://www.agc.org
AGMA	American Gear Manufacturers Association, Inc. http://www.agma.org
AHAM	Association of Home Appliance Manufacturers http://www.aham.org
AISC	American Institute of Steel Construction http://www.aisc.org
AISI	American Iron and Steel Institute http://www.steel.org
AITC	American Institute of Timber Construction http://www.aitc-glulam.org
AMCA	Air Movement and Control Association, Inc. http://www.amca.org
ANLA	American Nursery & Landscape Association http://www.anla.org
ANSI	American National Standards Institute, Inc. http://www.ansi.org

APA	The Engineered Wood Association http://www.apawood.org
ARI	Air-Conditioning and Refrigeration Institute http://www.ari.org
ASAE	American Society of Agricultural Engineers http://www.asae.org
ASCE	American Society of Civil Engineers http://www.asce.org
ASHRAE	American Society of Heating, Refrigerating, and Air-Conditioning Engineers http://www.ashrae.org
ASME	American Society of Mechanical Engineers http://www.asme.org
ASSE	American Society of Sanitary Engineering http://www.asse-plumbing.org
ASTM	American Society for Testing and Materials http://www.astm.org
AWI	Architectural Woodwork Institute http://www.awinet.org
AWS	American Welding Society http://www.aws.org
AWWA	American Water Works Association http://www.awwa.org
BHMA	Builders Hardware Manufacturers Association http://www.buildershardware.com
BIA	Brick Institute of America http://www.bia.org

CAGI	Compressed Air and Gas Institute http://www.cagi.org
CGA	Compressed Gas Association, Inc. http://www.cganet.com
CI	The Chlorine Institute, Inc. http://www.chlorineinstitute.org
CISCA	Ceilings and Interior Systems Construction Association http://www.cisca.org
CISPI	Cast Iron Soil Pipe Institute http://www.cispi.org
CLFMI	Chain Link Fence Manufacturers Institute http://www.chainlinkinfo.org
CPMB	Concrete Plant Manufacturers Bureau http://www.cpmc.org
CRA	California Redwood Association http://www.calredwood.org
CRSI	Concrete Reinforcing Steel Institute http://www.crsi.org
CTI	Cooling Technology Institute http://www.cti.org
DHI	Door and Hardware Institute http://www.dhi.org
EGSA	Electrical Generating Systems Association http://www.egsa.org
EEI	Edison Electric Institute http://www.eei.org

Window IDIQ

EPA	Environmental Protection Agency http://www.epa.gov
ETL	ETL Testing Laboratories, Inc. http://www.et1.com
FAA	Federal Aviation Administration http://www.faa.gov
FCC	Federal Communications Commission http://www.fcc.gov
FPS	The Forest Products Society http://www.forestprod.org
GANA	Glass Association of North America http://www.cssinfo.com/info/gana.html/
FM	Factory Mutual Insurance http://www.fmglobal.com
GA	Gypsum Association http://www.gypsum.org
GSA	General Services Administration http://www.gsa.gov
HI	Hydraulic Institute http://www.pumps.org
HPVA	Hardwood Plywood & Veneer Association http://www.hpva.org
ICBO	International Conference of Building Officials http://www.icbo.org
ICEA	Insulated Cable Engineers Association Inc. http://www.icea.net

ICAC	Institute of Clean Air Companies http://www.icac.com
IEEE	Institute of Electrical and Electronics Engineers http://www.ieee.org/
IMSA	International Municipal Signal Association http://www.imsasafety.org
IPCEA	Insulated Power Cable Engineers Association
NBMA	Metal Buildings Manufacturers Association http://www.mbma.com
MSS	Manufacturers Standardization Society of the Valve and Fittings Industry Inc. http://www.mss-hq.com
NAAMM	National Association of Architectural Metal Manufacturers http://www.naamm.org
NAPHCC	Plumbing-Heating-Cooling Contractors Association http://www.phccweb.org.org
NBS	National Bureau of Standards See - NIST
NBBPVI	National Board of Boiler and Pressure Vessel Inspectors http://www.nationboard.org
NEC	National Electric Code See - NFPA National Fire Protection Association
NEMA	National Electrical Manufacturers Association http://www.nema.org
NFPA	National Fire Protection Association http://www.nfpa.org

NHLA National Hardwood Lumber Association
<http://www.natlhardwood.org>

NIH National Institute of Health
<http://www.nih.gov>

NIST National Institute of Standards and Technology
<http://www.nist.gov>

NLMA Northeastern Lumber Manufacturers Association, Inc.
<http://www.nelma.org>

NPA National Particleboard Association
18928 Premiere Court
Gaithersburg, MD 20879
(301) 670-0604

NSF National Sanitation Foundation
<http://www.nsf.org>

NWWDA Window and Door Manufacturers Association
<http://www.nwwda.org>

OSHA Occupational Safety and Health Administration
Department of Labor
<http://www.osha.gov>

PCA Portland Cement Association
<http://www.portcement.org>

PCI Precast Prestressed Concrete Institute
<http://www.pci.org>

PPI The Plastic Pipe Institute
<http://www.plasticpipe.org>

PEI Porcelain Enamel Institute, Inc.
<http://www.porcelainenamel.com>

PTI	Post-Tensioning Institute http://www.post-tensioning.org
RFCI	The Resilient Floor Covering Institute http://www.rfci.com
RIS	Redwood Inspection Service See - CRA
RMA	Rubber Manufacturers Association, Inc. http://www.rma.org
SCMA	Southern Cypress Manufacturers Association http://www.cypressinfo.org
SDI	Steel Door Institute http://www.steeldoor.org
IGMA	Insulating Glass Manufacturers Alliance http://www.igmaonline.org
SJIS	Steel Joist Institute http://www.steeljoist.org
SMACNA	Sheet Metal and Air-Conditioning Contractors National Association, Inc. http://www.smacna.org
SSPC	The Society for Protective Coatings http://www.sspc.org
STI	Steel Tank Institute http://www.steeltank.com
SWI	Steel Window Institute http://www.steelwindows.com
TCA	Tile Council of America, Inc. http://www.tileusa.com

Window IDIQ

TEMA Tubular Exchange Manufacturers Association
<http://www.tema.org>

TPI Truss Plate Institute, Inc.
583 D'Onofrio Drive; Suite 200
Madison, WI 53719
(608) 833-5900

UBC The Uniform Building Code
See ICBO

UL Underwriters' Laboratories Incorporated
<http://www.ul.com>

ULC Underwriters' Laboratories of Canada
<http://www.ulc.ca>

WCLIB West Coast Lumber Inspection Bureau
6980 SW Varns Road, P.O. Box 23145
Portland, OR 97223
(503) 639-0651

WRCLA Western Red Cedar Lumber Association
P.O. Box 120786
New Brighton, MN 55112
(612) 633-4334

WWPA Western Wood Products Association
<http://www.wwpa.org>

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SECTION 01 57 19

TEMPORARY ENVIRONMENTAL CONTROLS

EP-1. DESCRIPTION

- A. This section specifies the control of environmental pollution and damage that the Contractor must consider for air, water, and land resources. It includes management of visual aesthetics, noise, solid waste, radiant energy, and radioactive materials, as well as other pollutants and resources encountered or generated by the Contractor. The Contractor is obligated to consider specified control measures with the costs included within the various contract items of work.
- B. Environmental pollution and damage is defined as the presence of chemical, physical, or biological elements or agents which:
1. Adversely affect human health or welfare,
 2. Unfavorably alter ecological balances of importance to human life,
 3. Effect other species of importance to humankind, or;
 4. Degrade the utility of the environment for aesthetic, cultural, and historical purposes.
- C. Definitions of Pollutants:
1. Chemical Waste: Petroleum products, bituminous materials, salts, acids, alkalis, herbicides, pesticides, organic chemicals, and inorganic wastes.
 2. Debris: Combustible and noncombustible wastes, such as leaves, tree trimmings, ashes, and waste materials resulting from construction or maintenance and repair work.

3. Sediment: Soil and other debris that has been eroded and transported by runoff water resulting from industrial, commercial, and agricultural operations and from community activities.
4. Surface Discharge: The term "Surface Discharge" implies that the water is discharged with possible sheeting action and subsequent soil erosion may occur. Waters that are surface discharged may terminate in drainage ditches, storm sewers, creeks, and/or "water of the United States" and would require a permit to discharge water from the governing agency.
5. Rubbish: Combustible and noncombustible wastes such as paper, boxes, glass and crockery, metal and lumber scrap, tin cans, and bones.
6. Sanitary Wastes:
 - a. Sewage: Domestic sanitary sewage and human and animal waste.
 - b. Garbage: Refuse and scraps resulting from preparation, cooking, dispensing, and consumption of food.

EP-2. QUALITY CONTROL

- A. Establish and maintain quality control for the environmental protection of all items set forth herein.
- B. Record on daily reports any problems in complying with laws, regulations, and ordinances. Note any corrective action taken.

EP-3. REFERENCES

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.
- B. U.S. National Archives and Records Administration (NARA):
 - A.33 CFR 328 Definitions

EP-4. SUBMITTALS

A. In accordance with Section, 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES, furnish the following:

1. Environmental Protection Plan: After the contract is awarded and prior to the commencement of the work, the Contractor shall meet with the Contracting Officer's Technical Representative (COTR) to discuss the proposed Environmental Protection Plan and to develop mutual understanding relative to details of environmental protection. Not more than 20 days after the meeting, the Contractor shall prepare and submit to the COTR and the Contracting Officer for approval, a written and/or graphic Environmental Protection Plan including, but not limited to, the following:

- a. Name(s) of person(s) within the Contractor's organization who is (are) responsible for ensuring adherence to the Environmental Protection Plan.
- b. Name(s) and qualifications of person(s) responsible for manifesting hazardous waste to be removed from the site.
- c. Name(s) and qualifications of person(s) responsible for training the Contractor's environmental protection personnel.
- d. Description of the Contractor's environmental protection personnel training program.
- e. A list of Federal, State, and local laws, regulations, and permits concerning environmental protection, pollution control, noise control and abatement that are applicable to the Contractor's proposed operations and the requirements imposed by those laws, regulations, and permits.
- f. Methods for protection of features to be preserved within authorized work areas including trees, shrubs, vines, grasses, ground cover, landscape features, air and water quality, fish and wildlife, soil, historical, and archeological and cultural resources.

- g. Procedures to provide the environmental protection that comply with the applicable laws and regulations. Describe the procedures to correct pollution of the environment due to accident, natural causes, or failure to follow the procedures as described in the Environmental Protection Plan.
 - h. Permits, licenses, and the location of the solid waste disposal area.
 - i. Drawings showing locations of any proposed temporary excavations or embankments for haul roads, stream crossings, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials. Include as part of an Erosion Control Plan approved by the District Office of the U.S. Soil Conservation Service and the Department of Veterans Affairs.
 - j. Environmental Monitoring Plans for the job site including land, water, air, and noise.
 - k. Work Area Plan showing the proposed activity in each portion of the area and identifying the areas of limited use or nonuse. Plan should include measures for marking the limits of use areas. This plan may be incorporated within the Erosion Control Plan.
- B. Approval of the Contractor's Environmental Protection Plan will not relieve the Contractor of responsibility for adequate and continued control of pollutants and other environmental protection measures.

EP-5. PROTECTION OF ENVIRONMENTAL RESOURCES

- A. Protect environmental resources within the project boundaries and those affected outside the limits of permanent work during the entire period of this contract. Confine activities to areas defined by the specifications and drawings.
- B. Protection of Land Resources: Prior to construction, identify all land resources to be preserved within the work area. Do not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, top soil, and land forms without permission from the COTR. Do not fasten or attach ropes, cables, or

guys to trees for anchorage unless specifically authorized, or where special emergency use is permitted.

1. Work Area Limits: Prior to any construction, mark the areas that require work to be performed under this contract. Mark or fence isolated areas within the general work area that are to be saved and protected. Protect monuments, works of art, and markers before construction operations begin. Convey to all personnel the purpose of marking and protecting all necessary objects.

2. Protection of Landscape: Protect trees, shrubs, vines, grasses, land forms, and other landscape features shown on the drawings to be preserved by marking, fencing, or using any other approved techniques.

- a. Box and protect from damage existing trees and shrubs to remain on the construction site.
- b. Immediately repair all damage to existing trees and shrubs by trimming, cleaning, and painting with antiseptic tree paint.
- c. Do not store building materials or perform construction activities closer to existing trees or shrubs than the farthest extension of their limbs.

3. Reduction of Exposure of Unprotected Erodible Soils: Plan and conduct earthwork to minimize the duration of exposure of unprotected soils. Clear areas in reasonably sized increments only as needed to use. Form earthwork to final grade as shown. Immediately protect side slopes and back slopes upon completion of rough grading.

4. Temporary Protection of Disturbed Areas: Construct diversion ditches, benches, and berms to retard and divert runoff from the construction site to protected drainage areas approved under paragraph 208 of the Clean Water Act.

- a. Sediment Basins: Trap sediment from construction areas in temporary or permanent sediment basins. After each storm, pump the basins dry and remove the accumulated sediment. Control overflow/drainage with paved weirs or by vertical overflow pipes, draining from the surface.
 - b. Institute effluent quality monitoring programs as required by Federal, State, and local environmental agencies.
- C. Protection of Water Resources: Keep construction activities under surveillance, management, and control to avoid pollution of surface and ground waters and sewer systems. Implement management techniques to control water pollution by the listed construction activities that are included in this contract.
 1. Washing and Curing Water: Do not allow wastewater directly derived from construction activities to enter water areas. Collect and place wastewater in retention ponds allowing the suspended material to settle, the pollutants to separate, or the water to evaporate.
 2. Control movement of materials and equipment at stream crossings during construction to prevent violation of water pollution control standards of the Federal, State, or local government.
 3. Monitor water areas affected by construction.
- D. Protection of Fish and Wildlife Resources: Keep construction activities under surveillance, management, and control to minimize interference with, disturbance of, or damage to fish and wildlife. Prior to beginning construction operations, list species that require specific attention along with measures for their protection.
- E. Protection of Air Resources: Keep construction activities under surveillance, management, and control to minimize pollution of air resources. Burning is not permitted on the job site. Keep activities, equipment, processes, and work operated or performed, in strict accordance with the State and Federal emission

and performance laws and standards. Maintain ambient air quality standards set by the Environmental Protection Agency, for those construction operations and activities specified.

1. Particulates: Control dust particles, aerosols, and gaseous by-products from all construction activities, processing, and preparation of materials (such as from asphaltic batch plants) at all times, including weekends, holidays, and hours when work is not in progress.

2. Particulates Control: Maintain all excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, spoil areas, borrow areas, and all other work areas within or outside the project boundaries free from particulates which would cause a hazard or a nuisance. Sprinklering, chemical treatment of an approved type, light bituminous treatment, baghouse, scrubbers, electrostatic precipitators, or other methods are permitted to control particulates in the work area.

3. Hydrocarbons and Carbon Monoxide: Control monoxide emissions from equipment to Federal and State allowable limits.

4. Odors: Control odors of construction activities and prevent obnoxious odors from occurring.

F. Reduction of Noise: Minimize noise using every action possible. Perform noise-producing work in less sensitive hours of the day or week as directed by the COTR. Maintain noise-produced work at or below the decibel levels and within the time periods specified.

1. Perform construction activities involving repetitive, high-level impact noise only as permitted by local ordinance or the COTR. Repetitive impact noise on the property shall not exceed the following dB limitations:

- G. Restoration of Damaged Property: If any direct or indirect damage is done to public or private property resulting from any act, omission, neglect, or misconduct, the Contractor shall restore the damaged property to a condition equal to that existing before the damage at no additional cost to the Government. Repair, rebuild, or restore property as directed or make good such damage in an acceptable manner.
- H. Final Clean-up: On completion of project and after removal of all debris, rubbish, and temporary construction, Contractor shall leave the construction area in a clean condition satisfactory to the COTR. Cleaning shall include off the station disposal of all items and materials not required to be salvaged, as well as all debris and rubbish resulting from demolition and new work operations.

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SECTION 01 74 19
CONSTRUCTION WASTE MANAGEMENT

PART 1 – GENERAL

1.1 DESCRIPTION

- A. This section specifies the requirements for the management of non-hazardous building construction and demolition waste.
- B. Waste disposal in landfills shall be minimized to the greatest extent possible. Of the inevitable waste that is generated, as much of the waste material as economically feasible shall be salvaged, recycled or reused.
- C. Contractor shall use all reasonable means to divert construction and demolition waste from landfills and incinerators, and facilitate their salvage and recycle not limited to the following:
 - 1. Waste Management Plan development and implementation.
 - 2. Techniques to minimize waste generation.
 - 3. Sorting and separating of waste materials.
 - 4. Salvage of existing materials and items for reuse or resale.
 - 5. Recycling of materials that cannot be reused or sold.
- D. At a minimum the following waste categories shall be diverted from landfills:
 - 1. Soil.
 - 2. Inerts (e.g. concrete, masonry and asphalt).
 - 3. Clean dimensional wood and palette wood.
 - 4. Green waste (biodegradable landscaping materials).

5. Engineered wood products (plywood, particle board and I-joists, etc).
6. Metal products (e.g., steel, wire, beverage containers, copper, etc).
7. Cardboard, paper and packaging.
8. Bitumen roofing materials.
9. Plastics (e.g. ABS, PVC).
10. Carpet and/or pad.
11. Gypsum board.
12. Insulation.
13. Paint.
14. Fluorescent lamps.

1.2 RELATED WORK

- A. Section 01 00 00, GENERAL REQUIREMENTS.

1.3 QUALITY ASSURANCE

- A. Contractor shall practice efficient waste management when sizing, cutting and installing building products. Processes shall be employed to ensure the generation of as little waste as possible. Construction /Demolition waste includes products of the following:
 1. Excess or unusable construction materials.
 2. Packaging used for construction products.
 3. Poor planning and/or layout.
 4. Construction error.
 5. Over ordering.
 6. Weather damage.
 7. Contamination.
 8. Mishandling.
 9. Breakage.
- B. Establish and maintain the management of non-hazardous building construction and demolition waste set forth herein. Conduct a site assessment to estimate the types of materials that will be generated by demolition and construction.

- C. Contractor shall develop and implement procedures to reuse and recycle new materials to a minimum of 50 percent.
- D. Contractor shall be responsible for implementation of any special programs involving rebates or similar incentives related to recycling. Any revenues or savings obtained from salvage or recycling shall accrue to the contractor.
- E. Contractor shall provide all demolition, removal and legal disposal of materials. Contractor shall ensure that facilities used for recycling, reuse and disposal shall be permitted for the intended use to the extent required by local, state, federal regulations. The Whole Building Design Guide website <http://www.wbdg.org> provides a Construction Waste Management Database that contains information on companies that haul, collect, and process recyclable debris from construction projects.
- F. Contractor shall assign a specific area to facilitate separation of materials for reuse, salvage, recycling, and return. Such areas are to be kept neat and clean and clearly marked in order to avoid contamination or mixing of materials.
- G. Contractor shall provide on-site instructions and supervision of separation, handling, salvaging, recycling, reuse and return methods to be used by all parties during waste generating stages.
- H. Record on daily reports any problems in complying with laws, regulations and ordinances with corrective action taken.

1.4 TERMINOLOGY

- A. Class III Landfill: A landfill that accepts non-hazardous resources such as household, commercial and industrial waste resulting from construction, remodeling, repair and demolition operations.
- B. Clean: Untreated and unpainted; uncontaminated with adhesives, oils, solvents, mastics and like products.

- C. Construction and Demolition Waste: Includes all non-hazardous resources resulting from construction, remodeling, alterations, repair and demolition operations.
- D. Dismantle: The process of parting out a building in such a way as to preserve the usefulness of its materials and components.
- E. Disposal: Acceptance of solid wastes at a legally operating facility for the purpose of land filling (includes Class III landfills and inert fills).
- F. Inert Backfill Site: A location, other than inert fill or other disposal facility, to which inert materials are taken for the purpose of filling an excavation, shoring or other soil engineering operation.
- G. Inert Fill: A facility that can legally accept inert waste, such as asphalt and concrete exclusively for the purpose of disposal.
- H. Inert Solids/Inert Waste: Non-liquid solid resources including, but not limited to, soil and concrete that does not contain hazardous waste or soluble pollutants at concentrations in excess of water-quality objectives established by a regional water board, and does not contain significant quantities of decomposable solid resources.
- I. Mixed Debris: Loads that include commingled recyclable and non-recyclable materials generated at the construction site.
- J. Mixed Debris Recycling Facility: A solid resource processing facility that accepts loads of mixed construction and demolition debris for the purpose of recovering re-usable and recyclable materials and disposing non-recyclable materials.
- K. Permitted Waste Hauler: A company that holds a valid permit to collect and transport solid wastes from individuals or businesses for the purpose of recycling or disposal.
- L. Recycling: The process of sorting, cleansing, treating, and reconstituting materials for the purpose of using the altered form in the manufacture of a new

product. Recycling does not include burning, incinerating or thermally destroying solid waste.

1. On-site Recycling – Materials that are sorted and processed on site for use in an altered state in the work, i.e. concrete crushed for use as a sub-base in paving.
2. Off-site Recycling – Materials hauled to a location and used in an altered form in the manufacture of new products.

M. Recycling Facility: An operation that can legally accept materials for the purpose of processing the materials into an altered form for the manufacture of new products. Depending on the types of materials accepted and operating procedures, a recycling facility may or may not be required to have a solid waste facilities permit or be regulated by the local enforcement agency.

N. Reuse: Materials that are recovered for use in the same form, on-site or off-site.

O. Return: To give back reusable items or unused products to vendors for credit.

P. Salvage: To remove waste materials from the site for resale or re-use by a third party.

Q. Source-Separated Materials: Materials that are sorted by type at the site for the purpose of reuse and recycling.

R. Solid Waste: Materials that have been designated as non-recyclable and are discarded for the purposes of disposal.

S. Transfer Station: A facility that can legally accept solid waste for the purpose of temporarily storing the materials for re-loading onto other trucks and transporting them to a landfill for disposal, or recovering some materials for re-use or recycling.

1.5 SUBMITTALS

- A. In accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, and SAMPLES, furnish the following:

- B. Prepare and submit to the Contracting Officer's Technical Representative (COTR) a written demolition debris management plan. The plan shall include, but not be limited to, the following information:
1. Procedures to be used for debris management.
 2. Techniques to be used to minimize waste generation.
 3. Analysis of the estimated job site waste to be generated:
 - a. List of each material and quantity to be salvaged, reused, recycled.
 - b. List of each material and quantity proposed to be taken to a landfill.
 4. Detailed description of the Means/Methods to be used for material handling.
 - a. On site: Material separation, storage, protection where applicable.
 - b. Off site: Transportation means and destination. Include list of materials.

PART 2 - 1) Description of materials to be site-separated and self-hauled to designated facilities.

PART 3 - 2) Description of mixed materials to be collected by designated waste haulers and removed from the site.
 - c. The names and locations of mixed debris reuse and recycling facilities or sites.
 - d. The names and locations of trash disposal landfill facilities or sites.
 - e. Documentation that the facilities or sites are approved to receive the materials.
- C. Designated Manager responsible for instructing personnel, supervising, documenting and administer over meetings relevant to the Waste Management Plan.
- D. Monthly summary of construction and demolition debris diversion and disposal, quantifying all materials generated at the work site and disposed of or diverted from disposal through recycling.

1.6 APPLICABLE PUBLICATIONS

- A. Publications listed below form a part of this specification to the extent referenced. Publications are referenced by the basic designation only. In the event that criteria requirements conflict, the most stringent requirements shall be met.
- B. U.S. Green Building Council (USGBC):
 - LEED Green Building Rating System for New Construction

1.7 RECORDS

Maintain records to document the quantity of waste generated; the quantity of waste diverted through sale, reuse, or recycling; and the quantity of waste disposed by landfill or incineration. Records shall be kept in accordance with the LEED Reference Guide and LEED Template.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. List of each material and quantity to be salvaged, recycled, reused.
- B. List of each material and quantity proposed to be taken to a landfill.
- C. Material tracking data: Receiving parties, dates removed, transportation costs, weight tickets, tipping fees, manifests, invoices, net total costs or savings.

PART 3 - EXECUTION

3.1 COLLECTION

- A. Provide all necessary containers, bins and storage areas to facilitate effective waste management.
- B. Clearly identify containers, bins and storage areas so that recyclable materials are separated from trash and can be transported to respective recycling facility for processing.

- C. Hazardous wastes shall be separated, stored, disposed of according to local, state, federal regulations.

3.2 DISPOSAL

- A. Contractor shall be responsible for transporting and disposing of materials that cannot be delivered to a source-separated or mixed materials recycling facility to a transfer station or disposal facility that can accept the materials in accordance with state and federal regulations.
- B. Construction or demolition materials with no practical reuse or that cannot be salvaged or recycled shall be disposed of at a landfill or incinerator.

3.3 REPORT

- A. With each application for progress payment, submit a summary of construction and demolition debris diversion and disposal including beginning and ending dates of period covered.
- B. Quantify all materials diverted from landfill disposal through salvage or recycling during the period with the receiving parties, dates removed, transportation costs, weight tickets, manifests, invoices. Include the net total costs or savings for each salvaged or recycled material.
- C. Quantify all materials disposed of during the period with the receiving parties, dates removed, transportation costs, weight tickets, tipping fees, manifests, invoices. Include the net total costs for each disposal.

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**SECTION 07 92 00
JOINT SEALANTS**

PART 1 - GENERAL

1.1 DESCRIPTION:

Section covers all sealant and caulking materials and their application, wherever required for complete installation of building materials or systems.

1.2 RELATED WORK:

- A. Firestopping penetrations: Section 07 84 00, FIRESTOPPING.
- B. Mechanical Work: Section 21 05 11, COMMON WORK RESULTS FOR FIRE SUPPRESSION.

1.3 QUALITY CONTROL:

- A. Installer Qualifications: An experienced installer who has specialized in installing joint sealants similar in material, design, and extent to those indicated for this Project and whose work has resulted in joint-sealant installations with a record of successful in-service performance.
- B. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.
- C. Product Testing: Obtain test results from a qualified testing agency based on testing current sealant formulations within a 12-month period.
 - 1. Testing Agency Qualifications: An independent testing agency qualified according to ASTM C1021.
 - 2. Test elastomeric joint sealants for compliance with requirements specified by reference to ASTM C920, and where applicable, to other standard test methods.
 - 3. Test elastomeric joint sealants according to SWRI's Sealant Validation Program for compliance with requirements specified by reference to ASTM C920 for adhesion and cohesion under cyclic movement, adhesion-in peel, and indentation hardness.
 - 4. Test other joint sealants for compliance with requirements indicated by referencing standard specifications and test methods.
- D. VOC: Acrylic latex and Silicon sealants shall have less than 50g/l VOC content.

1.4 SUBMITTALS:

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Manufacturer's installation instructions for each product used.
- C. Cured samples of exposed sealants for each color where required to match adjacent material.
- D. Manufacturer's Literature and Data:
 - 1. Caulking compound
 - 2. Primers
 - 3. Sealing compound, each type, including compatibility when different sealants are in contact with each other.

1.5 PROJECT CONDITIONS:

- A. Environmental Limitations:
 - 1. Do not proceed with installation of joint sealants under following conditions:
 - a. When ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer or are below 4.4 °C (40 °F).
 - b. When joint substrates are wet.
- B. Joint-Width Conditions:
 - 1. Do not proceed with installation of joint sealants where joint widths are less than those allowed by joint sealant manufacturer for applications indicated.
- C. Joint-Substrate Conditions:
 - 1. Do not proceed with installation of joint sealants until contaminants capable of interfering with adhesion are removed from joint substrates.

1.6 DELIVERY, HANDLING, AND STORAGE:

- A. Deliver materials in manufacturers' original unopened containers, with brand names, date of manufacture, shelf life, and material designation clearly marked thereon.
- B. Carefully handle and store to prevent inclusion of foreign materials.
- C. Do not subject to sustained temperatures exceeding 5° C (40° F) or less than 32° C (90° F).

1.7 DEFINITIONS:

- A. Definitions of terms in accordance with ASTM C717 and as specified.
- B. Back-up Rod: A type of sealant backing.
- C. Bond Breakers: A type of sealant backing.
- D. Filler: A sealant backing used behind a back-up rod.

1.8 WARRANTY:

- A. Warranty exterior sealing against leaks, adhesion, and cohesive failure, and subject to terms of "Warranty of Construction", FAR clause 52.246-21, except that warranty period shall be extended to two years.
- B. General Warranty: Special warranty specified in this Article shall not deprive Government of other rights Government may have under other provisions of Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of Contract Documents.

1.9 APPLICABLE PUBLICATIONS:

- A. Publications listed below form a part of this specification to extent referenced. Publications are referenced in text by basic designation only.
- B. American Society for Testing and Materials (ASTM):
 - C509-06.....Elastomeric Cellular Preformed Gasket and Sealing Material.
 - C612-04.....Mineral Fiber Block and Board Thermal Insulation.
 - C717-07.....Standard Terminology of Building Seals and Sealants.
 - C834-05.....Latex Sealants.
 - C919-02.....Use of Sealants in Acoustical Applications.
 - C920-05.....Elastomeric Joint Sealants.
 - C1021-08.....Laboratories Engaged in Testing of Building Sealants.
 - C1193-05.....Standard Guide for Use of Joint Sealants.
 - C1330-02 (R2007)Cylindrical Sealant Backing for Use with Cold Liquid Applied Sealants.
 - D1056-07Specification for Flexible Cellular Materials—Sponge or Expanded Rubber.
 - E84-08.....Surface Burning Characteristics of Building Materials.
- C. Sealant, Waterproofing and Restoration Institute (SWRI).
 - The Professionals' Guide

PART 2 - PRODUCTS

2.1 SEALANTS:

A. S-1:

1. ASTM C920, polyurethane or polysulfide.
2. Type M.
3. Class 25.
4. Grade NS.
5. Shore A hardness of 20-40

B. S-2:

1. ASTM C920, polyurethane or polysulfide.
2. Type M.
3. Class 25.
4. Grade P.
5. Shore A hardness of 25-40.

C. S-6:

1. ASTM C920, silicone, neutral cure.
2. Type S.
3. Class: Joint movement range of plus 100 percent to minus 50 percent.
4. Grade NS.
5. Shore A hardness of 15-20.
6. Minimum elongation of 1200 percent.

D. S-9:

1. ASTM C920 silicone.
2. Type S.
3. Class 25.

4. Grade NS.
5. Shore A hardness of 25-30.
6. Non-yellowing, mildew resistant.

2.2 CAULKING COMPOUND:

- A. C-1: ASTM C834, acrylic latex.
- B. C-2: One component acoustical caulking, non drying, non hardening, synthetic rubber.

2.3 COLOR:

- A. Sealants used with exposed masonry shall match color of mortar joints.
- B. Sealants used with unpainted concrete shall match color of adjacent concrete.
- C. Color of sealants for other locations shall be light gray or aluminum, unless specified otherwise.
- D. Caulking shall be light gray or white, unless specified otherwise.

2.4 JOINT SEALANT BACKING:

- A. General: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Cylindrical Sealant Backings: ASTM C1330, of type indicated below and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance:
 1. Type C: Closed-cell material with a surface skin.
- C. Elastomeric Tubing Sealant Backings: Neoprene, butyl, EPDM, or silicone tubing complying with ASTM D1056, nonabsorbent to water and gas, and capable of remaining resilient at temperatures down to minus 32° C (minus 26° F). Provide products with low compression set and of size and shape to provide a secondary seal, to control sealant depth, and otherwise contribute to optimum sealant performance.
- D. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

2.5 FILLER:

- A. Mineral fiber board: ASTM C612, Class 1.
- B. Thickness same as joint width.
- C. Depth to fill void completely behind back-up rod.

2.6 PRIMER:

- A. As recommended by manufacturer of caulking or sealant material.
- B. Stain free type.

2.7 CLEANERS-NON POURIOUS SURFACES:

Chemical cleaners acceptable to manufacturer of sealants and sealant backing material, free of oily residues and other substances capable of staining or harming joint substrates and adjacent non-porous surfaces and formulated to promote adhesion of sealant and substrates.

PART 3 - EXECUTION

3.1 INSPECTION:

- A. Inspect substrate surface for bond breaker contamination and unsound materials at adherent faces of sealant.
- B. Coordinate for repair and resolution of unsound substrate materials.
- C. Inspect for uniform joint widths and that dimensions are within tolerance established by sealant manufacturer.

3.2 PREPARATIONS:

- A. Prepare joints in accordance with manufacturer's instructions and SWRI.
- B. Clean surfaces of joint to receive caulking or sealants leaving joint dry to the touch, free from frost, moisture, grease, oil, wax, lacquer paint, or other foreign matter that would tend to destroy or impair adhesion.
 - 1. Clean porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants.
 - 2. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air. Porous joint surfaces include the following:
 - a. Concrete.

- b. Masonry.
 - c. Unglazed surfaces of ceramic tile.
- 3. Remove laitance and form-release agents from concrete.
- 4. Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.
 - a. Metal.
 - b. Glass.
 - c. Porcelain enamel.
 - d. Glazed surfaces of ceramic tile.
- C. Do not cut or damage joint edges.
- D. Apply masking tape to face of surfaces adjacent to joints before applying primers, caulking, or sealing compounds.
 - 1. Do not leave gaps between ends of sealant backings.
 - 2. Do not stretch, twist, puncture, or tear sealant backings.
 - 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- E. Apply primer to sides of joints wherever required by compound manufacturer's printed instructions.
 - 1. Apply primer prior to installation of back-up rod or bond breaker tape.
 - 2. Use brush or other approved means that will reach all parts of joints.
- F. Take all necessary steps to prevent three sided adhesion of sealants.

3.3 BACKING INSTALLATION:

- A. Install back-up material, to form joints enclosed on three sides as required for specified depth of sealant.
- B. Where deep joints occur, install filler to fill space behind the back-up rod and position the rod at proper depth.
- C. Cut fillers installed by others to proper depth for installation of back-up rod and sealants.

- D. Install back-up rod, without puncturing the material, to a uniform depth, within plus or minus 3 mm (1/8 inch) for sealant depths specified.
- E. Where space for back-up rod does not exist, install bond breaker tape strip at bottom (or back) of joint so sealant bonds only to two opposing surfaces.
- F. Take all necessary steps to prevent three sided adhesion of sealants.

3.4 SEALANT DEPTHS AND GEOMETRY:

- A. At widths up to 6 mm (1/4 inch), sealant depth equal to width.
- B. At widths over 6 mm (1/4 inch), sealant depth 1/2 of width up to 13 mm (1/2 inch) maximum depth at center of joint with sealant thickness at center of joint approximately 1/2 of depth at adhesion surface.

3.5 INSTALLATION:

- A. General:
 - 1. Apply sealants and caulking only when ambient temperature is between 5° C and 38° C (40° and 100° F).
 - 2. Do not use polysulfide base sealants where sealant may be exposed to fumes from bituminous materials, or where water vapor in continuous contact with cementitious materials may be present.
 - 3. Do not use sealant type listed by manufacture as not suitable for use in locations specified.
 - 4. Apply caulking and sealing compound in accordance with manufacturer's printed instructions.
 - 5. Avoid dropping or smearing compound on adjacent surfaces.
 - 6. Fill joints solidly with compound and finish compound smooth.
 - 7. Tool joints to concave surface unless shown or specified otherwise.
 - 8. Finish paving or floor joints flush unless joint is otherwise detailed.
 - 9. Apply compounds with nozzle size to fit joint width.
 - 10. Test sealants for compatibility with each other and substrate. Use only compatible sealant.
- B. For application of sealants, follow requirements of ASTM C1193 unless specified otherwise.

- C. Where gypsum board partitions are of sound rated, fire rated, or smoke barrier construction, follow requirements of ASTM C919 only to seal all cut-outs and intersections with the adjoining construction unless specified otherwise.
 - 1. Apply a 6 mm (1/4 inch) minimum bead of sealant each side of runners (tracks), including those used at partition intersections with dissimilar wall construction.
 - 2. Coordinate with application of gypsum board to install sealant immediately prior to application of gypsum board.
 - 3. Partition intersections: Seal edges of face layer of gypsum board abutting intersecting partitions, before taping and finishing or application of veneer plaster-joint reinforcing.
 - 4. Openings: Apply a 6 mm (1/4 inch) bead of sealant around all cut-outs to seal openings of electrical boxes, ducts, pipes and similar penetrations. To seal electrical boxes, seal sides and backs.
 - 5. Control Joints: Before control joints are installed, apply sealant in back of control joint to reduce flanking path for sound through control joint.

3.6 CLEANING:

- A. Fresh compound accidentally smeared on adjoining surfaces: Scrape off immediately and rub clean with a solvent as recommended by the caulking or sealant manufacturer.
- B. After filling and finishing joints, remove masking tape.
- C. Leave adjacent surfaces in a clean and unstained condition.

3.7 LOCATIONS:

- A. Exterior Building Joints, Horizontal and Vertical:
 - 1. Metal to Metal: Type S-1, S-2
 - 2. Metal to Masonry or Stone: Type S-1
- B. Threshold Setting Bed: Type S-1B. Metal Reglets and Flashings:
 - 1. Flashings to Wall: Type S-6
- C. Sanitary Joints:
 - 1. Walls to Plumbing Fixtures: Type S-9
 - 2. Pipe Penetrations: Type S-9

D. Interior Caulking:

1. Typical Narrow Joint 6 mm, (1/4 inch) or less at Walls and Adjacent Components: Types C-1,.
2. Perimeter of Doors, Windows, Access Panels which Adjoin Concrete or Masonry Surfaces: Types C-1.
3. Joints at Masonry Walls and Columns, Piers, Concrete Walls or Exterior Walls: Types C-1.
4. Concealed Acoustic Sealant Type C-2.

- - - E N D - - -

SECTION 08 51 13
ALUMINUM WINDOWS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Aluminum windows of type and size shown, complete with hardware, related components and accessories.
- B. Types:
 - 1. Hung windows
 - 2. Fixed windows

All windows will either match existing windows on the building if the existing windows are recently installed. If not recently installed window appearance will be consistent with historic drawings for that building

1.2 DEFINITIONS

- A. Accessories: Mullions, staff beads, casings, closures, trim, moldings, panning systems, sub-sills, clips anchors, fasteners, weather-stripping, insect screens, mechanical operators, and other necessary components required for fabrication and installation of window units.
- B. Uncontrolled Water: Water not drained to the exterior, or water appearing on the room side of the window.

1.3 RELATED WORK

- A. Glazing: Section 088000, GLAZING.
- B. Sealants: Section 079200, SEALANTS AND CAULKING

1.4 DELIVERY, STORAGE AND HANDLING

- A. Protect windows from damage during handling and construction operations before, during and after installation.
- B. Store windows under cover, setting upright.
- C. Do not stack windows flat.
- D. Do not lay building materials or equipment on windows.

1.5 QUALITY ASSURANCE

- A. Approval by contracting officer is required of products or service of proposed manufacturers and installers.
- B. Approval will be based on submission of certification by Contractor that:

Window IDIQ

1. Manufacturer regularly and presently manufactures the specified windows as one of its principal products.
 2. Installer has technical qualifications, experience, trained personnel and facilities to install specified items.
- C. Provide each type of window produced from one source of manufacture.
- D. Quality Certified Labels or certificate:
1. Architectural Aluminum Manufacturers Association, "AAMA label" affixed to each window indicating compliance with specification.
 2. Certificates in lieu of label with copy of recent test report (not more than 4 years old) from an independent testing laboratory and certificate signed by window manufacturer stating that windows provided comply with specified requirements and AAMA 101/I.S.2 for type of window specified.

1.6 SUBMITTAL

- A. Submit in accordance with Section 01 33 23, SAMPLE AND SHOP DRAWINGS
- B. Shop Drawings:
1. Minimum of 1/2 full scaletypes of windows on project.
 2. Identifying parts of window units by name and kind of metal or material, show construction, locking systems, mechanical operators, trim, installation and anchorages.
 3. Include glazing details and standards for factory glazed units.
- C. Manufacturer's Literature and Data:
- Window.
- Sash locks, keepers, and key.
- D. Certificates:
1. Certificates as specified in paragraph QUALITY ASSURANCE.
 2. Indicating manufacturers and installers qualifications.
 3. Manufacturer's Certification that windows delivered to project are identical to windows tested.
- E. Test Reports:
- Copies of test reports as specified in paragraph QUALITY ASSURANCE.
- F. Samples: Provide 150 mm (six-inch) length samples showing finishes, specified.

1.7 WARRANTY

Warrant windows against malfunctions due to defects in thermal breaks, hardware, materials and workmanship, subject to the terms of Article "WARRANTY OF CONSTRUCTION", FAR clause 52.246-21, except provide 10 year warranty period.

1.8 APPLICABLE PUBLICATIONS

A. Publications listed below form a part of this specification to extent referenced. Publications are referenced in text by basic designation only.

B. American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE)

90.1-04..... Energy Standard of Buildings

C. American Architectural Manufacturers Association (AAMA):

101/I.S.2/A440-05..... Windows, Doors, and Unit Skylights

505-98..... Dry Shrinkage and Composite Performance Thermal Cycling
Test Procedures

2605-05..... Superior Performing Organic Coatings on Architectural
Aluminum Extrusions and Panels

TIR-A8-04 Structural Performance of Poured and Debridged Framing
Systems

D. American Society for Testing and Materials (ASTM):

A653/A653M-07..... Steel Sheet, Zinc Coated (Galvanized), Zinc-Iron Alloy-Coated
(Galvannealed) by the Hot-dip Process

E 90-04 Test Method for Laboratory Measurement of Airborne Sound
Transmission Loss of Building Partitions

E. National Fenestration Rating Council (NFRC):

NFRC 100-04..... Determining Fenestration Product U-Factors

NFRC 200-04..... Determining Fenestration Product Solar Heat Gain Coefficient
and Visible Transmittance at Normal Incidence

F. National Association of Architectural Metal Manufacturers (NAAMM):

AMP 500 Series..... Metal Finishes Manual

PART 2- PRODUCTS

2.1 MATERIALS

A. Aluminum Extrusions; Sheet and Plate: AAMA 101/I.S.2.

B. Weatherstrips: AAMA 101/I.S.2; except leaf type weather-stripping is not permitted.

. Insect Screening:

1. Vinyl clad aluminum, 18 by 18, AAMA 101/I.S.2.

C. Fasteners: AAMA 101/I.S.2. Screws, bolts, nuts, rivets and other fastening devices to be non-magnetic stainless steel.

1. Fasteners to be concealed when window is closed. Where wall thickness is less than 3 mm (0.125 inch) thick, provide backup plates or similar reinforcements for fasteners.

Window IDIQ

2. Stainless steel self tapping screws may be used to secure Venetian blind hanger clips, vent guide blocks, friction adjuster, and limit opening device.
 3. Attach locking and hold-open devices to windows with concealed fasteners. Provide reinforcing plates where wall thickness is less than 3 mm (0.125 inch) thick.
- D. Hardware:
1. Locks: Two position locking bolts or cam type tamperproof custodial locks with a single point control located not higher than five feet from floor level. Locate locking devices in the vent side rail. Fastenings for locks and keepers shall be concealed., but removable.
 2. Locking Device Strikes: Locate strikes in frame jamb. Strikes shall be adjustable for locking tension. Fabricate strikes from Type 304 stainless steel or white bronze.
 3. Guide Blocks: Fabricate guide blocks of injection molded nylon. Install guide block fully concealed in vent/frame sill.
 4. Hardware for Maintenance Opening of Windows: Opening beyond the six inch position shall be accomplished with a window washers key. The release device shall capture the key when window is in the open position.
 5. Design operating device to prevent opening with standard tools, coins or bent wire devices.
 6. Balances: AAMA Class 2 heavy duty block & tackle balances required

2.2 THERMAL AND CONDENSATION PERFORMANCE

- A. Condensation Resistance Factor (CRF): Minimum CRF of C 55.
- B. Thermal Transmittance:
1. Maximum U value class for insulating glass windows: (U=0.44).
 2. Maximum U value class for dual glazed windows: (U=0.50), or as required by ASHRAE 90.1.
- C. Solar Heat Gain Coefficient (SHGC): SHGC shall comply with State or local energy code requirement.

2.3 FABRICATION

- A. Fabrication to exceed or meet requirements of Physical Load Tests, Air Infiltration Test, and Water Resistance Test of AAMA 101/I.S.2.
- B. Glazing:
1. Factory glazing required, glazing shall be 1" insulated SEU .
 2. Glaze in accordance with Section 08 80 00, GLAZING.
 3. Windows reglazable without dismantling sash framing.

4. Design rabbet to suit glass thickness and glazing method specified.
5. Glaze from interior except where not accessible.
6. Provide removable fin type glazing beads.

C. Trim:

1. Trim includes casings, closures, and factory fabricated panning from the manufacturer's full line of historical panning profiles. Final approval of profiles will be per the COTR.
2. Fabricate to shapes shown of aluminum not less than 1.6 mm (0.062 inch) thick
3. Extruded or formed sections, straight, true, and smooth on exposed surfaces. Curved sections true to line. Interior trim shapes shall be profiled.
4. Exposed external corners mitered and internal corners coped; fitted with hairline joints.
5. Reinforce 1.6 mm (0.062 inch) thick members with not less than 3 mm (1/8-inch) thick aluminum.
6. Except for strap anchors, provide reinforcing for fastening near ends and at intervals not more than 305 mm (12 inches) between ends.
7. Design to allow unrestricted expansion and contraction of members and window frames.
8. Secure to window frames with machine screws or expansion rivets.
9. Exposed screws, fasteners or pop rivets are not acceptable on exterior of the casing or trim cover system.

D. Thermal-Break Construction:

1. Manufacturer's Standard.
2. Low conductance thermal barrier.
3. Capable of structurally holding sash in position and together.
4. All Thermal Break Assemblies shall be tested as per AAMA TIR A8 and AAMA 505 for Dry Shrinkage and Composite Performance.
5. Location of thermal barrier and design of window shall be such that, in closed position, outside air shall not come in direct contact with interior frame of the window.

E. Mullions: AAMA 101.

F. Subsills and Stools:

1. Fabricate to shapes shown of not less than 2 mm (0.080 inch) thick extruded aluminum.
2. One piece full length of opening with concealed anchors.
3. Sills turned up back edge not less than 6 mm (1/4 inch). Front edge provide with drip.

Window IDIQ

4. Sill back edge behind face of window frame. Do not extend to interior surface or bridge thermal breaks.
 5. Do not perforate for anchorage, clip screws, or other requirements.
- G. Insect Screens:
1. AAMA 101/I.S.2.
 2. Vinyl clad aluminum.

2.4 SINGLE HUNG WINDOWS:

- A. AAMA 101/I.S.2. Single hung type H-AW45 Heavy Duty Historic Windows with no less than a 4 (four) inch frame with beveled sash profile. Extruded thickness at the sill shall be no less than .078 inch and extruded thickness at frame and sash shall be no less than .062 inch.
- B. AAMA certified product to the AAMA101/I.S.2.-05 standard.
 1. Provide removable lower sash for cleaning with removable hardware per the manufacturer complying with this specification.
 2. Tilt-in style windows are not acceptable on this project.
- C. Exterior Panning and Trim
 1. Exterior panning and trim shall be extruded aluminum of profile and dimensions as detailed on the drawings to most closely match existing historical trim. Panning must be mechanically fastened and back-sealed to prevent air / water infiltration of separation of corners. All panning surrounds must be extruded shapes. Formed aluminum will not be acceptable.
 2. All joints shall be sealed with quality grade silicone sealant meeting AAMA803.3 to ensure water tight joint.

2.5 FIXED WINDOWS

- A. AMMA 101/I.S.2; Type H-AW100 Heavy Duty Windows with 4" frame with horizontal sash profile. Extruded thickness at the sill and frame shall be 0.125 inch and extruded thickness at frame shall be 0.080 inchB. AAMA certified product to the AAMA 101/I.S.2. - 05 standard.
- B. Extrusions: ASTM B 221 6063-T5 Aluminum Alloy.
- C. Exterior Panning & Trim:
 1. Exterior panning & trim shall be extruded aluminum of profile and dimensions as detailed on the drawings to most closely match existing historical trim.
 2. All joints shall be sealed with quality grade silicone sealant meeting AAMA 803.3 to ensure water tight joint.

2.6 FINISH

- A. In accordance with NAAMM AMP 500 series.
- B. Aluminum:

1. Finish in accordance with AMP 501 letters and numbers.
 2. Colored anodized Finish: AA-C22A42 (anodized) or AA-C22A44 (electrolytically deposited metallic compound) medium matte, integrally colored coating, Class 1 Architectural, 0.7 mils thick.
 - a) Dyes not accepted.
 - b) Coated Aluminum:
 - c) Variation of more than 50 percent of maximum shade range approved will not be accepted in a single window or in adjacent windows and mullions on a continuous series.
 - 1.) AMP 501 and 505.
 - 2.) Fluorocarbon Finish: AAMA 2605, superior performing organic coating.
 3. Color selection from manufacturer's full range of standard colors-White to match existing.
- C. Hardware: Finish hardware exposed when window is in the closed position: Match window color.

PART 3 - EXECUTION

3.1 PROTECTION (DISSIMILAR MATERIALS): AAMA 101/I.S.2.

3.2 INSTALLATION, GENERAL

- A. Install window units in accordance with manufacturer's specifications and recommendations for installation of window units, hardware, operators and other components of work.
- B. Where type, size or spacing of fastenings for securing window accessories or equipment to building construction is not shown or specified, use expansion or toggle bolts or screws, as best suited to construction material.
 1. Provide bolts or screws minimum 6 mm (1/4-inch) in diameter.
 2. Sized and spaced to resist the tensile and shear loads imposed.
 3. Do not use exposed fasteners on exterior, except when unavoidable for application of hardware.
 4. Provide non-magnetic stainless steel Phillips flat-head machine screws for exposed fasteners, where required, or special tamper-proof fasteners.
 5. Locate fasteners to not disturb the thermal break construction of windows.
- C. Set windows plumb, level, true, and in alignment; without warp or rack of frames or sash.
- D. Anchor windows on four sides with anchor clips or fin trim.
 1. Do not allow anchor clips to bridge thermal breaks.
 2. Use separate clips for each side of thermal breaks.

3. Make connections to allow for thermal and other movements.
 4. Do not allow building load to bear on windows.
 5. Use manufacturer's standard clips at corners and not over 600 mm (24 inches) on center.
 6. Where fin trim anchorage is shown build into adjacent construction, anchoring at corners and not over 600 mm (24 inches) on center.
- E. Sills and Stools:
1. Set in bed of mortar or other compound to fully support, true to line shown.
 2. Do not extend sill to inside window surface or past thermal break.
 3. Leave space for sealants at ends and to window frame unless shown otherwise.

3.3 MULLIONS CLOSURES, TRIM, AND PANNING

- A. Cut mullion full height of opening and anchor directly to exterior window frame on each side. Mullions shall be 6 over 6 configuration, or match existing.
- B. Closures, Trim, and Panning: External corners mitered and internal corners coped, fitted with hairline, tightly closed joints.
- C. Secure to concrete or solid masonry with expansion bolts, expansion rivets, split shank drive bolts, or powder actuated drive pins.
- D. Toggle bolt to hollow masonry units. Screwed to wood or metal.
- E. Fasten except for strap anchors, near ends and corners and at intervals not more than 300 mm (12 inches) between.
- F. Seal units following installation to provide weathertight system.

3.4 ADJUST AND CLEAN

- A. Adjust ventilating sash and hardware to provide tight fit at contact points, and at weather-stripping for smooth operation and weathertight closure.
- B. Clean aluminum surfaces promptly after installation of windows, exercising care to avoid damage to protective coatings and finishes.
- C. Remove excess glazing and sealant compounds, dirt, and other substances.
- D. Lubricate hardware and moving parts.
- E. Clean glass promptly after installation of windows. Remove glazing and sealant compound, dirt and other substances.
- F. Except when a window is being adjusted or tested, keep locked in the closed position during the progress of work on the project.

3.5 OPERATION DEVICES

- A. Provide wrenches, keys, or removable locking operating handles, as specified to operate windows.

- - - END OF SECTION 08 51 13 - - -

SECTION 08 80 00
GLAZING

PART 1 - GENERAL

1.1 DESCRIPTION

This section specifies glass, related glazing materials and accessories. Glazing products specified apply to factory or field glazed items.

1.2 RELATED WORK

A. Factory glazed by manufacturer in following units:

1. Section 08 51 13, ALUMINUM WINDOWS (Single Hung and Fixed).

1.3 LABELS

A. Temporary labels:

1. Provide temporary label on each light of glass identifying manufacturer or brand and glass type, quality and nominal thickness.
2. Label in accordance with NFRC (National Fenestration Rating Council) label requirements.
3. Temporary labels shall remain intact until glass is approved by COTR.

B. Permanent labels:

1. Locate in corner for each pane.
2. Label in accordance with ANSI Z97.1 and SGCC (Safety Glass Certification Council) label requirements.
 - a. Tempered glass.

1.4 PERFORMANCE REQUIREMENTS

A. Building Enclosure Vapor Retarder and Air Barrier:

1. Utilize the inner pane of multiple pane sealed units for the continuity of the air barrier and vapor retarder seal.
2. Maintain a continuous air barrier and vapor retarder throughout the glazed assembly from glass pane to heel bead of glazing sealant.

B. Glass Thickness:

1. Select thickness of exterior glass to withstand dead loads and wind loads acting normal to plane of glass at design pressures calculated in accordance with ASCE 7 and all applicable code.
2. Limit glass deflection to 1/200 or flexure limit of glass, whichever is less, with full recovery of glazing materials.

3. Test in accordance with ASTM E 330.
4. Thicknesses listed are minimum. Coordinate thicknesses with framing system manufacturers.

1.5 SUBMITTALS

- A. In accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Manufacturer's Certificates:
 1. Certificates stating that wire glass, meets requirements for safety glazing material as specified in ANSI Z97.1.
 2. Certificate on shading coefficient.
 3. Certificate on "R" value when value is specified.
 4. Certificate that blast resistant glass meets the requirements of UFC4-010-01.
- C. Warranty: Submit written guaranty, conforming to General Condition requirements, and to "Warranty of Construction" Article in this Section.
- D. Manufacturer's Literature and Data:
 1. Glass, each kind required.
 2. Insulating glass units.
 3. Glazing cushion.
 4. Sealing compound.
- E. Samples:
 1. Size: 150 mm by 150 mm (6 inches by 6 inches).
 2. Tinted glass.
- F. Preconstruction Adhesion and Compatibility Test Report: Submit glazing sealant manufacturer's test report indicating glazing sealants were tested for adhesion to glass and glazing channel substrates and for compatibility with glass and other glazing materials.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Delivery: Schedule delivery to coincide with glazing schedules so minimum handling of crates is required. Do not open crates except as required for inspection for shipping damage.
- B. Storage: Store cases according to printed instructions on case, in areas least subject to traffic or falling objects. Keep storage area clean and dry.
- C. Handling: Unpack cases following printed instructions on case. Stack individual windows on edge leaned slightly against upright supports with separators between each.

- 1 Protect sealed-air-space insulating glazing units from exposure to abnormal pressure changes, as could result from substantial changes in altitude during delivery by air freight. Provide temporary breather tubes which do not nullify applicable warranties on hermetic seals.

1.7 PROJECT CONDITIONS

Field Measurements: Field measure openings before ordering tempered glass products. Be responsible for proper fit of field measured products.

1.8 WARRANTY

- A. Warranty: Conform to terms of "Warranty of Construction", except extend warranty period for the following:
 1. Insulating glass units to remain sealed for 10 years.

1.9 APPLICABLE PUBLICATIONS

- A. Publications listed below form a part of this specification to extent referenced. Publications are referenced in text by basic designation only.
- B. American National Standards Institute (ANSI):
 - Z97.1-04 Safety Glazing Material Used in Building - Safety Performance Specifications and Methods of Test.
- C. American Society for Testing and Materials (ASTM):
 - C1363-05 Thermal Performance of Building Assemblies, by Means of A Hot Box Apparatus
 - C542-05 Lock-Strip Gaskets.
 - C716-06 Installing Lock-Strip Gaskets and Infill Glazing Materials.
 - C864-05 Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers.
 - C920-05 Elastomeric Joint Sealants.
 - C1036-06 Flat Glass.
 - C1048-04 Heat-Treated Flat Glass-Kind HS, Kind FT Coated and Uncoated Glass.
 - E84-08 Surface Burning Characteristics of Building Materials.
 - E330-02 Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
 - E2190-08 Insulating Glass Unit
- D. Commercial Item Description (CID):
 - A-A-59502 Plastic Sheet, Polycarbonate
- E. Code of Federal Regulations (CFR):
 - 16 CFR 1201 - Safety Standard for Architectural Glazing Materials; 1977, with 1984 Revision.
- F. National Fire Protection Association (NFPA):
 - 80-08 Fire Doors and Windows.
- G. National Fenestration Rating Council (NFRC):
 - Certified Products Directory (Latest Edition).

- H. Safety Glazing Certification Council (SGCC):
Certified Products Directory (Issued Semi-Annually).

- I. Underwriters Laboratories, Inc. (UL):
752-06..... Bullet-Resisting Equipment.

PART 2 - PRODUCT

2.1 GLASS

- A. Use thickness stated unless specified otherwise in assemblies.
- B. Clear Glass:
 - 1. ASTM C1036, Type I, Class 1, Quality q3.
 - 2. Thickness, 6 mm (1/4 inch).
- C. Patterned and Wired Flat Glass:
 - 1. ASTM C1036, Type II, Class 1, Form 1, Pattern PI, Finish F1, Quality Q5, Mesh m2.
 - 2. Thickness, 6 mm (1/4 inch)

2.2 HEAT-TREATED GLASS

- A. Clear Heat Strengthened Glass:
 - 1. ASTM C1048, Kind HS, Condition A, Type I, Class 1, Quality q3.
 - 2. Thickness, 6 mm (1/4 inch).
- B. Clear Tempered Glass:
 - 1. ASTM C1048, Kind FT, Condition A, Type I, Class 1, Quality q3.
 - 2. Thickness, 6 mm (1/4 inch).

2.3 INSULATING GLASS UNITS

- A. Provide factory fabricated, hermetically sealed glass unit consisting of two panes of glass separated by a dehydrated air space and comply with ASTM E2190.
- B. Assemble units using glass types specified:
- C. Sealed Edge Units (SEU):
 - 1. Insulating Glass Unit Makeup
 - a. Outboard Lite

- 1) Glass type:Clear
 - 2) Glass Tint:Clear with Low-E Coating
 - 3) Nominal Thickness:1/4"
 - 4) Glass Strength: (Heat-Strengthened,)
 - 5) Coating Orientation: (N/A, Surface # 2)
- b. Spacer
 - 1) Nominal Thickness:1/2"
 - 2) Gas Fill: (90% Argon min.)
- c. Inboard Lite
 - 1) Glass Type:Clear
 - 2) Glass Tint:Clear
 - 3) Nominal Thickness:1/4"
 - 4) Glass Strength: (Tempered)
 - 5) Coating Orientation: (N/A,
2. Performance Characteristics (Center of Glass)
 - a. Visible Transmittance: 47%
 - b. Winter U-factor (U-value): .25
 - c. Shading Coefficient (SC): .28
 - . Solar heat Gain Coefficient (SHGC): .24
3. Glass shall be annealed, heat strengthened or tempered as required by codes, or as required to meet thermal stress and wind loads.
4. Glass heat-treated by horizontal (roller hearth) process with inherent roller wave distortion parallel to the bottom edge of the glass as installed when specified.

2.4 DECORATIVE POLYESTER RESIN PANELS

1. Engineered polyester resin, meeting impact strength measured by ASTM D3763 of twenty (20) ft. lbs.
2. Thickness of panels: 1 /2 "(one half inch).
3. Interlayer material compatible with polyesters and bonding process to create a monolithic sheet of material when complete.

4. Rate of Burning (ASTM D 635). Material must attain CC1 rating for a nominal thickness of .060 inches (1.5mm) and greater.
5. Material must be able to meet a level of Class A criteria at 1/4" thickness complying with NFPA 286.
6. Material must obtain a Class A impact rating in accordance with ANSI Z97.1-2004 at 1/8" thickness.
7. Panels must not have detectable VOC off-gassing agents complying with ASTM D 5116 and D 6670.
8. Panels must be produced from a minimum of 40% post-industrial recycle content and be certified by a third party group.
9. Panel size shall not exceed 4 feet wide by 10 feet tall and all panels installed shall be of equal dimensions, unless noted otherwise.

2.5 GLAZING ACCESSORIES

- A. As required to supplement the accessories provided with the items to be glazed and to provide a complete installation. Ferrous metal accessories exposed in the finished work shall have a finish that will not corrode or stain while in service.
- B. Setting Blocks: ASTM C864:
 1. Channel shape; having 6 mm (1/4 inch) internal depth.
 2. Shore a hardness of 80 to 90 Durometer.
 3. Block lengths: 50 mm (two inches) except 100 to 150 mm (four to six inches) for insulating glass.
 4. Block width: Approximately 1.6 mm (1/16 inch) less than the full width of the rabbet.
 5. Block thickness: Minimum 4.8 mm (3/16 inch). Thickness sized for rabbet depth as required.
- C. Spacers: ASTM C864:
 1. Channel shape having a 6 mm (1/4 inch) internal depth.
 2. Flanges not less 2.4 mm (3/32 inch) thick and web 3 mm (1/8 inch) thick.
 3. Lengths: One to 25 to 76 mm (one to three inches).
 4. Shore a hardness of 40 to 50 Durometer.

D. Sealing Tapes:

1. Semi-solid polymeric based material exhibiting pressure-sensitive adhesion and withstanding exposure to sunlight, moisture, heat, cold, and aging.
2. Shape, size and degree of softness and strength suitable for use in glazing application to prevent water infiltration.

E. Glazing Gaskets: ASTM C864:

1. Firm dense wedge shape for locking in sash.
2. Soft, closed cell with locking key for sash key.
3. Flanges may terminate above the glazing-beads or terminate flush with top of beads.

F. Lock-Strip Glazing Gaskets: ASTM C542, shape, size, and mounting as indicated.

G. Glazing Sealants: ASTM C920, silicone neutral cure:

1. Type S.
2. Class 25
3. Grade NS.
4. Shore A hardness of 25 to 30 Durometer.

H. Neoprene, EPDM, or Vinyl Glazing Gasket: ASTM C864.

1. Channel shape; flanges may terminate above the glazing channel or flush with the top of the channel.
2. Designed for dry glazing.

I. Color:

1. Color of glazing compounds, gaskets, and sealants used for aluminum color frames shall match color of the finished aluminum and be nonstaining.
2. Color of other glazing compounds, gaskets, and sealants which will be exposed in the finished work and unpainted shall be black, gray, or neutral color.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verification of Conditions:

1. Examine openings for glass and glazing units; determine they are proper size; plumb; square; and level before installation is started.
2. Verify that glazing openings conform with details, dimensions and tolerances indicated on manufacturer's approved shop drawings.

- B. Advise Contractor of conditions which may adversely affect glass and glazing unit installation, prior to commencement of installation:
 - 1. Do not proceed with installation until unsatisfactory conditions have been corrected.
- C. Verify that wash down of adjacent masonry is completed prior to erection of glass and glazing units to prevent damage to glass and glazing units by cleaning materials.

3.2 PREPARATION

- A. For sealant glazing, prepare glazing surfaces in accordance with GANA-02 Sealant Manual.
- B. Determine glazing unit size and edge clearances by measuring the actual unit to receive the glazing.
- C. Shop fabricate and cut glass with smooth, straight edges of full size required by openings to provide GANA recommended edge clearances.
- D. Verify that components used are compatible.
- E. Clean and dry glazing surfaces.
- F. Prime surfaces scheduled to receive sealants, as determined by preconstruction sealant-substrate testing.

3.3 INSTALLATION - GENERAL

- A. Install in accordance with GANA-01 Glazing Manual and GANA-02 Sealant Manual unless specified otherwise.
- B. Glaze in accordance with recommendations of glazing and framing manufacturers, and as required to meet the Performance Test Requirements specified in other applicable sections of specifications.
- C. Set glazing without bending, twisting, or forcing of units.
- D. Do not allow glass to rest on or contact any framing member.
- E. Glaze doors and operable sash, in a securely fixed or closed and locked position, until sealant, glazing compound, or putty has thoroughly set.
- F. Tempered Glass: Install with roller distortions in horizontal position unless otherwise directed.
- G. Insulating Glass Units:
 - 1. Glaze in compliance with glass manufacturer's written instructions.
 - 2. When glazing gaskets are used, they shall be of sufficient size and depth to cover glass seal or metal channel frame completely.
 - 3. Do not use putty or glazing compounds.
 - 4. Do not grind, nip, cut, or otherwise alter edges and corners of fused glass units after shipping from factory.

5. Install with tape or gunnable sealant in wood sash.

H Fire Resistant Glass:

1. Wire glass: Glaze in accordance with NFPA 80.
2. Other fire resistant glass: Glaze in accordance with UL design requirements.

3.4 INSTALLATION - DRY METHOD (TAPE AND GASKET SPLINE GLAZING)

GENERAL NOTES

- A. All wood blocking shall be fire retardant.
 - B. See Finish Plans for typical sill conditions at unlike floor finishes.
 - C. Seal joints between finish material and bottom of door frames.
 - D. Undercut door as needed to allow 1/2" maximum gap and proper door operation after installation of new flooring.
 - E. Where replacement windows create a gap between the old frame and new window, contractor shall add fiberglass batt insulation in voids.
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- A. Cut glazing spline to length; install on glazing pane. Seal corners by butting and sealing junctions with butyl sealant.
 - B. Place setting blocks at 1/4 points with edge block no more than 150 mm (6 inches) from corners.
 - C. Rest glazing on setting blocks and push against fixed stop with sufficient pressure to attain full contact.
 - D. Install removable stops without displacing glazing spline. Exert pressure for full continuous contact.
 - E. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.
 - F. Trim protruding tape edge.

3.5 INSTALLATION - WET/DRY METHOD (PREFORMED TAPE AND SEALANT)

- A. Cut glazing tape to length and set against permanent stops, 5 mm (3/16 inch) below sight line. Seal corners by butting tape and dabbing with butyl sealant.
- B. Apply heel bead of butyl sealant along intersection of permanent stop with frame ensuring full perimeter seal between glass and frame to complete the continuity of the air and vapor seal.
- C. Place setting blocks at 1/4 points with edge block no more than 150 mm (6 inches) from corners.
- D. Rest glazing on setting blocks and push against tape and heel bead of sealant with sufficient pressure to achieve full contact at perimeter of pane or glass unit.
- E. Install removable stops, with spacer strips inserted between glazing and applied stops, 6 mm (1/4 inch) below sight line. Place glazing tape on glazing pane or unit with tape flush with sight line.

Window IDIQ

- F. Fill gap between glazing and stop with silicone type sealant to depth equal to bite of frame on glazing, but not more than 9 mm (3/8 inch) below sight line.
- G. Apply cap bead of silicone type sealant along void between the stop and the glazing, to uniform line, flush with sight line. Tool or wipe sealant surface smooth.

3.6 INSTALLATION - WET METHOD (SEALANT AND SEALANT)

- A. Place setting blocks at 1/4 points and install glazing pane or unit.
- B. Install removable stops with glazing centered in space by inserting spacer shims both sides at 600 mm (24 inch) intervals, 6 mm (1/4 inch) below sight line.
- C. Fill gaps between glazing and stops with silicone type sealant to depth of bite on glazing, but not more than 9 mm (3/8 inch) below sight line to ensure full contact with glazing and continue the air and vapor seal.
- D. Apply sealant to uniform line, flush with sight line. Tool or wipe sealant surface smooth.

3.7 INSTALLATION - INTERIOR WET/DRY METHOD (TAPE AND SEALANT)

- A. Cut glazing tape to length and install against permanent stops, projecting 1.6 mm (1/16 inch) above sight line.
- B. Place setting blocks at 1/4 points with edge block no more than 150 mm (6 inches) from corners.
- C. Rest glazing on setting blocks and push against tape to ensure full contact at perimeter of pane or unit.
- D. Install removable stops, spacer shims inserted between glazing and applied stops at 600 mm (24 inch) intervals, 6 mm (1/4 inch) below sight line.
- E. Fill gaps between pane and applied stop with silicone type sealant to depth equal to bite on glazing, to uniform and level line.
- F. Trim protruding tape edge.

3.8 INSTALLATION DECORATIVE POLYESTER RESIN PANELS

- A. Provide lapped or tongue and groove joints at panel seams and seal joints per the manufacturer to resist the passage of smoke.
- B. Hot bend panels to radius indicated.
- C. Use screws, fasteners, tracks, brackets, channels, wood trim and alignment clips of a shape, size and radius recommended by the manufacturer to provide complete and successful installation.
- D. All fasteners, tracks, brackets, etc. shall be manufactured of Stainless Steel complying with ASTM A167, Type 302 or 304 or a material with a proven record of compatibility of surfaces contacted in installation.

3.9 REPLACEMENT AND CLEANING

- A. Clean new glass surfaces removing temporary labels, paint spots, and defacement after approval by COTR.
- B. Replace cracked, broken, and imperfect glass, or glass which has been installed improperly.
- C. Leave glass, putty, and other setting material in clean, whole, and acceptable condition.
- D. For cleaning polyester resin sheets provide a cleaner recommended by the product manufacturer.

3.10 PROTECTION

Protect finished surfaces from damage during erection, and after completion of work. Strippable plastic coatings on colored anodized finish are not acceptable.

3.11 GLAZING SCHEDULE

- A. Fire Resistant Glass:
 - 1. Install clear wire glass in interior fire rated or labeled doors and windows.
- B. Tempered Glass:
 - 1. Install in full and half glazed doors unless indicated otherwise.
 - 2. Install in storefront, windows, and door sidelights adjacent to doors.
 - 3. Use clear tempered glass on interior side lights and doors, and on exterior doors and sidelights unless otherwise indicated or specified.
 - 4. Use SEU clear tempered insulating glass on sidelights.
 - 5. Use clear tempered glass in exterior and interior panes unless specified otherwise at insulating glass units adjacent to door.
- C. Clear Glass:
 - 1. Interior observation windows not specified otherwise.
- D. Insulating Glass:
 - 1. Install SEU clear tempered glass in windows, interior pane of dual glazed windows, adjacent to entrances or walks.

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