

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>			1. CONTRACT ID CODE <b>J</b>	PAGE OF PAGES <b>1</b>
2. AMENDMENT/MODIFICATION NO. <b>0005</b>	3. EFFECTIVE DATE <b>15-Aug-2002</b>	4. REQUISITION/PURCHASE REQ. NO. <b>W25PHS21618977</b>	5. PROJECT NO.(If applicable)	
6. ISSUED BY CODE <b>DACA61</b>  US ARMY ENGINEER DISTRICT, PHILADELPHIA CONTRACTING DIVISION WANAMAKER BUILDING 100 PENN SQUARE EAST PHILADELPHIA PA 19107-3390		7. ADMINISTERED BY (If other than item 6) CODE <b>E5CTCLG3</b>  US ARMY ENGINEER DISTRICT, PHILADELPHIA POC: LINDA M. GRIFFITH WANAMAKER BLDG 100 PENN SQUARE EAST PHILADELPHIA PA 19107-3390		
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		X	9A. AMENDMENT OF SOLICITATION NO. <b>DACA61-02-B-0001</b>	
		X	9B. DATED (SEE ITEM 11) <b>02-Jul-2002</b>	
			10A. MOD. OF CONTRACT/ORDER NO.	
			10B. DATED (SEE ITEM 13)	
CODE	FACILITY CODE			
<b>11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS</b>				
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input type="checkbox"/> is extended, <input checked="" type="checkbox"/> is not extended.				
<p>Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods:</p> <p>(a) By completing Items 8 and 15, and returning <u>1</u> copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.</p>				
12. ACCOUNTING AND APPROPRIATION DATA (If required)				
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.				
A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.				
B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).				
C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:				
D. OTHER (Specify type of modification and authority)				
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.				
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) The above numbered solicitation is amended as follows:  THIS AMENDMENT DOES NOT EXTEND THE 27 AUGUST 2002 BID OPENING DATE AT 11:00 A.M.  <p style="text-align: center;">(CONTINUED ON NEXT PAGE)</p>				
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.				
15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)		
		TEL: _____ EMAIL: _____		
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED	
_____ (Signature of person authorized to sign)		BY _____ (Signature of Contracting Officer)	15-Aug-2002	

a. SPECIAL CONTRACT REQUIREMENTS:

(1) Section 00010 - BIDDING SCHEDULE: Please delete pages 00010-3 and 00010-4 in its entirety and substitute the revised pages of the same numbers, annotated Amendment No. 0005, attached hereto.

(2) Section 00800 - SPECIAL CLAUSES: Please delete Section 00800 in its entirety and substitute the revised Section, annotated Amendment No. 0005, attached hereto.

b. TECHNICAL SPECIFICATIONS:

(1) Project Table of Contents: Please delete Project Table of Contents in its entirety and substitute the revised Project Table of Contents, annotated Amendment No. 0005, attached hereto.

(2) Section 01010 - SUMMARY OF WORK: Please delete Section 01010 in its entirety and substitute the revised Section, annotated Amendment No. 0005, attached hereto.

(3) Section 01330 – SUBMITTAL PROCEDURES: Please delete the following pages from Section 01330; delete pages 01330-14 through 01330-35 in its entirety and substitute the revised pages of the same numbers, annotated Amendment No. 0005, attached hereto.

(4) Section 01025 – MEASUREMENT AND PAYMENT: Please delete Section 01025 in its entirety and substitute the revised Section, annotated Amendment No. 0005, attached hereto.

(5) Section 05500 – MISCELLANEOUS METAL: Please make the following pen and ink change to the title of paragraph 2.3 from "CRAWL SPACE DOOR" to "**VENT DOOR**". Also make the following pen and ink change to paragraph 2.3.1; change the wording "crawl space door" to read "**vent door**".

(6) Section 06410 – LAMINATE CLAD ARCHITECTURAL CASEWORK: Please insert the new Section 06410 in its entirety, annotated Amendment No. 0005, attached hereto.

(7) Section 07240 – EXTERIOR INSULATION AND FINISH SYSTEM: Please delete Section 01025 in its entirety and substitute the revised Section, annotated Amendment No. 0005, attached hereto.

(8) Section 08710 - DOOR HARDWARE: Please delete Section 08710 in its entirety and substitute the revised Section, annotated Amendment No. 0005, attached hereto.

(9) Section 08850 – FRAGMENT RETENTION FILM FOR GLASS: Please delete Section 08850 in its entirety and substitute the revised Section, annotated Amendment No. 0005, attached hereto.

(10) Section 13930 – WET PIPE SPRINKLER, FIRE PROTECTION: Please make the following pen and ink changes: change the first sentence of paragraph 2.5.1.1 Steel Pipe to read "Except as modified herein, steel pipe shall be **black** as permitted by..."; and delete the second sentence "Galvanized fittings shall be..." of paragraph 2.5.1.2 Fittings for Non-Grooved Steel Pipe in its entirety.

c. CONTRACT DRAWINGS: Please delete the following drawings in their entirety and substitute the revised drawings, of the same Plate Numbers, with a revision date of August 12, 2002, attached hereto.

Plate No.	Title
CE1	Existing Conditions and Demolition
CE2	Site Utility Plan
CE3	Paving & Concrete Plan
CE4	Main Parking Lots and Retention Basin
CE5	Additional Parking Lot and Retention Basin
CE9	Boring and Test Pit Location Plan
DA1	1st, 2nd, & 3rd Floor Demolition Plans
DA2	Basement/Crawl Space Demolition Plan
DA3	End Wing Demolition Plans
DA4	Demolition Elevations
DA5	Demolition Elevations
A3	End Wing Floor Plans & Basement Floor Plan
A4	Enlarged Module Plans
A5	Enlarged Module Plans
A6	Enlarged Module Plans
A11	Exterior Elevations Building 5404 and Finish Schedule
A12	Exterior Elevations Building 5404 & Details
A13	Exterior Elevations Building 5405
A14	Exterior Elevations Building 5405
A15	Exterior Elevations Building 5406
A16	Exterior Elevations Building 5406
A20	Wall Types
A21	Wall Types
A22	Roof Plan and Details
A23	Enlarged Bathroom Plans and Elevations
A25	Door Schedule and Details
A26	Finish Schedule and Details
E8	Power Layout End Wings & Bsmt/Crawl Space
E15	End Wing Fire, Life Safety & Comm. Layout

d. Please indicate receipt of this amendment on Standard Form 1442 (SOLICITATION, OFFER, AND AWARD) as Amendment No. 0005. Failure to acknowledge all amendments may be cause for rejection of the bid.

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BIDDING SCHEDULE

<u>Item No.</u>	<u>Description</u>	<u>Estimated Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Estimated Amount</u>
1.	Base Bid - Upgrade/ Modernize AT Barracks Buildings 5404, 5405, and 5406, Less Work Included in Other Bid Items	--	Job	L.S.	\$
2.	Base Bid - Removal and Disposal of Interior Asbestos Insulated Doors	12	Each	\$	\$
3.	Base Bid - Removal and Disposal of Asbestos- Containing Pipe Insulation From Pipes in Chases	1,200	L.F.	\$	\$
4.	Base Bid - Removal and Disposal of Asbestos- Containing Floor Tile	30	S.F.	\$	\$
5.	Base Bid - Removal and Disposal of Asbestos- Containing Pipe Insulation From Pipes in Crawl Spaces	1,600	L.F.	\$	\$
6.	Base Bid - Removal and Disposal of Asbestos Contaminated Soil From Crawl Spaces	14	Ton	\$	\$
7.	Base Bid - Removal and Disposal of Asbestos- Containing Pipe Insulation From Pipes in Basements	120	L.F.	\$	\$
8.	Base Bid - Removal and Disposal of Asbestos- Containing Steam Pipe Insulation From Pipes in Kitchen Crawl Spaces	120	L.F.	\$	\$
9.	Base Bid - Removal and Disposal of Asbestos- Containing Pipe Insulation From Pipes on ground in Kitchen Crawl Spaces.	160	L.F.	\$	\$

BIDDING SCHEDULE (Cont'd)

<u>Item No.</u>	<u>Description</u>	<u>Estimated Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Estimated Amount</u>
10.	Base Bid - Repair of Existing Windows	210	Each	\$	\$_____
BASE BID TOTAL ESTIMATED AMOUNT					\$_____
11.	Option No. 1 - Remove and Replace Existing Parking Area	--	Job	L.S.	\$
12.	Option No. 2 - Replace <b>Some</b> Existing Exterior Doors <b>and Frames</b> with New Insulated Steel Doors <b>and Frames</b>	--	Job	L.S.	\$
13.	Option No. 3 - <b>Repair</b> and Paint Existing EIFS	--	Job	L.S.	\$
14.	Option No. 4 - Upgrade <b>Some</b> Base Bid Locksets to Electronic Card Reading Locksets	352	Each	\$	\$
15.	Option No. 5 - Construct New Parking Areas	--	Job	L.S.	\$
16.	Option No. 6 - Replace Existing Windows with New Windows Having Laminated Glass, Less Base Bid Window Repairs	423	Each	\$	\$_____
TOTAL ESTIMATED BASE BID AND OPTIONS AMOUNT					\$

SECTION 00800

SPECIAL CLAUSES  
**10/97**

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SC-14	ACCIDENT PREVENTION

SPECIAL CLAUSES

SC-1 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (APR 1984)

a. The Contractor shall be required to (1) commence work under this contract within 5 calendar days after the Contractor receives the notice to proceed, (2) prosecute the work diligently, and (3) complete the entire work ready for use not later than **660** calendar days after the date the Contractor receives the notice to proceed. The Buildings will not become available to the Contractor until **30 November** 2002. The time stated for completion shall include any or all of the Options which may be awarded within 60 calendar days from receipt of the notice to proceed and final cleanup of the premises. (FAR 52.211-10)

SC-2 LIQUIDATED DAMAGES - CONSTRUCTION (SEP 2000)

(a) If the Contractor fails to complete the work within the time specified in the contract, the Contractor shall pay liquidated damages to the Government in the amount of \$1,800 for each calendar day of delay until the work is completed or accepted.

(b) If the Government terminates the Contractor's right to proceed, liquidated damages will continue to accrue until the work is completed. These liquidated damages are in addition to excess costs of repurchase under the Termination clause. (FAR 52.211-12)

SC-3 CONTRACT DRAWINGS, MAPS AND SPECIFICATIONS (DEC 1991)

a. Upon obtaining the plans and specifications, the Contractor shall -  
(1) Immediately check the specifications and all drawings furnished immediately upon receipt;  
(2) Compare the specifications and all drawings and verify the figures before laying out the work;  
(3) Promptly notify the Contracting Officer of any discrepancies; and,  
(4) Be responsible for any errors which might have been avoided by complying with this paragraph (b).

b. Large scale drawings shall, in general, govern small scale drawings. Figures/dimensions marked on drawings shall take precedence over scale measurements.

c. Omissions from the drawings or specifications or the misdescription of details of work which are manifestly necessary to carry out the intent of the drawings and specifications, or which are customarily performed, shall not relieve the contractor from performing such omitted or misdescribed details of the work, but shall be performed as if fully and correctly set forth and described in the drawings and specifications.

d. The work shall conform to the specifications and the contract drawings which are available in electronic bid set format on the Philadelphia

District website at <https://napws01phl/>. Drawings are titled: AT Barracks Upgrade, Fort Dix, Wrightstown, New Jersey. The list of drawings set out on Title Sheet (Plate T1) is hereby incorporated by reference into this clause. (DFARS 252.236-7001)

SC-4 PHYSICAL DATA (APR 1984)

Data and information furnished or referred to below is for the Contractor's information. The Government shall not be responsible for any interpretation of or conclusion drawn from the data or information by the Contractor. (FAR 52.236-4)

a. Weather Conditions. The climate of the area is referred to as "continental" by climatologists, characterized by cold winters and moderately hot summers. Complete weather records and reports may be obtained from the local U.S. Weather Bureau Office nearest to the work site. The Contractor shall satisfy himself as to the hazards likely to arise from weather conditions during the construction period.

b. Transportation Facilities: U.S. Highway 206 and Interstate Route 295 serve the locality of the proposed work. The Contractor shall make his own investigation of available routes and load limits of bridges. Roads within the Military Reservation may be used by the Contractor subject to the approval of the Post Authorities. Such roads, if used by the Contractor, shall be maintained throughout the contract period and shall be restored to at least the condition which existed prior to the start of work. The Contractor shall also be responsible for the construction of any temporary haul roads and bridges required for execution of the contract work. All temporary construction shall be removed by the Contractor and the area restored to the condition which existed prior to the start of work.

c. Location. The site of the work is located at Fort Dix, Wrightstown, New Jersey. The site of the work is on a military reservation with restricted access, and all rules and regulations issued by the Commanding Officer covering general safety, security, smoking policy, and sanitary requirements, etc., shall be observed by the Contractor. Commercial vehicles will have limited access to Fort Dix via Gate 9 and will be subject to search. Privately owned vehicles (POVs) will be required to be registered and display a Fort Dix sticker. POVs without a sticker will have to go through Checkpoint 1 at the Wrightstown Circle. Bidders shall familiarize themselves with all regulations concerning access to Fort Dix.

d. Magnitude of the Contract Work. The estimated value of the contract work is over \$10,000,000.

e. Inspection of the Site. Prospective bidders are invited to visit the site of the work to acquaint themselves with the site conditions and any problems incident to the prosecution of the work. A site inspection will be held on July 15, 2002 starting at 9:00 AM. Attendees shall park at the lot on West 1st Street and Pennsylvania Avenue, diagonally across from Bldg 5406. All firms who wish to attend must submit the necessary information in order to gain access to Fort Dix on July 15th. The information must include names of all attendees, organization, vehicle license number, and a point of contact with phone number and fax in case additional information

will be required. This information must be submitted via e-mail to (Joseph.A.Nowak@usace.army.mil) or fax (215-656-6748) by Noon EST, July 11, 2002. The information is required to notify security at Fort Dix and there shall be no exceptions to the date and time listed for submittal of information nor will an alternate/additional date for the site visit be selected.

f. Hours of Work. The Contractor shall provide at least a 24 hour advanced notification to establish when on-site work will commence and prior to restarting on-site work following any discontinuances lasting longer than five normal workdays. Notification shall be provided by phone, in person, or in writing, and shall be given directly to the designated "inspector" or Contracting Officer. Work shall only be performed between 7:30 a.m. and 4:30 p.m. daily, Monday through Friday, excluding federal legal holidays as outlined by Public Law Number 98-144 (or days not worked on Fort Dix due to the observance of such holidays). Unless otherwise specifically authorized herein or in writing by the Contracting Officer, the scheduling of work for times other than as set forth above, will not be permitted.

g. Interruption of Utilities.

(1) No utility services shall be interrupted by the Contractor to make connections, to relocate, or for any purpose without approval of the Contracting Officer. Power outages and limited utility interruptions for hookups will be permitted in accordance with a previously arranged schedule. The Contractor shall be responsible for notifying and coordinating all temporary outages with the Contracting Officer at least five working days in advance of the intended outage.

(2) Request for permission to shut down services shall be submitted in writing to the Contracting Officer not less than 17 days prior to date of proposed interruption. The request shall give the following information:

- (a) Nature of Utility (Gas, L.P. or H.P., Water, Etc.)
- (b) Size of line and location of shutoff.
- (c) Buildings and services affected.
- (d) Hours and date of shutoff.
- (e) Estimated length of time service will be interrupted.

(3) Services shall not be shut off until receipt of approval of the proposed hours and date from the Contracting Officer.

(4) Shutoffs which will cause interruption of Government work operations as determined by the Contracting Officer shall be accomplished during regular non-work hours or on non-work days of the Using Agency without any additional cost to the Government.

(5) Operation of valves on water mains will be by Government personnel. Where shutoff of water lines interrupts service to fire hydrants or fire sprinkler systems, the Contractor shall arrange his operations and have sufficient material and personnel available to complete the work without undue delay or to restore service without delay in event of emergency.

(6) Flow in gas mains which have been shut off shall not be restored

until the Government inspector has determined that all items serviced by the gas line have been shut off.

h. Alterations to Utilities. Where changes and relocations of utility lines are noted to be performed by others, the Contractor shall give the Contracting Officer at least thirty days' written notice in advance of the time that the change or relocation is required. In the event that, after the expiration of thirty days after the receipt of such notice by the Contracting Officer, such utility lines have not been changed or relocated and delay is occasioned to the completion of the work under this contract, the Contractor will be entitled to a time extension equal to the period of time lost by the Contractor after the expiration of said thirty day period. Any modification to existing or relocated lines required as a result of the Contractor's method of operation shall be made wholly at the Contractor's expense and no additional time will be allowed for delays incurred by such modifications.

i. Street Closing. When operations in connection with contract work necessitate the closing of streets, it shall be the Contractor's responsibility to arrange in advance with the Contracting Officer for such street closings and to provide appropriate barricades, signs, markers, flares, and other devices as may be required by the Contracting Officer's Representative for traffic guides and public safety.

SC-5 PERFORMANCE OF WORK BY THE CONTRACTOR (APR 1984)

The Contractor shall perform on the site, with its own organization, work equivalent to at least twenty (20) percent of the total amount of work to be performed under the contract. This percentage may be reduced by a supplemental agreement to this contract if, during performing the work, the Contractor requests a reduction and the Contracting Officer determines that the reduction would be to the advantage of the Government. (FAR 52.236-1)

SC-6 AVAILABILITY AND USE OF UTILITY SERVICES (APR 1984)

a. The Government will make all reasonably required amounts of utilities available to the Contractor from existing outlets and supplies, as specified in the contract. Unless otherwise provided in the contract, the amount of each utility service consumed shall be charged to or paid by the Contractor at prevailing rates charged to the Government or, where the utility is produced by the Government, at reasonable rates determined by the Contracting Officer. The Contractor shall carefully conserve any utilities furnished without charge.

b. The Contractor, at its expense and in a workmanlike manner satisfactory to the Contracting Officer, shall install and maintain all necessary temporary connections and distribution lines, and all meters required to measure the amount of each utility used for the purpose of determining charges. Before final acceptance of the work by the Government, the Contractor shall remove all the temporary connections, distribution lines, meters, and associated paraphernalia. (FAR 52.236-14)

c. Electric service to Contractor-furnished office or storage facilities will be charged at the current rate prescribed by Army regulations. The service connection shall be made through a Contractor furnished kilowatt hour meter appropriate for the circumstances. Contractor is also responsible for all costs associated with telephone services; telephone service will not be Government furnished.

SC-7 IDENTIFICATION OF EMPLOYEES

The Contractor shall be responsible for obtaining an identification badge/card from Fort Dix for each employee prior to the employees work on-site, and for requiring each employee engaged on the work to display such identification as may be required by Fort Dix. All prescribed identification shall immediately be delivered to Fort Dix for cancellation upon the release of any employee. When required by Fort Dix, the Contractor shall obtain and submit fingerprints of all persons employed or to be employed on the project. (CENAP)

SC-8 EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE (MAR 1995)

a. This clause does not apply to terminations. See 52.231-5001, Basis for Settlement of Proposals, and FAR Part 49.

b. Allowable cost for construction and marine plant and equipment in sound workable condition owned or controlled and furnished by the Contractor or sub-contractor at any tier shall be based on actual cost data for each piece of equipment or groups of similar serial or series for which the Government can determine both ownership and operating costs from the Contractor's accounting records. When both ownership and operating costs cannot be determined for any piece of equipment from the Contractor's accounting records, costs for the equipment shall be based upon the applicable provisions of EP 1110-1-8, "Construction Equipment Ownership and Operating Expense Schedule," Region I. Working conditions shall be considered to be average for determining equipment rates using the schedule unless specified otherwise by the Contracting Officer. For equipment not included in the schedule, rates for comparable pieces of equipment may be used or a rate may be developed using the formula provided in the schedule. For forward pricing, the schedule in effect at the time of negotiations shall apply. For retrospective pricing, the schedule in effect as of the time work was performed shall apply.

c. Equipment rental costs are allowable, subject to the provisions of FAR 31.205(d)(ii) and FAR 31.205-36. Rates for equipment rented from an organization under common control, lease-purchase arrangements, and sale-leaseback arrangements, will be determined using the schedule, except that actual rates will be used for equipment leased from an organization under common control that has an established practice of leasing the same or similar equipment to unaffiliated lessees.

d. When actual equipment costs are proposed and the total amount of the pricing action exceeds the small purchase threshold, the contracting officer shall request the contractor to submit either certified cost or

pricing data, or partial/limited data, as appropriate. This data shall be submitted on Standard Form 1411, "Contract Pricing Proposal Cover Sheet." (EFARS 52.231-5000)

SC-9 CERTIFICATES OF COMPLIANCE

Any certificates required for demonstrating proof of compliance of materials with specifications requirements shall be executed in triplicate copies. Each certificate shall be signed by an official authorized to certify on behalf of the manufacturing company and shall contain the name and address of the Contractor, the project name and location, and the quantity and date or dates of shipment or delivery to which the certificates apply. Copies of laboratory test reports submitted with certificates shall contain the name and address of the testing laboratory and the date or dates of the tests to which the report applies. Certification shall not be construed as relieving the Contractor from furnishing satisfactory material, if, after tests are performed on selected samples, the material is found not to meet the specific requirements. (CENAP)

SC-10 SUPPLEMENTAL WARRANTY OF CONSTRUCTION REQUIREMENTS (APR 1985)

The following supplemental requirements are required in conjunction with Contract Clause: "Warranty of Construction":

- a. At any time subsequent to the acceptance by the Government of a completed installation under this contract, which installation is required to be covered by a specified warranty under the terms of the various sections of the specifications, the Base Commander will be the authorized party for the purpose of implementing the provisions of such warranties on behalf of the Government.
- b. The Contractor shall furnish the following items to the Contracting Officer upon completion of installation of equipment but prior to the Joint or Final Inspection:
  - (1) A real property list for all installed mechanical, plumbing, and electrical equipment.
  - (2) A list of equipment covered by a warranty under the terms and conditions of the contract including, but not limited to:
    - (a) The specific contact point at the prime Contractor with complete address and telephone number. If contact for warranty action is other than the prime Contractor, furnish specific procedure for contact.
    - (b) The period during which each warranty is in effect assuring that each subcontractor or supplier warranty that extends beyond the normal one year period is listed.
  - (3) Copy of all warranty documents. (CENAP)

SC-11 PERFORMANCE EVALUATION OF CONTRACTOR

a. As a minimum, the Contractor's performance will be evaluated upon final acceptance of the work. However, interim evaluation may be prepared at any time during contract performance when determined to be in the best interest of the Government.

b. The format for the evaluation will be DD Form 2626, and the Contractor will be rated either outstanding, satisfactory, or unsatisfactory in the areas of Contractor Quality Control, Timely Performance, Effectiveness of Management, Compliance with Labor Standards, and Compliance with Safety Standards. The Contractor will be advised of any unsatisfactory rating, either in an individual element or in the overall rating, prior to completing the evaluation, and all Contractor comments will be made a part of the official record. Performance Evaluation Reports will be available to all DOD Contracting offices for their future use in determining Contractor responsibility, in compliance with DFARS 236.201(c)(1). (CENAP)

SC-12 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER (OCT 1989)

a. This clause specifies the procedure for determination of time extensions for unusually severe weather in accordance with the Contract Clause entitled: "Default (Fixed-Price Construction)". In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied:

(1) The weather experienced at the project site during the contract period must be found to be unusually severe, that is, more severe than the adverse weather anticipated for the project location during any given month.

(2) The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the Contractor.

b. The following schedule of monthly anticipated adverse weather delays is based on National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and will constitute the base line for monthly weather time evaluations. The Contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities. For the purpose of this contract, unusually severe weather is defined as daily precipitation equal to or exceeding 0.5 inches and/or maximum daily temperature not exceeding 32 degrees F.

MONTHLY ANTICIPATED ADVERSE WEATHER DELAY  
WORK DAYS BASED ON (5) DAY WORK WEEK AT DOVER AFB

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
5	3	2	2	2	2	2	2	2	2	2	2

c. Upon acknowledgment of the Notice to Proceed (NTP) and continuing throughout the contract, the Contractor shall record on the daily QOC report, the occurrence of adverse weather and resultant impact to normal

scheduled work. Actual adverse weather days must prevent work on critical activities for 50 percent or more of the Contractor's scheduled work day. The number of actual adverse weather delay days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), be calculated chronologically from the first to the last day of each month, and be recorded as full days. If the number of actual adverse weather delay days exceeds the number of days anticipated in paragraph b. above, the Contracting Officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a modification in accordance with the contract clause entitled: "Default (Fixed Price Construction)". (ER 415-1-15)

#### SC-13 INSURANCE REQUIREMENTS

The following insurance requirements shall be provided in conjunction with the requirements of Contract Clause: "Insurance - Work on a Government Installation".

- a. General Liability Insurance (Comprehensive form of policy): Bodily Injury Liability - \$500,000 per occurrence.
- b. Automobile Liability Insurance (Comprehensive form of policy): Bodily Injury Liability - \$200,000 per person and \$500,000 per accident. Property Damage Liability - \$20,000 per accident.
- c. Workmen's Compensation and Employer's Liability Insurance: Compliance with applicable workmen's compensation and occupational disease statutes is required. Employer's liability coverage in the minimum amount of \$100,000 is also required."
- d. Asbestos Abatement, Lead-Based Paint Abatement, and PCB Removal Contractor Liability Insurance: \$500,000 per occurrence minimum.

#### SC-14 ACCIDENT PREVENTION

In accordance with the clause entitled "Accident Prevention", the Contractor will not be allowed to commence work on the job site until an acceptable accident prevention plan has been submitted and approved. The Contractor will receive official notification of the acceptance of the accident prevention plan.

-- End of Section --

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01320 PROJECT SCHEDULE  
01330 SUBMITTAL PROCEDURES  
01355 ENVIRONMENTAL PROTECTION  
01380 CONSTRUCTION PHOTOGRAPHS  
01420 SOURCES FOR REFERENCE PUBLICATIONS  
01451 CONTRACTOR QUALITY CONTROL  
01500 TEMPORARY CONSTRUCTION FACILITIES  
01572 CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT  
01580 PROJECT AND SAFETY SIGNS  
01670 RECYCLED/RECOVERED MATERIALS  
01780 CLOSEOUT SUBMITTALS (INCLUDING AS-BUILT DRAWINGS)

DIVISION 02 - SITE WORK

02220 DEMOLITION  
02230 CLEARING AND GRUBBING  
02300 GRADING AND EARTHWORK  
02315 EXCAVATION, FILLING AND BACKFILLING FOR BUILDINGS  
02316 EXCAVATION, TRENCHING, AND BACKFILLING FOR UTILITIES SYSTEMS  
02510 WATER LINES  
02531 SANITARY SEWERS  
02551 BITUMINOUS CONCRETE PAVING  
02630 RETENTION BASIN  
02763 PAVEMENT MARKINGS  
02770 CONCRETE SIDEWALKS AND CURBS AND GUTTERS  
02821 FENCING  
02935 TURF  
02950 TREES

DIVISION 03 - CONCRETE

03300 CONCRETE FOR BUILDING CONSTRUCTION  
03930 CONCRETE REPAIRS

DIVISION 04 - MASONRY

04200 MASONRY

DIVISION 05 - METALS

05120 STRUCTURAL STEEL  
05500 MISCELLANEOUS METAL

DIVISION 06 - WOODS & PLASTICS

06100 ROUGH CARPENTRY  
06200 FINISH CARPENTRY  
**06410 LAMINATE CLAD ARCHITECTURAL CASEWORK**

DIVISION 07 - THERMAL & MOISTURE PROTECTION

07240 EXTERIOR INSULATION AND FINISH SYSTEMS

07311 ROOFING, STRIP SHINGLES  
07600 SHEET METALWORK, GENERAL  
07840 FIRESTOPPING  
07900 JOINT SEALING

DIVISION 08 - DOORS & WINDOWS

08110 STEEL DOORS AND FRAMES  
08210 WOOD DOORS  
08520 ALUMINUM WINDOWS  
08710 DOOR HARDWARE  
08810 GLASS AND GLAZING  
08850 FRAGMENT RETENTION FILM FOR GLASS

DIVISION 09 - FINISHES

09200 PLASTERING  
09250 GYPSUM WALLBOARD  
09310 CERAMIC TILE  
09510 ACOUSTICAL CEILINGS  
09650 RESILIENT FLOORING  
09680 CARPET  
09720 WALLCOVERINGS  
09900 PAINTS AND COATINGS

DIVISION 10 - SPECIALTIES

10160 TOILET PARTITIONS  
10430 EXTERIOR SIGNAGE  
10440 INTERIOR SIGNAGE  
10800 TOILET ACCESSORIES

DIVISION 12 - FURNISHINGS

12320 CABINETS AND COUNTERTOPS  
12490 WINDOW TREATMENT

DIVISION 13 - SPECIAL CONSTRUCTION

13080 SEISMIC PROTECTION FOR MISCELLANEOUS EQUIPMENT  
13280 ASBESTOS ABATEMENT  
13281 LEAD-BASED PAINT (LBP) DEMOLITION PROCEDURES  
13850 FIRE DETECTION AND ALARM SYSTEM, DIRECT CURRENT LOOP  
13852 FIRE ALARM REPORTING SYSTEM, RADIO TYPE  
13930 WET PIPE SPRINKLER SYSTEM, FIRE PROTECTION  
13935 DRY PIPE SPRINKLER SYSTEM, FIRE PROTECTION

DIVISION 15 - MECHANICAL

15070 SEISMIC PROTECTION FOR MECHANICAL EQUIPMENT  
15080 THERMAL INSULATION FOR MECHANICAL SYSTEMS  
15190 GAS PIPING SYSTEMS  
15400 PLUMBING, GENERAL PURPOSE  
15620 LIQUID CHILLERS  
15895 AIR SUPPLY, DISTRIBUTION, VENTILATION, AND EXHAUST SYSTEM  
15951 DIRECT DIGITAL CONTROL FOR HVAC  
15990 TESTING, ADJUSTING, AND BALANCING OF HVAC SYSTEMS  
15995 COMMISSIONING OF HVAC SYSTEMS

DIVISION 16 - ELECTRICAL

16070 SEISMIC PROTECTION FOR ELECTRICAL EQUIPMENT  
16415 ELECTRICAL WORK, INTERIOR  
16528 EXTERIOR LIGHTING  
16710 PREMISES DISTRIBUTION SYSTEM  
16815 CABLE TELEVISION PREMISES DISTRIBUTION SYSTEM  
16855 ELECTRICAL HEAT TRACING

-- End of Project Table of Contents --

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SECTION 01010

SUMMARY OF WORK  
05/97

PART 1 GENERAL

1.1 SCOPE

This section presents a general description of the work to be accomplished under this section.

1.2 DESCRIPTION OF CONTRACT WORK

The contract work includes renovation of three barracks buildings at Fort Dix in Wrightstown, New Jersey. The barracks are located between Delaware and Pennsylvania Avenues on 1st Street at Fort Dix Army Reservation.

1.3 DESCRIPTION OF DEMOLITION WORK

Sitework demolition includes sidewalks, curbs, bituminous paving, and underground and overhead utility lines.

The exterior demolition includes doors, partial exterior insulation and finish system, partial face brick, wall penetrations (fans, vents, etc.), concrete steps and landings, handrails, and roof penetrations (fans, vents, vtr's, etc.).

The interior demolition work includes CMU and gypsum board partitions, floor, wall, and ceiling finishes, windows, metal and wood doors and frames, partial concrete slab removal, and all utility systems. **All furniture, appliances, blinds, and other furnishings not permanently affixed to the buildings will be removed by the Base/User prior to making the buildings available to the Contractor as indicated by the Special Clauses.**

1.3.1 Hazardous Materials

Demolition of flooring, pipe insulation, and steel doors includes removal of asbestos containing materials. Asbestos wall insulation, existing on the interior side of all exterior walls in the sleeping wings shall remain.

Precautions shall be taken in removing items from these walls. Where partitions to be demolished intersect with walls where asbestos insulation is present, saw cut the partition walls clear of the asbestos insulation.

Demolition of walls, doors, and partitions includes material containing lead-based paint.

1.4 DESCRIPTION OF NEW CONSTRUCTION WORK

Sitework construction includes, sidewalks, curbs, bituminous paving, concrete slabs, new interior and exterior fire towers, handicap ramp, handrails, wood fence, excavating, grading and seeding, and underground utility lines.

The exterior construction includes doors, exterior insulation and finish system, reinstallation of face brick, painting, fire tower, roof penetrations (hatches, fans, vents, vtr's etc.).

The interior construction work includes new CMU and gypsum board partitions; floor, wall, and ceiling finishes; construction of new fire stairs; window repair and replacement; providing fragment retention film on the glazing of all existing windows and exterior doors; new steel and wood doors with steel frames; concrete slab repairs; new sprinkler and fire alarm systems; and new plumbing, HVAC, and electrical systems.

#### 1.5 BASE BID AND OPTIONS

The project consists of a Base Bid and Six Options as described below.

##### 1.5.1 Base Bid Work

Base bid includes the upgrade/modernization of AT Barracks Buildings 5404, 5405, and 5406 at Fort Dix, New Jersey, including the removal and disposal of asbestos-containing materials, removal and disposal of lead-containing materials, window repairs, removal and installation of window units for new openings, construction of new exterior stairs with Exterior Insulation and Finish System (EIFS), and patch/repair of existing EIFS for new/demolished window openings and wall penetrations.

##### 1.5.2 Option 1

Option No. 1 consists of the replacement of an existing parking area. This consists of the complete removal of the existing paving and unclassified excavation of existing base, existing subbase and existing subgrade and replacement with new bituminous paving, new base and new subbase.

##### 1.5.3 Option 2

Option No. 2 consists of the replacement of some existing exterior doors **and frames** in Buildings 5404, 5405, and 5406 with new insulated steel doors **and frames**.

##### 1.5.4 Option 3

Option No. 3 consists of **repairing** and painting the existing Exterior Insulation and Finish System (EIFS) on Buildings 5404, 5405, and 5406.

##### 1.5.5 Option 4

Option No. 4 consisting of upgrading some Base Bid door locksets to electronic card reading locksets in Buildings 5404, 5405, and 5406.

##### 1.5.6 Option 5

Option No. 5 is for the construction of new parking areas for Buildings 5404, 5405, and 5406. Construction for this Option may not begin for up to **180** calendar days after Option award pending permit approval by the New Jersey Pinelands Commission. This will include the complete removal of existing paving and unclassified excavation of existing base, existing subbase and existing subgrade and replacement with new bituminous paving, new base and new subbase. This will also include unclassified excavation of non-paved areas and application of new bituminous paving, new base and new subbase. Included in this option is the construction of retention basins.

1.5.7 Option 6

Option No. 6 is for replacement of existing windows with new windows having laminated glass.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

-- End of Section --

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SECTION 01025

MEASUREMENT AND PAYMENT  
02/94

PART 1 GENERAL

1.1 DESCRIPTION OF BASE BID ITEMS

1.1.1 Bid Item No. 1

Bid Item No. 1 includes the upgrade/modernization of AT Barracks Buildings 5404, 5405, and 5406 at Fort Dix, New Jersey, excluding the asbestos removal/disposal and window repair work covered in the other bid items. The work included under this bid item will not be measured for payment and all costs associated therewith shall be included in the contract lump sum price for Bid Item No. 1, "Base Bid - Upgrade/Modernize AT Barracks Buildings 5404, 5405, and 5406, Less Work Included in Other Bid Items".

1.1.2 Bid Item No. 2

Bid Item No. 2 includes the removal and disposal of interior asbestos insulated doors from Buildings 5404, 5405, and 5406. The work included under this bid item will be measured for payment by the number of asbestos insulated doors removed and properly disposed of. Payment for this work will be made at the contract unit price under Bid Item No. 2, "Base Bid - Removal and Disposal of Interior Asbestos Insulated Doors".

1.1.3 Bid Item No. 3

Bid Item No. 3 includes the removal and disposal of asbestos-containing pipe insulation from existing pipes located in chases of Buildings 5404, 5405, and 5406. The work included under this bid item will be measured for payment by the linear foot of asbestos-containing pipe insulation removed and properly disposed of. Payment for this work will be made at the contract unit price under Bid Item No. 3, "Base Bid - Removal and Disposal of Asbestos-Containing Pipe Insulation From Pipes in Chases".

1.1.4 Bid Item No. 4

Bid Item No. 4 includes the removal and disposal of asbestos-containing floor tile from Building 5406. The work included under this bid item will be measured for payment by the square foot of asbestos-containing floor tile removed and properly disposed of. Payment for this work will be made at the contract unit price under Bid Item No. 4, "Base Bid - Removal and Disposal of Asbestos-Containing Floor Tile".

1.1.5 Bid Item No. 5

Bid Item No. 5 includes the removal and disposal of asbestos-containing pipe insulation from existing pipes located in the crawl spaces of Buildings 5404, 5405, and 5406. The work included under this bid item will

be measured for payment by the linear foot of asbestos-containing pipe insulation removed and properly disposed of. Payment for this work will be made at the contract unit price under Bid Item No. 5, "Base Bid - Removal and Disposal of Asbestos-Containing Pipe Insulation From Pipes in Crawl Spaces".

1.1.6 Bid Item No. 6

Bid Item No. 5 includes the removal and disposal of asbestos contaminated soil from the crawl spaces of Buildings 5404 and 5406. The work included under this bid item will be measured for payment by the ton of asbestos contaminated soil removed and properly disposed of. Payment for this work will be made at the contract unit price under Bid Item No. 6, "Base Bid - Removal and Disposal of Asbestos Contaminated Soil From Crawl Spaces".

1.1.7 Bid Item No. 7

Bid Item No. 7 includes the removal and disposal of asbestos-containing pipe insulation from existing pipes located in the basements of Buildings 5404 and 5406. The work included under this bid item will be measured for payment by the linear foot of asbestos-containing pipe insulation removed and properly disposed of. Payment for this work will be made at the contract unit price under Bid Item No. 7, "Base Bid - Removal and Disposal of Asbestos-Containing Pipe Insulation From Pipes in Basements".

1.1.8 Bid Item No. 8

Bid Item No. 8 includes the removal and disposal of asbestos-containing steam pipe (10") insulation from Buildings 5404, 5405 and 5406 in kitchen crawl space. The work included under this bid item will be measured for payment by the linear foot of asbestos-containing pipe insulation removed and properly disposed of. Payment for this work will be made at the contract unit price under Bid Item No. 8, "Base Bid -Removal and Disposal of Asbestos Containing Steam Pipe Insulation From Pipes in Kitchen Crawl Spaces".

1.1.9 Bid Item No. 9

Bid Item No. 9 includes the removal and disposal of asbestos-containing pipe insulation from Buildings 5404 and 5406 on the ground of kitchen crawl space. The work included under this bid item will be measured for payment by the linear foot of asbestos-containing pipe insulation removed and properly disposed of. Payment for this work will be made at the contract unit price under Bid Item No. 9, "Base Bid -Removal and Disposal of Asbestos Containing Insulation From Pipes on ground in Kitchen Crawl Spaces".

1.1.10 Bid Item No. 10

Bid Item No. 10 includes the repair of existing windows consisting of hardware replacement in Buildings 5404, 5405, and 5406. The work included under this bid item will be measured for payment by the number of windows repaired. Payment for this work will be made at the contract unit price under Bid Item No. 10, "Base Bid - Repair of Existing Windows".

1.2 DESCRIPTION OF OPTIONS

1.2.1 Bid Item No. 11 - Option No. 1

Option No. 1 consists of the complete removal of the existing paving and unclassified excavation of existing base, existing subbase and existing subgrade of existing parking areas and replacement with new bituminous paving, new base and new subbase. The work included under this bid item will not be measured for payment and all costs associated therewith shall be included in the contract lump sum price for Bid Item No. 11, "Option No. 1 - Remove and Replace Existing Parking Area".

1.2.2 Bid Item No. 12 - Option No. 2

Option No. 2 consists of the replacement of **some** existing exterior doors **and frames** in Buildings 5404, 5405, and 5406 with new insulated steel doors **and frames**. The work included under this bid item will be measured for payment by the number of exterior doors removed and replaced with new insulated steel doors. Payment for this work will be made at the contract unit price under Bid Item No. 12, "Option No. 2 - Replace **Some** Existing Exterior Doors **and Frames** with New Insulated Steel Doors **and Frames**".

1.2.3 Bid Item No. 13 - Option No. 3

Option No. 3 consists of **repairing** up to 10 percent of the total existing Exterior Insulation and Finish System (EIFS) and painting all of the existing **and patched/repared** EIFS on Buildings 5404, 5405, and 5406. **The repair work included under this bid item** excludes patching of existing EIFS **resulting from the removal of existing** wall penetrations **and new EIFS** which is covered under the Base Bid. The work included under this bid item will not be measured for payment and all costs associated therewith shall be included in the contract lump sum price for Bid Item No. 13, "Option No. 3 - **Repair** and Paint Existing EIFS".

1.2.4 Bid Item No. 14 - Option No. 4

Option No. 4 consisting of upgrading **some** Base Bid door locksets to electronic card reading locksets in Buildings 5404, 5405, and 5406. The work included under this bid item will be measured for payment by the number of locksets upgraded to electronic card reading locksets. Payment for this work will be made at the contract unit price under Bid Item No. 14, "Option No. 4 - Upgrade **Some** Base Bid Locksets to Electronic Card Reading Locksets".

1.2.5 Bid Item No. 15 - Option No. 5

Option No. 5 is for the construction of new parking areas for Buildings 5404, 5405, and 5406. This will include the complete removal of existing paving and unclassified excavation of existing base, existing subbase and existing subgrade and replacement with new bituminous paving, new base and new subbase. This will also include unclassified excavation of non-paved areas and application of new bituminous paving, new base and new subbase. Included in this option is the construction of retention basins. The work

included under this bid item will not be measured for payment and all costs associated therewith shall be included in the contract lump sum price for Bid Item No. 15, "Option No. 5 - Construct New Parking Areas".

1.2.6 Bid Item No. 16 - Option No. 6

Option No. 6 is for replacement of existing windows in Buildings 5404, 5405, and 5406 with new windows having laminated glass. The work included under this bid item will be measured for payment by the number of windows replaced with new windows. This bid item shall include a deduct for the cost of repairing the existing windows included in Bid Item No. **10**, which will not be required work under this option. Payment for this work will be made at the contract unit price under Bid Item No. 16, "Option No. 6 - Replace Existing Windows with New Windows Having Laminated **Glass**, Less Base Bid Window Repairs".

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

-- End of Section --

# SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION		CONTRACTOR										CONTRACT NO.					
ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARRA# RAPH	GOVT CLASSIFICATION	CONTRACTOR SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY			MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS		
						SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/	DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER			DATE RCD FROM OTH REVIEWER	DATE OF ACTION
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
	06200		Window Sills, Chair Rails and Trim	2.1.4	G DO												
	06410		SD-02 Shop Drawings	1.7	G DO												
			Shop Drawings Installation	3.1	G DO												
			SD-03 Product Data	2.1	G DO												
			Wood Materials		G DO												
			Finish Schedule		G DO												
			SD-04 Samples		G DO												
			Plastic Laminates	2.2	G DO												
			Cabinet Hardware	2.4	G DO												
			SD-07 Certificates		G DO												
			Quality Assurance	1.4	G DO												
			Laminate Clad Casework	3.1	G DO												
	07240		SD-02 Shop Drawings		G DO												
			Shop drawings	3.3	G DO												
			SD-03 Product Data		G DO												
			EIFS System		G DO												
			SD-04 Samples		G DO												
			Sample Board		G DO												
			SD-06 Test Reports		G DO												
			Abrasion resistance	1.2.3.1	G DO												
			Accelerated weathering	1.2.3.2	G DO												
			Impact resistance	1.2.2.3	G DO												
			Mildew resistance	1.2.3.3	G DO												
			Absorption-freeze-thaw	1.2.3.5	G DO												

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ACTIVITY NO	(a)						(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)		(j)	(k)	(l)	(m)
		07240		Water penetration	1.2.1.1	G DO													
				Water resistance	1.2.3.4	G DO													
				Flame spread		G DO													
				Surface Burning Characteristics	1.2.2.1	G DO													
				Radiant heat	1.2.2.2	G DO													
				SD-07 Certificates															
				Qualifications of EIFS Manufacturer	1.4.1	G DO													
				Qualification of EIFS Installer	1.4.2	G DO													
				Qualification of Sealant Applicator	1.4.3	G DO													
				Inspection Check List	3.5.1	G DO													
				Warranty	1.7	G DO													
				SD-08 Manufacturer's Instructions															
				Installation	3.3	G DO													
				SD-10 Operation and Maintenance															
				Data															
				EIFS	1.7	G DO													
		07311		SD-03 Product Data															
				Shingles	2.1.4	G DO													
				Underlayment		G DO													
		07600		SD-02 Shop Drawings															
				Louvers		G DO													
				Gutters and Downspouts		G DO													
		07840		SD-02 Shop Drawings															
				Firestopping Materials	2.1	G DO													
				SD-07 Certificates															

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	07840		Firestopping Materials	2.1	G DO												
			Installer Qualifications	1.5	G DO												
			Inspection	3.3	G DO												
	07900		SD-03 Product Data														
			Backing	2.1	G DO												
			Bond-Breaker	2.2	G DO												
			Sealant	2.4	G DO												
			SD-07 Certificates														
			Sealant	2.4	G DO												
	08110		SD-02 Shop Drawings														
			Doors	2.1	G DO												
			Frames	2.5	G DO												
			Accessories	2.3	G DO												
			SD-03 Product Data														
			Doors	2.1	G DO												
			Frames	2.5	G DO												
			Accessories	2.3	G DO												
			SD-04 Samples														
			Factory-applied enamel finish	2.8.4	G DO												
			SD-07 Certificates														
			Doors	2.1	G DO												
			Frames	2.5	G DO												
	08210		SD-02 Shop Drawings														
			Doors	2.1	G DO												
			SD-03 Product Data														
			Doors	2.1	G DO												

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	08210		Accessories		2.2	G DO												
			SD-04 Samples			G DO												
			Door Finish Colors			G DO												
			SD-06 Test Reports			G DO												
			Split Resistance		2.4	G DO												
			Cycle-Slam		2.4	G DO												
			Hinge Loading Resistance		2.4	G DO												
	08520		SD-02 Shop Drawings			G DO												
			Aluminum Windows			G DO												
			Insect Screens		2.3	G DO												
			SD-03 Product Data			G DO												
			Aluminum Windows			G DO												
			Window Repair Kits			G DO												
			SD-04 Samples			G DO												
			Aluminum Windows			G DO												
			SD-06 Test Reports			G DO												
			Aluminum Windows			G DO												
			SD-07 Certificates			G DO												
	08710		SD-02 Shop Drawings			G DO												
			Hardware Schedule		1.3	G DO												
			Keying Schedule			G DO												
			SD-03 Product Data			G DO												
			Hardware Items			G DO												
			SD-10 Operation and Maintenance		2.3	G DO												
			Data															

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	08710		Hardware Items	2.3		G DO												
			SD-11 Closeout Submittals															
			Key Bitting Chart			G DO												
	08810		SD-02 Shop Drawings															
			Installation	3.2		G DO												
			SD-03 Product Data															
			Insulating Glass	2.2		G DO												
			Glazing Accessories	2.3		G DO												
			SD-07 Certificates															
			Insulating Glass	2.2		G DO												
	08850		SD-03 Product Data															
			Fragment Retention Film	2.2		G DO												
			Cleaning	3.3		G DO												
			SD-04 Samples															
			Fragment Retention Film	2.2		G DO												
			SD-06 Test Reports															
			Fragment Retention Film	2.2		G DO												
			SD-07 Certificates															
			Fragment Retention Film	2.2		G DO												
	09200		SD-02 Shop Drawings															
			Approved Detail Drawings	3.1		G DO												
			SD-03 Product Data															
			Gypsum Plaster and Base															
			SD-07 Certificates															
			Qualifications	1.3		G DO												
			Gypsum Plaster	2.4		G DO												

# SUBMITTAL REGISTER

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(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	
	09250		SD-02 Shop Drawings															
			Steel Framing		G DO													
			Control Joints		G DO													
			Fire-Resistant Assemblies	3.7	G DO													
			SD-07 Certificates															
			Gypsum Board	2.3	G DO													
			Steel Framing		G DO													
			Fire-Rated Gypsum Board	2.3.2	G DO													
	09310		SD-03 Product Data															
			Tile	2.1	G DO													
			Mortar and Grout	2.3	G DO													
			SD-04 Samples															
			Tile	2.1	G DO													
			SD-07 Certificates															
			Tile	2.1	G DO													
			Mortar and Grout	2.3	G DO													
	09510		SD-02 Shop Drawings															
			Approved Detail Drawings	1.3	G DO													
			SD-03 Product Data															
			Acoustical Ceiling Systems		G DO													
			SD-04 Samples															
			Acoustical Units	2.1	G DO													
			SD-06 Test Reports															
			Ceiling Attenuation Class and Test	2.6	G DO													
	09650		SD-03 Product Data															

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TITLE AND LOCATION AT Barracks Upgrade		CONTRACTOR																
ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARRA# RAPH	GOVT CLASSIFICATION	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY			REMARKS				
						SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE OF ACTION	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTHER REVIEWER	DATE OF ACTION		MAILED TO CONTR/ DATE RCD FRM APPR AUTH			
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	
		09650	Resilient Flooring and Accessories															
			SD-04 Samples															
			Flooring	3.2														
		09680	SD-02 Shop Drawings															
			Installation	3.3														
			Molding	2.6														
			SD-03 Product Data															
			Carpet															
			Surface Preparation	3.1														
			Installation	3.3														
			Regulatory Requirements	1.3														
			SD-04 Samples															
			Carpet															
			Molding	2.6														
			SD-07 Certificates															
			Carpet															
			SD-10 Operation and Maintenance															
			Data															
			Carpet															
		09720	SD-03 Product Data															
			Wallcoverings	2.1														
			Installation	3.3														
			Cleaning and Maintenance															
			SD-04 Samples															
			Wallcoverings	2.1														

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TITLE AND LOCATION AT Barracks Upgrade		CONTRACTOR																
ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARRA G# RAPH	GOVT CLASSIFICATION	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY			REMARKS				
						SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION	DATE OF ACTION	DATE FWD TO APPR AUTH/	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER		DATE OF ACTION	DATE RCD FRM APPR AUTH		
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	
	09720		SD-07 Certificates															
			Wallcoverings	2.1	G DO													
	09900		SD-02 Shop Drawings															
			Piping Identification	3.11	G DO													
			stencil	3.11	FIO													
			SD-03 Product Data															
			Coating	2.1	G DO													
			SD-04 Samples															
			Color	1.9	G DO													
			SD-07 Certificates															
			Applicator's Qualifications	1.3	G DO													
			Qualification Testing	1.4.1.2	G DO													
			SD-08 Manufacturer's Instructions															
			Application Instructions	3.3.1	G DO													
			Mixing	3.7.2	G DO													
			Manufacturer's Material Safety	1.7.2	G DO													
			Data Sheets															
			SD-10 Operation and Maintenance															
			Data															
			Coatings	2.1	G DO													
	10430		SD-02 Shop Drawings															
			Approved Detail Drawings	3.1	G DO													
			SD-03 Product Data															
			Modular Exterior Signage System	2.1	G DO													
			Installation	3.1	G DO													
			Exterior Signs		G DO													

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						SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	DATE OF ACTION	DATE FWD TO APPR AUTH/	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	DATE OF ACTION		DATE RCD FROM APPR AUTH			
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	
	10430		Wind Load Requirements	1.3	G DO													
			SD-04 Samples		G DO													
			Exterior Signs		G DO													
			SD-10 Operation and Maintenance															
			Data															
			Protection and Cleaning	3.1.2	G DO													
	10440		SD-02 Shop Drawings	3.1	G DO													
			Detail Drawings		G DO													
			SD-03 Product Data		G DO													
			Installation	3.1	G DO													
			SD-04 Samples		G DO													
			Interior Signage	1.3	G DO													
			SD-10 Operation and Maintenance															
			Data															
			Protection and Cleaning	3.1.2	G DO													
	10800		SD-03 Product Data		G DO													
			Finishes	2.1.2	G DO													
			Accessory Items	2.2	G DO													
	12320		SD-02 Shop Drawings		G DO													
			Installation	3.1	G DO													
			SD-03 Product Data		G DO													
			Cabinets	2.1	G DO													
			Countertops		G DO													
			SD-04 Samples		G DO													
			Cabinets	2.1	G DO													
			Countertops		G DO													

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TITLE AND LOCATION AT Barracks Upgrade		CONTRACTOR																
ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARRAG# RAPH	GOVT CLASSIFICATION	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY			MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS			
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(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	
	12320		SD-06 Test Reports															
			Cabinets and Countertops		G DO													
	12490		SD-02 Shop Drawings															
			Approved Detail Drawings	3.2	G DO													
			SD-03 Product Data															
			Window Treatments	3.2	G DO													
			Hardware	1.3	G DO													
			SD-04 Samples															
			Window Treatments	3.2	G DO													
	13080		SD-02 Shop Drawings															
			Bracing	3.1	G DO													
			Resilient Vibration Isolation Devices	3.4	G DO													
			Equipment Requirements	1.4	G DO													
			SD-03 Product Data															
			Bracing	3.1	G DO													
			Equipment Requirements	1.4	G DO													
	13280		SD-01 Preconstruction Submittals															
			Asbestos Accident Prevention Plan		G DO													
			Asbestos Activity Phase Hazard Analysis Plan		G DO													
			SD-03 Product Data															
			Respiratory Protection Program	1.12	G DO													
			Cleanup and Disposal	3.11	G DO													
			Detailed Drawings		G DO													

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TITLE AND LOCATION AT Barracks Upgrade		CONTRACTOR																
TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARRA G# RAPH	GOVT CLASSIFICATION	CONTRACTOR SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY			REMARKS					
					SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER		DATE RCD FRM APPR AUTH	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	
	13280	Materials and Equipment			G DO													
		Qualifications	1.5		G DO													
		Training Program	1.11		FIO													
		Medical Requirements	1.10		FIO													
		Encapsulants	2.1		G DO													
		SD-06 Test Reports																
		Exposure Assessment and Air Monitoring	3.9		G DO													
		Local Exhaust Ventilation	1.20		G DO													
		Licenses, Permits and Notifications	1.14		G DO													
		SD-07 Certificates																
		Vacuum, Filtration and Ventilation Equipment			FIO													
	13281	SD-03 Product Data																
		Equipment List			G DO													
		Lead-Based Paint (LBP) Inventory			G DO													
		Lead-Based Paint (LBP) Management Plan			G DO													
		SD-06 Test Reports																
		Sampling Result			G DO													
		Disposal Records			G COR													
		SD-07 Certificates																
		Quality Assurance	1.3		G DO													
	13850	SD-02 Shop Drawings																
		Fire Alarm Reporting System			G DO													

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						SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	DATE OF ACTION	DATE FWD TO APPR AUTH/	DATE FWD TO OTHER REVIEWER	DATE RCD FROM CONTR	DATE FWD DATE RCD FROM OTH REVIEWER			DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	
	13850		SD-03 Product Data															
			Storage Batteries	2.2	G DO													
			Voltage Drop		G DO													
			Spare Parts	2.7.3	G DO													
			Technical Data and Computer	1.5	G DO													
			Software															
			Training	3.6	G DO													
			Testing	3.5	G DO													
			SD-06 Test Reports															
			Testing	3.5	G DO													
			SD-07 Certificates															
			Equipment	3.4.1	G DO													
			Qualifications	1.3.7	G DO													
			SD-10 Operation and Maintenance															
			Data															
			Technical Data and Computer	1.5	G DO													
			Software															
	13852		SD-02 Shop Drawings															
			Fire Alarm Reporting System	1.5	G DO													
			Wiring Diagrams		G DO													
			SD-03 Product Data															
			Battery	2.1.2.1	G DO													
			Spare Parts		G DO													
			Qualifications		G DO													
			Fire Alarm Reporting System	1.5	G DO													
			Training	3.4.3	G DO													

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TITLE AND LOCATION AT Barracks Upgrade		CONTRACTOR																
TRANSMITTAL NO	ACTIVITY NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	CLASSIFICATION	GOVT OR CLASSIFICATION	CONTRACTOR SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY			REMARKS			
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE OF ACTION	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTHER REVIEWER	ACTION CODE		DATE OF ACTION	MAILED TO CONTR/ DATE RCD FRM APPR AUTH	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	
	13852		Test Procedures			G DO												
			SD-06 Test Reports															
			Testing	3.4		G DO												
			SD-07 Certificates															
			Equipment			G DO												
	13930		SD-02 Shop Drawings															
			Sprinkler System Shop Drawings			G DO												
			As-Built Shop Drawings			G DO												
			SD-03 Product Data															
			Fire Protection Related Submittals	3.1		G DO												
			Load Calculations for Sizing Sway			G DO												
			Bracing															
			Components and Equipment Data			G DO												
			Hydraulic Calculations	1.7		G DO												
			Spare Parts			G DO												
			Preliminary Tests Procedures			G DO												
			Final Acceptance Test Procedures			G DO												
			On-site Training Schedule			G DO												
			Preliminary Tests	3.10		G DO												
			Final Acceptance Test			G DO												
			Fire Protection Specialist			G DO												
			Qualifications															
			Sprinkler System Installer	1.9		G DO												
			Qualifications															
			SD-06 Test Reports															
			Preliminary Tests Report			G DO												

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AT Barracks Upgrade		TRANSMITTAL NO	ACTIVITY NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	CLASSIFICATION	CONTRACTOR SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY			REMARKS		
(a)	(b)							(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)		(k)	(l)
		13930			Final Acceptance Test Report		G DO											
					SD-07 Certificates		G DO											
					Fire Protection Specialist Inspection													
					SD-10 Operation and Maintenance Data													
		13935			Wet Pipe Sprinkler System		G DO											
					SD-02 Shop Drawings	1.7	G DO											
					Shop Drawings													
					As-Built Drawings	3.9	G DO											
					SD-03 Product Data													
					Fire Protection Related Submittals	3.1	G DO											
					Sway Bracing	3.4.1	G DO											
					Materials and Equipment	2.3	G DO											
					Hydraulic Calculations	1.7	G DO											
					Spare Parts		G DO											
					Preliminary Tests	3.8	G DO											
					Final Acceptance Test	3.9	G DO											
					Fire Protection Specialist	1.8	G DO											
					Sprinkler System Installer	1.9	G DO											
					Qualifications													
					Onsite Training	3.10	G DO											
					SD-06 Test Reports													
					Preliminary Tests	3.8	G DO											
					Final Acceptance Test	3.9	G DO											
					SD-07 Certificates													

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TITLE AND LOCATION		CONTRACTOR														
AT Barracks Upgrade		DESCRIPTION ITEM SUBMITTED	P A R A G R A P H #	G O V T C L A S S I F I C A T I O N	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY			REMARKS			
TRANSMITTAL NO	SPEC SECT				SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	DATE OF ACTION	DATE FWD TO APPR AUTH/	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	DATE OF ACTION		DATE RCD FRM APPR AUTH		
ACTIVITY NO	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
13935		Inspection by Fire Protection Specialist	3.3	G DO												
		SD-10 Operation and Maintenance Data														
		Operating and Maintenance Instructions	3.10	G DO												
15070		SD-02 Shop Drawings														
		Coupling and Bracing	3.1	G DO												
		Flexible Couplings or Joints	3.3	G DO												
		Equipment Requirements		G DO												
		Contractor Designed Bracing		G DO												
		SD-03 Product Data														
		Coupling and Bracing	3.1	G DO												
		Equipment Requirements		G DO												
		Contractor Designed Bracing		G DO												
		SD-07 Certificates														
		Flexible Ball Joints	2.2	G DO												
15080		SD-04 Samples														
		Thermal Insulation Materials		G DO												
15190		SD-02 Shop Drawings														
		Gas Piping System	3.2	G DO												
		SD-03 Product Data														
		Qualifications		G DO												
		SD-06 Test Reports														
		Testing		G DO												
		Pressure Tests	3.14.1	G DO												

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TRANSMITTAL NO	ACTIVITY NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARRAG# RAPH	GOVT CLASSIFICATION	CONTRACTOR SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY			MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS			
						SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE OF ACTION	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTHER REVIEWER	ACTION CODE			DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	
	15190		Test With Gas	3.14.2	G DO													
	15400		SD-02 Shop Drawings															
			Plumbing System	3.7.1	G DO													
			Electrical Schematics		G DO													
			SD-03 Product Data															
			Welding	1.5.1	G DO													
			Plumbing Fixture Schedule	3.8	G DO													
			Plumbing System	3.7.1	G DO													
			SD-06 Test Reports															
			Tests, Flushing and Disinfection	3.7	G DO													
			Backflow Prevention Assembly		G DO													
			Tests															
			SD-07 Certificates															
			Materials and Equipment		G DO													
			Bolts	2.1.1	G DO													
			SD-10 Operation and Maintenance															
			Data															
			Plumbing System		G DO													
	15620		SD-02 Shop Drawings															
			Drawings		G DO													
			Installation	3.1	G DO													
			SD-03 Product Data															
			Refrigeration System	3.1.1	G DO													
			Spare Parts		G DO													
			Posted Instructions	3.5	G DO													
			Verification of Dimensions	1.5.1	G DO													

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ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARRAG# RAPH	GOVERNOR CLASSIFICATION	CONTRACTOR SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY			REMARKS				
						SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE OF ACTION	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTHER REVIEWER	ACTION CODE		DATE OF ACTION	MAILED TO CONTR/ DATE RCD FRM APPR AUTH		
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	15620		Manufacturer's Multi-Year Compressor Warranty	1.6	G DO													
			System Performance Tests	3.1.1.2	G DO													
			System Performance Tests	3.4	G DO													
			Demonstrations	3.5	G DO													
			SD-06 Test Reports															
			System Performance Tests	3.1.1.2	G DO													
			System Performance Tests	3.4	G DO													
			SD-07 Certificates															
			Refrigeration System	3.1.1	G DO													
			Service Organization	2.1	G DO													
			SD-10 Operation and Maintenance															
			Data															
			Operation Manuals		G DO													
			Maintenance Manuals	3.5	G DO													
	15895		SD-02 Shop Drawings															
			Drawings	3.1.10	G DO													
			Installation	3.1	G DO													
			SD-03 Product Data															
			Components and Equipment	2.1	G DO													
			Test Procedures	2.15.1	G DO													
			Welding Procedures		G DO													
			System Diagrams		G DO													
			Similar Services		G DO													
			Welding Joints		G DO													
			Testing, Adjusting and Balancing	3.6	G DO													



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ACTIVITY NO	(a)						(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)		(j)	(k)	(l)	(m)	(n)
		15951		SD-10 Operation and Maintenance Data																
				Operation Manual	1.5	G DO														
				Maintenance and Repair Manual	1.6	G DO														
		15990		SD-02 Shop Drawings																
				TAB Schematic Drawings and Report Forms	3.3	G DO														
				SD-03 Product Data																
				TAB Related HVAC Submittals	3.2	G DO														
				TAB Procedures	3.5.1	G DO														
				Calibration	1.4	G DO														
				Systems Readiness Check	3.5.2	G DO														
				TAB Execution	3.5.1	G DO														
				TAB Verification	3.5.4	G DO														
				SD-06 Test Reports																
				Design Review Report	3.1	G DO														
				Systems Readiness Check	3.5.2	G DO														
				TAB Report	3.5.3	G DO														
				TAB Verification Report	3.5.4	G DO														
				SD-07 Certificates																
				Ductwork Leak Testing	3.4	G DO														
				TAB Firm	1.5.1	G DO														
				TAB Specialist	1.5.2	G DO														
		15995		SD-03 Product Data																
				Commissioning Team	3.1	G DO														
				Test Procedures		G DO														

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AT Barracks Upgrade		TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH#	CLASSIFICATION	CONTRACTOR SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY			REMARKS			
(a)	(b)						(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)		(k)	(l)	(m)
		15995		Test Schedule		G DO												
				SD-06 Test Reports		G DO												
				Test Reports		G DO												
		16070		SD-02 Shop Drawings		G DO												
				Lighting Fixtures in Buildings	3.2	G DO												
				Equipment Requirements	1.4	G DO												
				SD-03 Product Data		G DO												
		16415		Contractor Designed Bracing	1.3.3	G DO												
				SD-02 Shop Drawings		G DO												
				Interior Electrical Equipment		G DO												
				SD-03 Product Data		G DO												
				Fault Current and Protective		G DO												
				Device Coordination Study		G DO												
				Manufacturer's Catalog		G DO												
				Material, Equipment, and Fixture		G DO												
				Lists		G DO												
				Installation Procedures		G DO												
				Onsite Tests	3.21.2	G DO												
				SD-06 Test Reports		G DO												
				Factory Test Reports		G DO												
				Field Test Plan		G DO												
				Field Test Reports	3.19	G DO												
				SD-07 Certificates		G DO												
				Materials and Equipment	1.4	G DO												
		16528		SD-02 Shop Drawings		G DO												
				Detail Drawings		G DO												

# SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION AT Barracks Upgrade		CONTRACTOR															
TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	GOVT CLASSIFICATION	CONTRACTOR SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY			REMARKS				
					SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	DATE OF ACTION	DATE FWD TO APPR AUTH/	DATE FWD TO OTHER REVIEWER	DATE FWD TO CONTR/	DATE OF ACTION		DATE RCD FROM APPR AUTH			
ACTIVITY NO	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	
16528		SD-03 Product Data Equipment and Materials															
		Spare Parts															
		SD-06 Test Reports															
		Operating Test	3.7.1														
		SD-10 Operation and Maintenance															
		Data															
		Lighting System	1.3.1														
16710		SD-02 Shop Drawings															
		Premises Distribution System	1.7														
		Record Drawings															
		SD-03 Product Data															
		Record Keeping and Documentation	1.8														
		Spare Parts															
		Manufacturer's Recommendations	3.1.2														
		Test Plan															
		Qualifications	1.4														
		SD-06 Test Reports															
		Test Reports															
		SD-07 Certificates															
		Premises Distribution System	1.7														
		Materials and Equipment	2.1														
		Installers															
16815		SD-03 Product Data															
		Manufacturer's Recommendations															



SECTION 06410

LAMINATE CLAD ARCHITECTURAL CASEWORK  
11/01

PART 1 GENERAL

1.1 REFERENCES

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.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

- |             |  |
|-------------|--|
| ANSI A161.2 | (1998) Decorative Laminate Countertops, Performance Standards for Fabricated High Pressure |
| ANSI A208.1 | (1999) Particleboard Mat Formed Woods  |
| ANSI A208.2 | (1994) Medium Density Fiberboard (MDF)   |

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

- |             |  |
|-------------|--|
| ASTM D 1037 | (1999) Evaluating Properties of Wood-Base Fiber and Particle Panel Materials                     |
| ASTM E 84   | (2000a) Surface Burning Characteristics of Building Materials                                    |
| ASTM F 547  | (1977; R 1995) Definitions of Terms Relating to Nails for Use with Wood and Wood-Based Materials |

ARCHITECTURAL WOODWORK INSTITUTE (AWI)

- |               |   |
|---------------|---|
| AWI Qual Stds | (1999) Architectural Woodwork Quality Standards |
|---------------|---|

BUILDERS HARDWARE MANUFACTURERS ASSOCIATION (BHMA)

- |             |                         |
|-------------|-------------------------|
| BHMA A156.9 | (1994) Cabinet Hardware |
|-------------|-------------------------|

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

- |             |  |
|-------------|--|
| NEMA LD 3   | (1995) High-Pressure Decorative Laminates  |
| NEMA LD 3.1 | (1995) Performance, Application, Fabrication, and Installation of High-Pressure Decorative Laminates |

WINDOW AND DOOR MANUFACTURERS ASSOCIATION (WDMA)

NWWDA I.S. 1-A

(1997) Architectural Wood Flush Doors

1.2 GENERAL DESCRIPTION

Work in this section includes laminate clad custom casework cabinets and countertops as shown on the drawings and as described in this specification. This Section includes high-pressure laminate surfacing and cabinet hardware. The Contractor shall comply with EPA requirements in accordance with Section 01670 RECYCLED/RECOVERED MATERIALS. All exposed and semi-exposed surfaces shall be covered with laminate.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES.

SD-02 Shop Drawings

Shop Drawings; G, DO.  
Installation; G, DO.

Shop drawings showing all fabricated casework items in plan view, elevations and cross-sections to accurately indicate materials used, details of construction, dimensions, methods of fastening and erection, and installation methods proposed. Shop drawing casework items shall be clearly cross-referenced to casework items located on the project drawings. Shop drawings shall include a color schedule of all casework items to include all countertop, exposed, and semi-exposed cabinet finishes to include finish material manufacturer, pattern, and color.

SD-03 Product Data

Wood Materials; G, DO.  
Finish Schedule; G, DO.

Descriptive data which provides narrative written verification of all types of construction materials and finishes, methods of construction, etc. not clearly illustrated on the submitted shop drawings. Data shall provide written verification of conformance with AWI Qual Stds for the quality indicated to include materials, tolerances, and types of construction. Both the manufacturer of materials and the fabricator shall submit available literature which describes re-cycled product content, operations and processes in place that support efficient use of natural resources, energy efficiency, emissions of ozone depleting chemicals, management of water and operational waste, indoor environmental quality, and other production techniques supporting sustainable design and products.

#### SD-04 Samples

Plastic Laminates; G, DO.

Two samples of each plastic laminate pattern and color. Samples shall be a minimum of 5 by 7 inches in size.

Cabinet Hardware; G, DO.

One sample of each cabinet hardware item specified to include hinges, pulls, drawer glides, and locks.

#### SD-07 Certificates

Quality Assurance; G, DO.

Laminate Clad Casework; G, DO.

A quality control statement which illustrates compliance with and understanding of AWI Qual Stds requirements, in general, and the specific AWI Qual Stds requirements provided in this specification. The quality control statement shall also certify a minimum of ten years contractor's experience in laminate clad casework fabrication and construction. The quality control statement shall provide a list of a minimum of five successfully completed projects of a similar scope, size, and complexity.

### 1.4 QUALITY ASSURANCE

Unless otherwise noted on the drawings, all materials, construction methods, and fabrication shall conform to and comply with the custom grade quality standards as outlined in AWI Qual Stds, Section 400G and Section 400B for laminate clad cabinets. These standards shall apply in lieu of omissions or specific requirements in this specification. Contractors and their personnel engaged in the work shall be able to demonstrate successful experience with work of comparable extent, complexity and quality to that shown and specified. Contractor must demonstrate knowledge and understanding of AWI Qual Stds requirements for the quality grade indicated.

### 1.5 DELIVERY AND STORAGE

Casework may be delivered fully assembled. All units shall be delivered to the site in undamaged condition, stored off the ground in fully enclosed areas, and protected from damage. The storage area shall be well ventilated and not subject to extreme changes in temperature or humidity.

### 1.6 SEQUENCING AND SCHEDULING

Work shall be coordinated with other trades. Units shall not be installed in any room or space until painting, and ceiling installation are complete within the room where the units are located. Floor cabinets shall be installed before finished flooring materials are installed.

### 1.7 PROJECT/SITE CONDITIONS

Field measurements shall be verified as indicated in the shop drawings before fabrication.

## PART 2 PRODUCTS

### 2.1 WOOD MATERIALS

#### 2.1.1 Lumber

All framing lumber shall be kiln-dried Grade III to dimensions as shown on the drawings.

#### 2.1.2 Panel Products

##### 2.1.2.1 Plywood

All plywood panels used for framing purposes shall be veneer core hardwood plywood, AWI Qual Stds Grade AA. Nominal thickness of plywood panels shall be as indicated in this specification and on the drawings.

### 2.2 HIGH PRESSURE DECORATIVE LAMINATE (HPDL)

All plastic laminates shall meet the requirements of NEMA LD 3 and ANSI A161.2 for high-pressure decorative laminates. Design, colors, surface finish and texture, and locations shall be as indicated on the drawings. Plastic laminate types and nominal minimum thicknesses for casework components shall be as indicated in the following paragraphs.

#### 2.2.1 Horizontal General Purpose Standard (HGS) Grade

Horizontal general purpose standard grade plastic laminate shall be 0.048 inches (plus or minus 0.005 inches) in thickness. This laminate grade is intended for horizontal surfaces where postforming is not required.

#### 2.2.2 Vertical General Purpose Standard (VGS) Grade

Vertical general purpose standard grade plastic laminate shall be 0.028 inches (plus or minus 0.004 inches) in thickness. This laminate grade is intended for exposed exterior vertical surfaces of casework components where postforming is not required.

#### 2.2.3 Horizontal General Purpose Postformable (HGP) Grade

Horizontal general purpose postformable grade plastic laminate shall be 0.042 inches (plus or minus 0.005 inches) in thickness. This laminate grade is intended for horizontal surfaces where post forming is required.

#### 2.2.4 Cabinet Liner Standard (CLS) Grade

Cabinet liner standard grade plastic laminate shall be 0.020 inches in thickness. This laminate grade is intended for light duty semi-exposed interior surfaces of casework components.

### 2.3 EDGE BANDING

Edge banding for casework doors and drawer fronts shall be PVC vinyl and shall be 0.125 inch thick. Material width shall be 15/16 inches. Color and pattern shall match exposed door and drawer front laminate pattern and color.

### 2.4 CABINET HARDWARE

All hardware shall conform to BHMA A156.9, unless otherwise noted, and shall consist of the following components:

- a. Door Hinges: Continuous hinge type, BHMA No. B01491.
- b. Cabinet Pulls: Bar pull type, BHMA No. B02011.
- c. Drawer Slide: Side-mounted self-closing type, BHMA No. B05091 with full extension and a minimum 100 pound load capacity. Slides shall include an integral stop to avoid accidental drawer removal.
- d. Door Lock: E07131.
- e. Drawer Lock: E07021.

### 2.5 FASTENERS

Nails, screws, and other suitable fasteners shall be the size and type best suited for the purpose and shall conform to ASTM F 547 where applicable.

### 2.6 ADHESIVES AND CAULKS

#### 2.6.1 Adhesives

Adhesives shall be of a formula and type recommended by AWI. Adhesives shall be selected for their ability to provide a durable, permanent bond and shall take into consideration such factors as materials to be bonded, expansion and contraction, bond strength, fire rating, and moisture resistance. Adhesives shall meet local regulations regarding VOC emissions and off-gassing.

##### 2.6.1.1 Wood Joinery

Adhesives used to bond wood members shall be a Type II for interior use urea-formaldehyde resin formula or polyvinyl acetate resin emulsion. Adhesives shall withstand a bond test as described in NWWDA I.S. 1-A.

##### 2.6.1.2 Laminate Adhesive

Adhesive used to join high-pressure decorative laminate to wood shall be a water-based contact adhesive or adhesive consistent with AWI and laminate manufacturer's recommendations. PVC edgbanding shall be adhered using a polymer-based hot melt glue.

##### 2.6.2 Caulk

Caulk used to fill voids and joints between laminated components and between laminated components and adjacent surfaces shall be clear, 100 percent silicone.

## 2.7 ACCESSORIES

### 2.7.1 Grommets

Grommets shall be plastic material for cutouts with a diameter of 2 inches. Locations shall be as indicated on the drawings.

## 2.8 FABRICATION

Fabrication and assembly of components shall be accomplished at the shop site to the maximum extent possible. Construction and fabrication of cabinets and their components shall meet or exceed the requirements for AWI custom grade unless otherwise indicated in this specification. Cabinet style, in accordance with AWI Qual Stds, Section 400-G descriptions, shall be as indicated on the drawings.

### 2.8.1 Base Cabinet Case Body

Frame members shall be glued and screwed together, kiln-dried hardwood lumber. Top corners, bottom corners, and cabinet bottoms shall be braced with either hardwood blocks or water-resistant glue and /screwed in place metal or plastic corner braces. Cabinet components shall be constructed from the following materials and thicknesses:

- a. Body Members (Ends, Divisions, Bottoms, and Tops): 3/4 inch veneer core plywood panel product.
- b. Cabinet Backs: 1/2 inch veneer core plywood panel product.
- c. Drawer Sides, Backs, and Subfronts: 1/2 inch hardwood lumber.
- d. Drawer Bottoms: 1/4 inch veneer core plywood panel product.
- e. Door and Drawer Fronts: 3/4-inch veneer core plywood panel product.

#### 2.8.1.1 Joinery Method for Case Body Members

- a. Tops, Exposed Ends, and Bottoms.
  - 1) Steel "European" assembly screws (1-1/2 inch from end, 5 inch on center, fasteners will not be visible on exposed parts).
  - 2) Doweled, glued under pressure (approx. 4 dowels per 12 inches of joint).
  - 3) Stop dado, glued under pressure, and either nailed, stapled or screwed (fasteners will not be visible on exposed parts).
  - 4) Spline or biscuit, glued under pressure.

b. Exposed End Corner and Face Frame Attachment.

- 1) For mitered joint: lock miter or spline or biscuit, glued under pressure (no visible fasteners).
- 2) For non-mitered joint (90 degree): butt joint glued under pressure (no visible fasteners).
- 3) Butt joint, glued and nailed.

c. Cabinet Backs (Floor Standing Cabinets).

- 1) Side bound, captured in grooves; glued and fastened to top and bottom.
- 2) Full overlay, plant-on backs with minimum back thickness of 1/2 inch and minimum No. 12 plated (no case hardened) screws spaced a minimum 3 inches on center. Edge of back shall not be exposed on finished sides. Anchor strips are not required when so attached.
- 3) Side bound, placed in rabbetts; glued and fastened in rabbetts.

2.8.2 Cabinet Floor Base

Floor cabinets shall be mounted on a base constructed of 3/4 inch veneer core exterior plywood. Base assembly components shall be a moisture-resistant panel product. Finished height for each cabinet base shall be as indicated on the drawings. Bottom edge of the cabinet door or drawer face shall be flush with top of base.

2.8.3 Cabinet Door and Drawer Fronts

Door and drawer fronts shall be fabricated from 3/4 inch veneer core plywood. All door and drawer front edges shall be surfaced with PVC edgebanding, color and pattern to match exterior face laminate.

2.8.4 Drawer Assembly

Drawer components shall consist of a removable drawer front, sides, backs, and bottom. Drawer components shall be constructed of the following materials and thicknesses:

- a. Drawer Sides and Backs For Laminate Finish: 1/2 inch thick 7-ply hardwood veneer core substrate.
- b. Drawer Bottom: 1/4 inch thick veneer core panel product for plastic laminate finish.

2.8.4.1 Drawer Assembly Joinery Method

- a. Bottoms shall be set into sides, front, and back, 1/4 inch deep groove with a minimum 3/8 inch standing shoulder.

#### 2.8.5 Laminate Clad Countertops

Laminate countertop substrate shall be constructed of 3/4 inch veneer core plywood.

##### 2.8.5.1 Edge Style

Front and exposed side countertop edges shall be in shapes and to dimensions as shown on the drawings. The countertop edge material shall be:

- a. Post formed plastic laminate. Laminate edge shall be integral with countertop surface. Shape and profile shall be waterfall and to dimensions as indicated on the drawings.

#### 2.8.6 Laminate Application

Laminate application to substrates shall follow the recommended procedures and instructions of the laminate manufacturer and NEMA LD 3.1, using tools and devices specifically designed for laminate fabrication and application.

Apply required grade of laminate in full uninterrupted sheets consistent with manufactured sizes using one piece for full length only, using adhesives specified herein or as recommended by the manufacturer. Fit corners and joints hairline. All laminate edges shall be machined flush, filed, sanded, or buffed to remove machine marks and eased (sharp corners removed). Clean up at easing shall be such that no overlap of the member eased is visible. Fabrication shall conform to NEMA LD 3.1 and ANSI A161.2.

Laminate types and grades for component surfaces shall be as follows unless otherwise indicated on the drawings:

##### a. Base Cabinet Case Body.

- 1) Exterior (exposed) surfaces to include exposed and semi-exposed face frame surfaces: HPDL Grade VGS and HGS.
- 2) Interior (semi-exposed) surfaces to include interior back wall, bottom, and side walls: HPDL Grade CLS.

##### b. Door and Drawer Fronts.

- 1) Exterior (exposed) and interior (semi-exposed) faces: HPDL Grade VGS.
- 2) Edges: PVC edgebanding.

##### c. Drawer Assembly.

All interior and exterior surfaces: HPDL Grade CLS.

##### d. Countertops.

- 1) All exposed and semi-exposed surfaces: HPDL Grade HGP.

##### 2.8.6.1 Tolerances

Flushness, flatness, and joint tolerances of laminated surfaces shall meet the AWI Qual Stds custom grade requirements.

#### 2.8.7 Finishing

##### 2.8.7.1 Filling

No fasteners shall be exposed on laminated surfaces. All nails, screws, and other fasteners in non-laminated cabinet components shall be countersunk and the holes filled with wood filler consistent in color with the wood species.

##### 2.8.7.2 Sanding

All surfaces requiring coatings shall be prepared by sanding with a grit and in a manner that scratches will not show in the final system.

### PART 3 EXECUTION

#### 3.1 INSTALLATION

Installation shall comply with applicable requirements for AWI Qual Stds custom quality standards. Countertops and fabricated assemblies shall be installed level, plumb, and true to line, in locations shown on the drawings. Cabinets and other laminate clad casework assemblies shall be attached and anchored securely to the floor and walls with mechanical fasteners that are appropriate for the wall and floor construction.

##### 3.1.1 Anchoring Systems

###### 3.1.1.1 Floor

Base cabinets shall utilize a floor anchoring system. Anchoring and mechanical fasteners shall not be visible from the finished side of the casework assembly. Cabinet assemblies shall be attached to anchored bases without visible fasteners. Where assembly abutts a wall surface, anchoring shall include a minimum 1/2 inch thick lumber or panel product hanging strip, minimum 2-1/2 inch width; securely attached to the top of the wall side of the cabinet back.

##### 3.1.2 Countertops

Countertops shall be installed in locations as indicated on the drawings. Countertops shall be fastened to supporting casework structure with mechanical fasteners, hidden from view. All joints formed by the countertop and adjacent wall surfaces shall be filled with a clear silicone caulk.

##### 3.1.3 Hardware

Casework hardware shall be installed in types and locations as indicated on the drawings.

##### 3.1.4 Doors and Drawers

The fitting of doors and drawers shall be accomplished within target fitting tolerances for gaps and flushness in accordance with AWI Qual Stds custom grade requirements.

-- End of Section --

SECTION 07240

EXTERIOR INSULATION AND FINISH SYSTEMS  
10/01

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred within the text by the basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM B 117	(1997) Operating Salt Spray (Fog) Apparatus
ASTM C 67	(2000) Sampling and Testing Brick and Structural Clay products
ASTM C 150	(2000) Portland Cement
ASTM C 473	(2000) Physical Testing of Gypsum Panel Products
ASTM C 578	(1995) Rigid, Cellular Polystyrene Thermal Insulation
ASTM C 847	1995 Metal Lath
ASTM C 920	(1998) Elastomeric Joint Sealants
ASTM C 1177/C 1177M	(1999) Glass Mat Gypsum Substrate for Use as Sheathing
ASTM C 1186	(1999; Rev. A) Flat Non-Asbestos Fiber-Cement Sheets
ASTM D 968	(1993) Abrasion Resistance of Organic Coatings by Falling Abrasive
ASTM D 2247	(1999) Testing Water Resistance of Coatings in 100% Relative Humidity
ASTM D 3273	(2000) Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber
ASTM E 84	(2000) Surface Burning Characteristics of Building Materials

ASTM E 136	(1999) Behavior of Materials in Vertical Tube Furnace at 750 Degrees C
ASTM E 330	(1997) Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference
ASTM E 331	(2000) Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference
ASTM E 695	(1997) Measuring Relative Resistance of Wall, Floor, and Roof Construction to Impact Loading
ASTM G 23	(1996) Operating Light-Exposure Apparatus (Carbon-Arc Type) with and Without Water for Exposure of Nonmetallic Materials

EXTERIOR INSULATION MANUFACTURERS ASSOCIATION (EIMA)

EIMA TM 101.01	(1995) Freeze/Thaw Resistance of Exterior Insulation and Finish Systems (EIFS), Class PB.
EIMA TM 101.86	(1995, Rev. Aug. 1995) Resistance of Exterior Insulation and Finish Systems, Class PB, to the Effects of Rapid Deformation (Impact)
EIMA TM 105.01	(1995) Alkali Resistance of Glass Fiber Reinforcing Mesh for Use in Exterior Insulation and Finish Systems

INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS (ICBO)

UBC 26-4	Evaluation of Flammability Characteristics of Exterior, Non load-Bearing Wall Panel Assemblies using Foam Plastic Insulation
UBC 26-9	Evaluation of Flammability Characteristics of Exterior Non load-Bearing Wall Assemblies Containing Combustible Components using Intermediate-Scale, Multistory Test Apparatus Title

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 268	(1996) Determining Ignitability of Exterior Wall Assemblies Using a Radiant Heat Energy Source
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1.2 SYSTEM DESCRIPTION AND REQUIREMENTS

The Exterior Insulation and Finish System (EIFS) shall be a job-fabricated exterior wall covering consisting of insulation board, reinforcing fabric, base coat, finish coat, and mechanical fasteners as applicable. The system components shall be compatible with each other and with the substrate as recommended or approved by, and the products of, a single manufacturer regularly engaged in furnishing Exterior Insulation and Finish Systems. All materials shall be installed by an applicator approved by the system manufacturer. EIFS shall be Class PM, color and texture to match existing EIFS.

#### 1.2.1 System Requirements and Tests

The system shall meet the performance requirements as verified by the tests listed below. Where a wall system of similar type, size, and design as specified for this project has been previously tested under the condition specified herein, the resulting test reports may be submitted in lieu of job specific tests.

##### 1.2.1.1 Water Penetration

Test the system for water penetration by uniform static air pressure in accordance with ASTM E 331. There shall be no penetration of water beyond the plane of the base coat/EPS board interface after 15 minutes at 6.4 psf), or 20% of positive design wind pressure, whichever is greater.

#### 1.2.2 Component Requirements and Tests

The components of the system shall meet the performance requirements as verified by the tests listed below.

##### 1.2.2.1 Surface Burning Characteristics

Conduct ASTM E 84 test on samples consisting of insulation board, base coat, reinforcing fabric, and finish coat. Cure for 28 days. The flame spread index shall be 25 or less and the smoke developed index shall be 450 or less.

##### 1.2.2.2 Radiant Heat

The system shall be tested in accordance with NFPA 268 with no ignition during the 20-minute period.

##### 1.2.2.3 Impact Resistance

Impact Mass: Test 28 day cured specimen of PM EIFS in accordance with ASTM E 695. The test specimen shall exhibit no cracking or denting after twelve impacts by (30 lbs) lead shot mass from (6 in to 6 ft) drop heights in (6 in) intervals.

#### 1.2.3 Sub-Component Requirements and Tests

Unless otherwise stated, the test specimen shall consist of reinforcement, base coat, and finish coat applied in accordance with manufacturer's

printed recommendations to the insulation board to be used on the building.

For mildew resistance, only the finish coat is applied onto glass slides for testing. These specimen shall be suitably sized for the apparatus used and be allowed to cure for a minimum of 28 days prior to testing.

#### 1.2.3.1 Abrasion Resistance

Test in accordance with ASTM D 968, Method A. Test a minimum of two specimen. After testing, the specimens shall show only very slight smoothing, with no loss of film integrity after (132 gallons) of water.

#### 1.2.3.2 Accelerated Weathering

Test in accordance with ASTM G 23, Method 1. After 2000 hours specimens shall exhibit no visible cracking, flaking, peeling, blistering, yellowing, fading, or other such deterioration.

#### 1.2.3.3 Mildew Resistance

Test in accordance with ASTM D 3273. The specimen shall consist of the finish coat material, applied to clean (3 inch by 4 inch) glass slides and shall be allowed to cure for 28 days. After 28 days of exposure, the specimen shall not show any growth.

#### 1.2.3.4 Water Resistance

Test in accordance with ASTM D 2247. The specimen shall be a minimum of (4 inch by 6 inch). After 14 days, the specimen shall exhibit no cracking, checking, crazing, erosion, blistering, peeling, or delamination.

#### 1.2.3.5 Absorption-Freeze/Thaw

Class PB systems shall be tested in accordance with EIMA TM 101.01 for 60 cycles of freezing and thawing. No cracking, checking, or splitting, and negligible weight gain. Class PM systems shall be tested in accordance with ASTM C 67 for 50 cycles of freezing and thawing. After testing, the specimens shall exhibit no cracking or checking, and have negligible weight gain.

### 1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

#### SD-02 Shop Drawings

Shop drawings; G, DO.

Show wall layout, joints, decorative grooves, thermal insulation board, and reinforcement mesh and strip reinforcing fabric; joint and flashing details; details at wall penetrations; types and

location of fasteners; details at windows and doors, **and EIFS repair details.**

SD-03 Product Data

EIFS System; G, DO.

Manufacturer's descriptive catalog data and installation instructions for the complete EIFS system, including data for the insulation board, mechanical fasteners, base coat, reinforcing fabric, finish coat, accessories, primer, bond breaker, backer rods, and joint sealant. Include shelf life and recommended cleaning solvents in data for sealant and include material safety data sheets (MSDS) for all components of the EIFS. The MSDS shall be available at the job site.

SD-04 Samples

Sample Board; G, DO.

Provide sample EIFS Component (12 by 24 inches), on sheathing board, including finish color and texture.

SD-06 Test Reports

Abrasion resistance; G, DO.  
Accelerated weathering; G, DO.  
Impact resistance; G, DO.  
Mildew resistance; G, DO.  
Absorption-freeze-thaw; G, DO.  
Water penetration; G, DO.  
Water resistance; G, DO.  
Flame spread; G, DO.  
Surface Burning Characteristics; G, DO.  
Radiant heat; G, DO.

Reports from an independent testing agency attesting compliance with the test requirements specified in paragraph SYSTEM DESCRIPTION AND REQUIREMENTS.

SD-07 Certificates

Qualifications of EIFS Manufacturer; G, DO.  
Qualification of EIFS Installer; G, DO.  
Qualification of Sealant Applicator; G, DO.

Certify that EIFS installer meets requirements specified under paragraph "Qualification of Installer," and that sealant applicator is approved by the EIFS Manufacturer.

Inspection Check List; G, DO.

Submit filled-out inspection check list as required in paragraph "Quality Control," certifying that the installation of critical

items meets the requirements of this specification.

Warranty; G, DO.

At the completion of the project, the Contractor shall furnish signed copies of the 5-year Warranty for the Exterior Insulation and Finish System (EIFS).

#### SD-08 Manufacturer's Instructions

Installation; G, DO.

Manufacturer's standard printed instructions for the installation of the EIFS. Include requirements for condition and preparation of substrate, installation of EIFS, and requirements for sealants and sealing.

#### SD-10 Operation and Maintenance Data

EIFS; G, DO.

Include detailed finish repair procedures and information regarding compatibility of sealants with base and finish coatings.

### 1.4 QUALITY ASSURANCE

#### 1.4.1 Qualifications of EIFS Manufacturer

The EIFS shall be the product of a manufacturer who has been in the practice of manufacturing and designing EIFS for a period of not less than 3 years, and has been involved in at least five projects similar to this project in size, scope, and complexity, in the same or a similar climate as this project.

#### 1.4.2 Qualification of EIFS Installer

The EIFS Installer shall be trained and approved by the EIFS manufacturer to install the system and shall have successfully installed at least five projects at or near the size and complexity of this project. The Contractor shall employ qualified workers trained and experienced in installing the manufacturer's EIFS.

#### 1.4.3 Qualification of Sealant Applicator

The sealant applicator shall be experienced and competent in the installation of high performance industrial and commercial sealants and shall have successfully installed at least five projects at or near the size and complexity of this project.

#### 1.4.4 Insulation Board

Insulation Board shall be approved and labeled under third party quality program as required by applicable building code.

#### 1.4.5 Pre-Installation Conference

After approval of submittals and before commencing any work on the EIFS , including installation of any insulation and associated work, the Contracting Officer will hold a pre-installation conference to review:

- a. Drawings, specifications, and samples;
- b. Procedure for on site inspection and acceptance of EIFS substrate and pertinent details (for example, mock-up installation);
- c. Contractor's plan for coordination of work of the various trades involved in providing EIF system and other components;
- d. Inspection procedures; and
- e. Safety requirements.

Pre-installation conference shall be attended by the Contractor, and all personnel directly responsible for installation of the EIF system, including sealant applicator, and personnel responsible for related work, such as flashing and sheet metal, windows and doors, and a representative of the EIFS manufacturer. Before beginning EIFS work, the contractor shall confirm in writing the resolution of conflicts among those attending the preinstallation conference.

#### 1.5 DELIVERY AND STORAGE

Deliver materials to job site in original unopened packages, marked with manufacturer's name, brand name, and description of contents. Store materials off the ground and in accordance with the manufacturer's recommendations in a clean, dry, well-ventilated area. Protect stored materials from rain, sunlight, and excessive heat. Keep coating materials which would be damaged by freezing at a temperature not less than 40 degrees F. Do not expose insulation board to flame or other ignition sources.

#### 1.6 ENVIRONMENTAL CONDITIONS

- a. Do not prepare materials or apply EIFS during inclement weather unless appropriate protection is provided. Protect installed materials from inclement weather until they are dry.
- b. Apply sealants and wet materials only at ambient temperatures of 40 degrees F or above and rising, unless supplemental heat is provided. The system shall be protected from inclement weather and to maintain this temperature for a minimum of 24 hours after installation.
- c. Do not leave insulation board exposed to sunlight after installation.

#### 1.7 WARRANTY

Furnish manufacturer's standard warranty for the EIFS. Warranty shall run directly to Government and cover a period of not less than 5 years from date Government accepted the work.

## PART 2 PRODUCTS

### 2.1 COMPATIBILITY

Provide all materials compatible with each other and with the substrate, and as recommended by EIFS manufacturer.

### 2.2 MECHANICAL FASTENERS

Corrosion resistant and as approved by EIFS manufacturer. Select fastener type and pattern based on applicable wind loads and substrate into which fastener will be attached, to provide the necessary pull-out, tensile, and shear strengths.

### 2.3 THERMAL INSULATION

#### 2.3.1 Manufacturer's Recommendations

Provide only thermal insulation recommended by the EIFS manufacturer for the type of application intended.

#### 2.3.2 Insulation Board

Insulation board shall be standard product of manufacturer and shall be compatible with other systems components. Boards shall be factory marked individually with the manufacturer's name or trade mark, the material specification number, the R-value at (75 degree F), and thickness. No layer of insulation shall be less than (3/4 in) thick. The maximum thickness of all layers shall not exceed (4 in). Insulation Board shall be certified as aged, in block form, prior to cutting and shipping, a minimum of 6 weeks by air drying, or equivalent.

- a. Thermal resistance: As indicated.
- b. Insulating material: ASTM C 578 Type I or IV, as recommended by the EIFS manufacturer and treated to be compatible with other EIFS components. Age insulation by air drying a minimum of 6 weeks prior to cutting and shipping.

### 2.4 BASE COAT

Manufacturer's standard product and compatible with other systems components.

### 2.5 PORTLAND CEMENT

Conform to ASTM C 150, Type I or II as required, fresh and free of lumps, and approved by the systems manufacturer.

### 2.6 REINFORCING FABRIC

Reinforcing fabric mesh shall be alkali-resistant, balanced, open weave , glass fiber fabric made from twisted multi-end strands specifically treated for compatibility with the other system materials, and comply with EIMA TM 105.01 and as recommended by EIFS manufacturer.

#### 2.7 FINISH COAT

Manufacturer's standard product conforming to the requirements in the paragraph on Sub-Component Requirements and Tests. For color consistency, use materials from the same batch or lot number.

#### 2.8 PRIMER

Non-staining, quick-drying type recommended by sealant manufacturer and EIFS manufacturer.

#### 2.9 ACCESSORIES

Conform to recommendations of EIFS manufacturer, including trim, edging, anchors, expansion joints. All metal items and fasteners to be corrosion resistant.

#### 2.10 JOINT SEALANT

Non-staining, quick-drying type meeting ASTM C 920, Class 25, compatible with the finish system type and grade, and recommended by both the sealant manufacturer and EIFS manufacturer.

#### 2.11 BOND BREAKER

As required by EIFS manufacturer and recommended by sealant manufacturer and EIFS manufacturer.

#### 2.12 BACKER ROD

Closed cell polyethylene free from oil or other staining elements and as recommended by sealant manufacturer and EIFS manufacturer. Do not use absorptive materials as backer rod. The backer rod should be sized 25 percent larger than the width of the joint.

### PART 3 EXECUTION

#### 3.1 EXAMINATION

Examine substrate and existing conditions to determine that the EIFS can be installed as required by the EIFS manufacturer and that all work related to the EIFS is properly coordinated. Surface shall be sound and free of oil, loose materials or protrusions which will interfere with the system installation. If deficiencies are found, notify the Contracting Officer and do not proceed with installation until the deficiencies are corrected. The substrate shall be plane, with no deviation greater than (1/4 inch) when tested with a (10 foot) straightedge. Determine flatness, plumbness, and any other conditions for conformance to manufacturer's instructions.

### 3.2 SURFACE PREPARATION

Prepare existing surfaces for application of the EIFS to meet flatness tolerances and surface preparation according to manufacturer's installation instructions. Provide clean surfaces free of oil and loose material without protrusions adversely affecting the installation of the insulation board. Due to substrate conditions or as recommended by the system manufacturer, a primer may be required. Apply the primer to existing surfaces as recommended by the manufacturer. Use masking tape to protect areas adjacent to the EIFS to prevent base or finish coat to be applied to areas not intended to be covered with the EIFS. The Contractor shall not proceed with the installation until all noted deficiencies of the substrate are corrected.

### 3.3 INSTALLATION

Install EIFS as indicated, comply with manufacturer's instructions except as otherwise specified, and in accordance with the shop drawings. EIFS shall be installed only by an applicator trained and approved by the EIFS manufacturer. Specifically, include all manufacturer recommended provisions regarding flashing and treatment of wall penetrations.

#### 3.3.1 Insulation Board

Unless otherwise specified by the system manufacturer, place the long edge horizontally from level base line. Stagger vertical joints and interlock at corners. Butt joints tightly. Provide flush surfaces at joints. Offset insulation board joints from joints in sheathing by at least (8 inches). Use L-shaped insulation board pieces at corners of openings. Joints of insulation shall be butted tightly. Surfaces of adjacent insulation boards shall be flush at joints. Gaps greater than (1/16 inch) between the insulation boards shall be filled with slivers of insulation. Uneven board surfaces with irregularities projecting more than (1/16 inch) shall be rasped in accordance with the manufacturer's instructions to produce an even surface. Attach insulation board as recommended by manufacturer. The adhered insulation board shall be allowed to remain undisturbed for 24 hours prior to proceeding with the installation of the base coat/reinforcing mesh, or longer if necessary for the adhesive to dry. However, do not leave insulation board exposed longer than recommended by insulation manufacturer.

##### 3.3.1.1 Mechanically Fastened Insulation Boards

Fasten with manufacturer's standard corrosion resistant anchors, spaced as recommended by manufacturer, but not more than (2 feet) horizontally and vertically.

#### 3.3.2 Base Coat and Reinforcing Fabric Mesh,

##### 3.3.2.1 Class PM Systems

Mechanically fasten reinforcing fabric mesh to the insulated wall using the type and spacing of fasteners specified in the manufacturer's instructions.

Provide diagonal reinforcement at opening corners. Mix base coat in accordance with manufacturer's instructions. Apply base coat in accordance with manufacturer's instruction to provide a complete, tight coating of uniform thickness as specified by the manufacturer. Cover all fiberglass reinforcing fabric, including at back wrapped areas at panel joints and at fasteners.

### 3.3.3 Finish Coat

Apply and level finish coat in one operation. Obtain final texture by trowels, floats, or by spray application as necessary to achieve the required finish matching approved sample. Apply the finish coat to the dry base coat maintaining a wet edge at all times to obtain a uniform appearance. The thickness of the finish coat shall be in accordance with the system manufacturer's current published instructions. Apply finish coat so that it does not cover surfaces to which joint sealants are to be applied. The base coat/reinforcing mesh must be allowed to dry a minimum of 24 hours prior to the application of the finish coat. Surface irregularities in the base coat, such as trowel marks, board lines, reinforcing mesh laps, etc., shall be corrected prior to application of the finish coat.

## 3.4 EIFS PATCHING AND REPAIR

### 3.4.1 Repairing Cracks and Tears

*Cracks and tears in existing EIFS, consisting of ripped or torn reinforcing fabric and cracked base and finish coats (not including damaged insulation which shall be repaired in accordance with Repairing Punctures), shall be repaired by removing a 3 inch swath of finish and base coats and reinforcing fabric on both sides of the crack or tear. Attach new reinforcing fabric to exposed insulation and apply the specified EIFS base and finish coat system. New finish coat shall extend 6 inches beyond and be tapered into the existing EIFS surface on both sides of the repair.*

### 3.4.2 Repairing Punctures

*Punctures in existing EIFS, consisting of punctures into the insulation board, shall be repaired by removing a swath of finish and base coats and reinforcing fabric from around the perimeter of the puncture and cutting out the damaged insulation board. The finish and base coats and reinforcing fabric shall be removed to three inches beyond the edge of the removed insulation board. Attach new insulation board and reinforcing fabric to exposed substrate, extending the fabric over the existing exposed insulation board, and apply the specified EIFS base and finish coat system. New finish coat shall extend 6 inches beyond and be tapered into the existing EIFS surface.*

### 3.4.3 Repairing Delaminations

*Delaminations in existing EIFS, consisting of EIFS loosened or detached from the substrate, shall be repaired in the same manner as specified for repairing punctures.*

#### 3.4.4 Patching Existing EIFS

*Patching of existing EIFS resulting from removal of existing wall penetrations shall be done by removing a 3 inch swath of existing finish and base coats and reinforcing fabric from around the perimeter of the patch. Attach new insulation board and reinforcing fabric to exposed substrate, extending the fabric over the existing exposed insulation board, and apply the specified EIFS base and finish coat system. New finish coat shall extend 6 inches beyond and be tapered into the existing EIFS surface.*

#### 3.5 JOINT SEALING

Seal EIFS at openings as recommended by the system manufacturer. Apply sealant only to the base coat. Do not apply sealant to the finish coat.

##### 3.5.1 Surface Preparation, Backer Rod, and Primer

Immediately prior to application, remove loose matter from joint. Ensure that joint is dry and free of paint, finish coat, or other foreign matter. Install backer rod. Apply primer as required by sealant and EIFS manufacturer. Check that joint width is as shown on drawings but in no case shall it be less than (0.5) inch for perimeter seals and (0.75 inch) for expansion joints. The width shall not be less than 4 times the anticipated movement. Check sealant manufacturer's recommendations regarding proper width to depth ratio.

##### 3.5.2 Sealant

Apply sealant in accordance with sealant manufacturer's instructions with gun having nozzle that fits joint width. Do not use sealant that has exceeded shelf life or can not be discharged in a continuous flow. Completely fill the joint solidly with sealant without air pockets so that full contact is made with both sides of the joint. Tool sealant with a round instrument that provides a concave profile and a uniformly smooth and wrinkle free sealant surface. Do not wet tool the joint with soap, water, or any other liquid tooling aid. Do not apply sealant until all EIFS coatings are fully dry. During inclement weather, protect the joints until sealant application. Use particular caution in sealing joints between window and door frames and the EIFS wall and at all other wall penetrations. Clean all surfaces to remove excess sealant.

#### 3.6 FIELD QUALITY CONTROL

Throughout the installation, the Contractor shall establish and maintain an inspection procedure to assure compliance of the installed EIFS with contract requirements. Work not in compliance shall be removed and replaced or corrected in an approved manner. The inspection procedures, from acceptance of deliveries through installation of sealants and final acceptance shall be performed by qualified inspector trained by the manufacturer. No work on the EIFS shall be performed unless the inspector is present at the job site.

##### 3.6.1 Inspection Check List

During the installation and at the completion of installation, perform inspections covering at the minimum all applicable items enumerated on the attached check list. The inspector shall initial and date all applicable items, sign the check list, and submit it to the Contracting Officer at the completion of the EIFS erection.

CHECK LIST

<u>Item</u>	<u>Description</u>	<u>Appr'd/Date</u>
a.	Materials are handled and stored correctly.	_____
b.	Environmental conditions are within specified limits, including temperature not below 4 degrees C (40 degrees F), and the work is protected from the elements as required.	_____
c.	Preparation and installation is performed by qualified personnel using the correct tools.	_____
d.	Adjacent areas to which EIFS is not to be applied (such as on window and door frames) are protected with masking tape, plastic films, drop cloths, etc. to prevent accidental application of EIFS materials.	_____
e.	Control, expansion and aesthetic joints are installed as indicated or recommended. Accessories are properly installed.	_____
f.	Substrate is in-plane, properly attached, clean, dry, and free of contaminants. Concrete substrate is free of efflorescence.	_____
g.	Materials are mixed thoroughly and in proper proportions.	_____
h.	Mechanical attachments have proper spacing, layout and fastener depth.	_____
i.	Insulation boards are tightly abutted, in running bond pattern, with board corners interlocked, L-shaped boards around openings, edges free of adhesive, and provision for joints. Gaps are filled and surfaces rasped.	_____
j.	Reinforcing fabric mesh is properly back-wrapped at terminations.	_____
k.	Reinforcing fabric mesh is fully embedded and properly placed. Corners are reinforced. Openings are diagonally reinforced. Mesh overlaps minimum 65 mm (2-1/2 inches).	_____
l.	Base coat thickness is within specified limits.	_____

CHECK LIST

<u>Item</u>	<u>Description</u>	<u>Appr'd/Date</u>
m.	The base coat/reinforcing fabric mesh must be allowed to dry (a minimum of 24-hours) prior to the application of the finish coat.	=====
n.	Finish coat is applied with sufficient number of personnel and stopped at suitable points. Floats and methods of texturing are uniform.	=====
o.	All Flashings are properly installed.	=====
p.	All joints are properly sealed in their entire length at time and under environmental conditions as specified by the manufacturer.	=====
q.	All scaffolding, equipment, materials, debris and temporary protection are removed from site upon completion.	=====

Name of Inspector: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: \_\_\_\_\_

3.7 CLEANUP

Upon completion, remove all scaffolding, equipment, materials and debris from site. Remove all temporary protection installed to facilitate installation of EIFS.

-- End of Section --

SECTION 08710

DOOR HARDWARE  
**02/02**

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM E 283 (1991) Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen

ASTM F 883 (1990) Padlocks

BUILDERS HARDWARE MANUFACTURERS ASSOCIATION (BHMA)

BHMA A156.1 (1997) Butts and Hinges (BHMA 101)

BHMA A156.2 (1996) Bored and Preassembled Locks and Latches (BHMA 601)

BHMA A156.3 (1994) Exit Devices (BHMA 701)

BHMA A156.4 (1992) Door Controls - Closers (BHMA 301)

BHMA A156.5 (1992) Auxiliary Locks & Associated Products (BHMA 501)

BHMA A156.6 (1994) Architectural Door Trim (BHMA 1001)

BHMA A156.7 (1988) Template Hinge Dimensions

BHMA A156.8 (1994) Door Controls - Overhead Holders (BHMA 311)

BHMA A156.12 (1992) Interconnected Locks & Latches (BHMA 611)

BHMA A156.13 (1994) Mortise Locks & Latches (BHMA 621)

BHMA A156.15 (1995) Closer Holder Release Devices

BHMA A156.16 (1997) Auxiliary Hardware

BHMA A156.17	(1993) Self Closing Hinges & Pivots
BHMA A156.18	(1993) Materials and Finishes (BHMA 1301)
BHMA A156.21	(1996) Thresholds
BHMA A156.22	(1996) Door Gasketing Systems
DOOR AND HARDWARE INSTITUTE (DHI)	
DHI-03	(1989) Keying Systems and Nomenclature
NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)	
NFPA 80	(1999) Fire Doors and Fire Windows
NFPA 101	(1997) Life Safety Code
STEEL DOOR INSTITUTE (SDOI)	
SDI 100	(1991) Standard Steel Doors and Frames
UNDERWRITERS LABORATORIES (UL)	
UL BMD	(1999) Building Materials Directory
UL 14C	(1999) Swinging Hardware for Standard Tin-Clad Fire Doors Mounted Singly and in Pairs

## 1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

### SD-02 Shop Drawings

Hardware Schedule; G, DO.

Hardware schedule listing all items shall be furnished. The format and content of the schedule shall be as specified.

Keying Schedule; G, DO.

Keying schedule developed in accordance DHI-03 after the keying meeting with the User.

### SD-03 Product Data

Hardware Items; G, DO.

Manufacturer's descriptive data, technical literature, catalog cuts, and installation instructions. Spare parts data for locksets, exit devices, and closers to include a complete list of parts and supplies with current unit prices and sources of supply.

SD-10 Operation and Maintenance Data

Hardware Items; G, DO.

Complete maintenance instructions listing routine maintenance procedures, possible breakdowns and repairs, and trouble shooting guides shall be provided.

SD-11 Closeout Submittals

Key Bitting Chart; G, DO.

Charts shall be submitted prior to completion of the work. The format and content of the charts shall be as specified.

1.3 HARDWARE SCHEDULE

Prepare and submit hardware schedule in the following form:

Hard- ware Item	Quan- tity	Size	Reference		Mfr. Name and Catalog No.	Key Con- trol Symbols	UL Mark (If fire rated and listed)	BHMA Finish Designa- tion
			Type	No.				
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1.4 KEY BITTING CHART REQUIREMENTS

Submit key bitting charts shall include:

- a. Complete listing of all keys (AA1, AA2, etc.).
- b. Complete listing of all key cuts (AA1-123456, AA2-123458).
- c. Tabulation showing which key fits which door.
- d. Copy of floor plan showing doors and door numbers.
- e. Listing of 20 percent more key cuts than are presently required in each master system.

1.5 QUALITY ASSURANCE

1.5.1 Hardware Manufacturers and Modifications

Provide, as far as feasible, locks, hinges, and closers of one lock, hinge, or closer manufacturer's make. Modify hardware as necessary to provide features indicated or specified.

## 1.6 DELIVERY, STORAGE, AND HANDLING

Deliver hardware in original individual containers, complete with necessary appurtenances including fasteners and instructions. Mark each individual container with item number as shown in hardware schedule. Deliver permanent keys and removable cores to the Contracting Officer, either directly or by certified mail. Deliver construction master keys with the locks.

## PART 2 PRODUCTS

### 2.1 TEMPLATE HARDWARE

Hardware to be applied to metal or to prefinished doors shall be made to template. Promptly furnish template information or templates to door and frame manufacturers. Template hinges shall conform to BHMA A156.7. Coordinate hardware items to prevent interference with other hardware.

### 2.2 HARDWARE FOR FIRE DOORS AND EXIT DOORS

Provide all hardware necessary to meet the requirements of NFPA 80 for fire doors and NFPA 101 for exit doors, as well as to other requirements specified, even if such hardware is not specifically mentioned under paragraph entitled "Hardware Schedule." Such hardware shall bear the label of Underwriters Laboratories, Inc., and be listed in UL BMD or labeled and listed by another testing laboratory acceptable to the Contracting Officer.

### 2.3 HARDWARE ITEMS

Hinges, locks, latches, exit devices, bolts, and closers shall be clearly and permanently marked with the manufacturer's name or trademark where it will be visible after the item is installed. For closers with covers, the name or trademark may be beneath the cover.

#### 2.3.1 Hinges

BHMA A156.1, 4 1/2 by 4 1/2 inches unless otherwise specified. Construct loose pin hinges for exterior doors and reverse-bevel interior doors so that pins will be nonremovable when door is closed. Other antifriction bearing hinges may be provided in lieu of ball-bearing hinges.

#### 2.3.2 Locks and Latches

##### 2.3.2.1 Mortise Locks and Latches

BHMA A156.13, Series 1000, Operational Grade 1, Security Grade 2. Provide mortise locks with escutcheons not less than 7 by 2 1/4 inches with a bushing at least 1/4 inch long. Cut escutcheons to suit cylinders and provide trim items with straight, beveled, or smoothly rounded sides, corners, and edges. Lever handles of mortise locks shall have screwless shanks and no exposed screws.

##### 2.3.2.2 Electronic Card Reading System (Option No. 4)

System shall include Electronic Card Reading Units for all sleeping rooms and five exterior doors per building. System shall include door access units with key override, magnetic strip encoder, programming cables, system software, initial lock programming, and door and frame preparation (door and frames shall be prepared in accordance with lock manufacturers specifications).

#### 2.3.2.3 Auxiliary Locks

BHMA A156.5, Grade 1.

#### 2.3.3 Exit Devices

BHMA A156.3, Grade 1. Provide adjustable strikes for rim type and vertical rod devices. Provide open back strikes for pairs of doors with mortise and vertical rod devices. Touch bars may be provided in lieu of conventional crossbars and arms. Provide escutcheons, not less than 7 by 2 1/4 inches.

#### 2.3.4 Cylinders and Cores

Provide cylinders for new locks, including locks provided under other sections of this specification. Cylinders shall be fully compatible with products of the Best Lock Corporation and shall have interchangeable cores which are removable by a special control key. The cores shall have seven pin tumblers and shall be factory set using the A4 system and F keyway. Submit a core code sheet with the cores. The cores shall be master keyed in one system for this project. Provide construction interchangeable cores.

#### 2.3.5 Keying System

Provide a grand master keying system an extension of the existing keying system. Provide key cabinet as specified.

#### 2.3.6 Lock Trim

Cast, forged, or heavy wrought construction and commercial plain design.

##### 2.3.6.1 Lever Handles

Provide lever handles for all hardware sets. Lever handles for exit devices shall meet the test requirements of BHMA A156.13 for mortise locks.

Lever handle locks shall have a breakaway feature (such as a weakened spindle or a shear key) to prevent irreparable damage to the lock when a force in excess of that specified in BHMA A156.13 is applied to the lever handle. Lever handles shall return to within 1/2 inch of the door face.

#### 2.3.7 Keys

Furnish one file key, one duplicate key, and one working key for each key change and for each master and grand master keying system. Furnish one additional working key for each lock of each keyed-alike group. Furnish two additional keys for each sleeping room. Furnish 6 great grand master keys, 6 construction master keys, and 6 control keys for removable cores.

Furnish a quantity of key blanks equal to 20 percent of the total number of file keys. Stamp each key with appropriate key control symbol and "U.S. property - Do not duplicate." Do not place room number on keys.

#### 2.3.8 Door Bolts

BHMA A156.16. Provide dustproof strikes for bottom bolts, except for doors having metal thresholds. Automatic latching flush bolts: BHMA A156.3, Type 25.

#### 2.3.9 Closers

BHMA A156.4, Series C02000, Grade 1, with PT 4C. Provide with brackets, arms, mounting devices, fasteners, full size covers, and other features necessary for the particular application. Size closers in accordance with manufacturer's recommendations, or provide multi-size closers, Sizes 1 through 6, and list sizes in the Hardware Schedule. Provide manufacturer's 10 year warranty.

##### 2.3.9.1 Identification Marking

Engrave each closer with manufacturer's name or trademark, date of manufacture, and manufacturer's size designation located to be visible after installation.

##### 2.3.10 Closer Holder-Release Devices

BHMA A156.15.

##### 2.3.11 Door Protection Plates

BHMA A156.6.

##### 2.3.11.1 Sizes of Mop and Kick Plates

Width for single doors shall be 2 inches less than door width; width for pairs of doors shall be one inch less than door width. Height of kick plates shall be 10 inches for flush doors. Height of mop plates shall be 6 inches.

##### 2.3.12 Door Stops and Silencers

BHMA A156.16. Silencers Type L03011. Provide three silencers for each single door, two for each pair.

##### 2.3.13 Thresholds

BHMA A156.21. Use J35100, with vinyl or silicone rubber insert in face of stop, for exterior doors opening out, unless specified otherwise.

##### 2.3.14 Weather Stripping Gasketing

BHMA A156.22. Provide the type and function designation where specified in paragraph entitled "Hardware Schedule". A set shall include head and jamb

seals, sweep strips, and, for pairs of doors, astragals. Air leakage of weather stripped doors shall not exceed 0.5 cubic feet per minute of air per square foot of door area when tested in accordance with ASTM E 283. Weather stripping shall be one of the following:

#### 2.3.14.1 Extruded Aluminum Retainers

Extruded aluminum retainers not less than 0.050 inch wall thickness with vinyl, neoprene, silicone rubber, or polyurethane inserts. Aluminum shall be bronze anodized.

#### 2.3.15 Rain Drips

Extruded aluminum, not less than 0.08 inch thick, bronze anodized. Set drips in sealant conforming to Section 07900 JOINT SEALING, and fasten with stainless steel screws.

##### 2.3.15.1 Door Rain Drips

Approximately 1 1/2 inches high by 5/8 inch projection. Align bottom with bottom edge of door.

##### 2.3.15.2 Overhead Rain Drips

Approximately 1 1/2 inches high by 2 1/2 inches projection, with length equal to overall width of door frame. Align bottom with door frame rabbet.

#### 2.3.16 Special Tools

Provide special tools, such as spanner and socket wrenches and dogging keys, required to service and adjust hardware items.

### 2.4 FASTENERS

Provide fasteners of proper type, quality, size, quantity, and finish with hardware. Fasteners exposed to weather shall be of nonferrous metal or stainless steel. Provide fasteners of type necessary to accomplish a permanent installation.

### 2.5 FINISHES

BHMA A156.18. Hardware shall have BHMA 612 finish (satin bronze), unless specified otherwise. Surface door closers shall have bronze paint finish. Steel hinges shall have BHMA 639 finish (satin bronze plated). Exposed parts of concealed closers shall have finish to match lock and door trim. Hardware showing on interior of bathrooms shall have BHMA 629 finish bright stainless steel or BHMA 625 finish (bright chromium plated).

### 2.6 KEY CABINET AND CONTROL SYSTEM

BHMA A156.5, Type required to yield a capacity (number of hooks) 50 percent greater than the number of key changes used for door locks.

## PART 3 EXECUTION

### 3.1 INSTALLATION

Install hardware in accordance with manufacturers' printed instructions. Fasten hardware to wood surfaces with full-threaded wood screws or sheet metal screws. Provide machine screws set in expansion shields for fastening hardware to solid concrete and masonry surfaces. Provide toggle bolts where required for fastening to hollow core construction. Provide through bolts where necessary for satisfactory installation.

#### 3.1.1 Weather Stripping Installation

Handle and install weather stripping so as to prevent damage. Provide full contact, weather-tight seals. Doors shall operate without binding.

##### 3.1.1.1 Stop-Applied Weather Stripping

Fasten in place with color-matched sheet metal screws not more than 9 inches o.c. after doors and frames have been finish painted.

#### 3.1.2 Threshold Installation

Extend thresholds the full width of the opening and notch end for jamb stops. Set thresholds in a full bed of sealant and anchor to floor with cadmium-plated, countersunk, steel screws in expansion sleeves.

### 3.2 FIRE DOORS AND EXIT DOORS

Install hardware in accordance with NFPA 80 for fire doors, NFPA 101 for exit doors.

### 3.3 HARDWARE LOCATIONS

SDI 100, unless indicated or specified otherwise.

- a. Kick and Armor Plates: Push side of single-acting doors. Both sides of double-acting doors.
- b. Mop Plates: Bottom flush with bottom of door.

### 3.4 KEY CABINET AND CONTROL SYSTEM

Locate where directed. Tag one set of file keys and one set of duplicate keys. Place other keys in appropriately marked envelopes, or tag each key.

Furnish complete instructions for setup and use of key control system. On tags and envelopes, indicate door and room numbers or master or grand master key.

### 3.5 FIELD QUALITY CONTROL

After installation, protect hardware from paint, stains, blemishes, and other damage until acceptance of work. Submit notice of testing 15 days before scheduled, so that testing can be witnessed by the Contracting Officer. Adjust hinges, locks, latches, bolts, holders, closers, and other

items to operate properly. Demonstrate that permanent keys operate respective locks, and give keys to the Contracting Officer. Correct, repair, and finish, as directed, errors in cutting and fitting and damage to adjoining work.

3.6 HARDWARE SETS

HW-1	1-1/2 pr. 1 ea. <b>1 ea.</b> 1 ea. 1 ea. 1 ea.	Hinges , <b>A8111</b> Lockset, F13 (Option 4 - electronic card reading locksets) <b>Closer, C02011, with PT-4G</b> Electronic Card Reading Lockset ( <b>Option No. 4</b> ) Wallstop, L22251 Threshold, <b>J3213</b> - anodized dark bronze finish
HW-2	1-1/2 pr. 1 ea. 1 ea. 1 ea.	Hinges, A2111, <b>NRP</b> Lockset, F77 (locked on bathroom side) Mortise Bolt, L14121 (on sleeping room side, mtd. 5'-0" AFF) Stop, L02251
HW-3	3 pr. 1 ea. 1 ea. 1 ea. 2 ea. 1 ea. 2 ea. 2 ea. 1 set	Hinges, A2111, NRP Exit Device, Type 3, Function 01 Exit Device, Type 6, Function 04 Electronic Card Reading Lockset, Doors 101,111,116,120 (Option No. 4) Closer, C02061, with PT-4G Threshold, J32190 - anodized dark bronze finish Rain Drip, Door, Overhead, as specified - anodized dark bronze finish Sweep, Neoprene/Aluminum, R0Y415 Weatherstripping, R0Y165
HW-4	3 pr. 1 ea. 1 ea. 2 ea. 1 ea. 2 ea. 1 set	Hinges, A2111, NRP Exit Device, Type 3, Function 01 Exit Device, Type 6, Function 04 Closer, C02061, with PT-4G Threshold, J32190 - anodized dark bronze finish Sweep, Neoprene/Aluminum, R0Y415 Weatherstripping, R0Y165
HW-5	1-1/2 pr. 1 ea. 1 ea. 1 ea. 1 ea.	Hinges, Full Mortise, A2111 Closer, C02011, with PT-4C and PT-4G Door Pull, J407 - anodized dark bronze finish Door Push, J304 - anodized dark bronze finish Kick Plate, Push Side
HW-6	3 pr. 1 ea. 1 ea. 2 ea. 2 ea.	Hinges, A2111, NRP Exit Device, Type 3, Function 01 Exit Device, Type 6, Function 04 Closer, C02061, with PT-4G Kick Plate, Push Side
HW-7	1-1/2 pr.	Hinges, A2111, NRP

	1 ea.	Exit Device, Type 1, Function 01
	1 ea.	Closer, C02061, with PT-4G
	1 ea.	Kick Plate, Push Side
HW-8	1-1/2pr.	Hinges, A8111
	1 ea.	Lockset, F02
	1 ea.	Closer, C02061, with PT-4C and PT-4F
	1 ea.	Kickplate, J102
HW-9	1-1/2 pr.	Hinges, A8111
	1 ea.	Exit Device, Type 1, Function 01 at doors 205, 305
	1 ea.	Lockset, F07
	1 ea.	Closer, C02061
	1 ea.	Mop Plate, J103
HW-10	3 pr.	Hinges, A8111
	1 ea.	Lockset, F07
	1 ea.	Exit Device, Type 1, Function 01 at door 118
	1 ea.	Closer, C02061
	2 ea.	Flush bolt, lever extension, L04081 (top & bottom)
HW-11	1-1/2 pr.	Hinges, Full Mortise, A2111
	1 ea.	Closer, C02011, with PT-4C and PT-4G
	1 ea.	Exit Device, Type 1, Function 01
	1 set	Weatherstripping, R0Y165
HW-12	1-1/2 pr.	Hinges, Full Mortise, A2111
	1 ea.	Closer, C02011, with PT-4C and PT-4G
	1 ea.	Exit Device, Type 1, Function 01
	1 set	Weatherstripping, R0Y165
	1 ea.	Rain Drip, Door, as specified - anodized dark bronze finish
HW-13	1-1/2 pr.	Hinges, Full Mortise, A2111
	1 ea.	Closer, C02011, with PT-4C and PT-4G
	1 ea.	Exit Device, Type 3, Function 05
	1 set	Weatherstripping, R0Y165
	1 ea.	Rain Drip, Door, as specified - anodized dark bronze finish
HW-14	3 pr.	Hinges, Full Mortise, A2111
	2 ea.	Closer, C02011, with PT-4C and PT-4G
	1 ea.	Exit Device, Type 3, NRP, Function 01
	1 ea.	Exit Device, Type 6, NRP, Function 05
	1 set	Weatherstripping, R0Y165
	1 ea.	Rain Drip, Door, as specified - anodized dark bronze finish
HW-15	1-1/2 pr.	Hinges, Full Mortise
	2 ea.	Door Pull, J402 - anodized dark bronze finish
	2 ea.	Door Push, J502 - anodized dark bronze finish
	2 ea.	Kick Plates
	2 ea.	Closer, C02011, with PT-4C and PT-4G

HW-16	1-1/2 pr. 1 ea. 1 ea.	Hinges, A8111 Lockset, F13 Stop, L02251
HW-17	3 pr. 4 ea. 4 ea.	Hinges, Door, Single Acting, K81011 Door Push, J502 - anodized dark bronze finish Kick Plates
HW-18	1 pr. 2 ea. 2 ea.	Hinges, Door, Double Acting, A81151 Door Push, J502 - anodized dark bronze finish Kick Plates
HW-19	1-1/2pr. 1 ea. 1 ea.	Hinges, A8111 Lockset, F02 Closer, C02061, with PT-4C and PT-4F
HW-20	3 pr. 2 ea. 2 ea. 2 ea.	Hinges, A2111, NRP Closer, C02061, with PT-4G Door Pull, J402 - anodized dark bronze finish Door Push, J502 - anodized dark bronze finish
HW-21	1-1/2 pr. 1 ea. 1 ea. 1 ea. 1 ea.	Hinges, A8111 Latchset, F01 Closer, C02061, with PT-4C Kickplate, J102 Stop, L22251
HW-22	3 pr. 1 ea. 1 ea. 2 ea.	Hinges, A8161 Lockset, F07 Closer, C02061 Flush bolt, lever extension, L04081 (top & bottom)
HW-23	3 pr. 2 ea. 2 ea. 2 ea. 2 ea.	Hinges, Full Mortise, A2111 Closer, C02011, with PT-4C and PT-4G Door Pull, J407 - anodized dark bronze finish Door Push, J304 - anodized dark bronze finish Kick Plate, Push Side
HW-24	1 pr. 1 ea. 1 ea.	Hinges, A8111 Lockset, F02 Closer, C02061, with PT-4C and PT-4F
HW-25	1 pr.	Hinges, A2312
Option Set	1 ea. Per Door 1 ea. 1 ea. 1 ea. Per Door 2 ea. 1 ea.	Basis G Lockset 35HG-7-FV-14-MS PAT MK-GMK Basis Software BAS-SWS-G Programming Cable BASD-MSE Lock Programming Magnetic Strip Cards (1 Box of 500) Training on Site, One Day, 8hr Min.

Note: This hardware set shall be provided if Option #4 is awarded.

-- End of Section --

SECTION 08850

FRAGMENT RETENTION FILM FOR GLASS  
07/92

PART 1 GENERAL

1.1 REFERENCES

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.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI Z97.1 (1984; R 1994) Safety Performance Specifications and Methods of Test for Safety Glazing Materials Used in Buildings

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 1036 (1991; R 1997) Flat Glass  
ASTM C 1048 (1997b) Heat-Treated Flat Glass - Kind HS, Kind FT Coated and Uncoated Glass  
ASTM D 882 (1997) Tensile Properties of Thin Plastic Sheeting  
ASTM D 1044 (1994) Resistance of Transparent Plastics to Surface Abrasion  
ASTM D 3330 (1996) Peel Adhesion of Pressure-Sensitive Tape at 180 Degree Angle  
ASTM E 84 (1998e1) Surface Burning Characteristics of Building Materials  
ASTM G 26 (1996) Operating Light-Exposure Apparatus (Xenon-Arc Type) With and Without Water for Exposure of Nonmetallic Materials

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

16 CFR 1201 Safety Standard for Architectural Glazing Materials

GLASS ASSOCIATION OF NORTH AMERICA (GANA)

GANA Glazing Manual (1997) Glazing Manual

GANA Sealant Manual

(1990) Sealant Manual

## 1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

### SD-03 Product Data

Fragment Retention Film; G, DO.  
Cleaning; G, DO.

Manufacturer's data consisting of catalog cuts, brochures, circulars, and a list of glazing gaskets known to be incompatible with the fragment retention film.

Manufacturer's application and cleaning instructions for fragment retention film.

A statement that the fragment retention film supplied was manufactured using the same materials and process as the material tested. A statement that the adhesive contains ultraviolet inhibitors which limit ultraviolet transmission to not more than 8 percent of the radiation between 300 and 380 nanometers. A statement that the film manufacturer or manufacturer's representative trained the personnel who will apply the film.

### SD-04 Samples

Fragment Retention Film; G, DO.

A sample consisting of a minimum 8 inch by 11 inch section of fragment retention film including the adhesive layer.

### SD-06 Test Reports

Fragment Retention Film; G, DO.

Certified test reports covering tests specified in paragraph FRAGMENT RETENTION FILM including analysis and interpretation of test results. Each report shall identify the manufacturer, the specific product name, the film thickness, the adhesive type and thickness, and the glass type and thickness. Test reports shall clearly identify the methods used and shall include the results recorded.

### SD-07 Certificates

Fragment Retention Film; G, DO.

On applications where the film will contact the glazing beads or

gaskets, a certificate from the Contractor stating that the glazing compounds and gaskets are compatible with the fragment retention film and adhesive.

### 1.3 QUALIFICATIONS

The personnel applying the fragment retention film shall be trained by the film manufacturer or manufacturer's representative.

### 1.4 DELIVERY, STORAGE, AND HANDLING

Fragment retention film shall be delivered, stored, and handled in accordance with the manufacturer's recommendations. Glass, including glass in windows or doors, that has the film factory applied shall be stored in a dry location free of dust, water, and other contaminants. Glass with factory applied film shall be delivered, stored, and handled so that the film is not damaged, scratched, or abraded and shall be stored in a manner which permits easy access for inspection and handling. Each roll of film must have a tamperproof label containing full details of the roll, the batch number, and sufficient information to enable the Contracting Officer to ensure that the correct film is supplied.

### 1.5 WARRANTY

A 5 year warranty shall be furnished for fragment retention film material. The warranty shall provide for replacement of film if cracking, crazing, peeling, or inadequate adhesion occurs.

## PART 2 PRODUCTS

### 2.1 STANDARD PRODUCTS

Fragment retention film shall be the standard product of a manufacturer regularly engaged in the manufacture of such products and shall essentially duplicate items that have been in satisfactory use for at least 2 years prior to bid opening.

### 2.2 FRAGMENT RETENTION FILM

Fragment retention film shall be polyester, polyethylene terephthalate, or a composite. Fragment retention film shall be optically clear and free of waves, distortions, impurities, and adhesive lines. The film may be a single layer or laminated. Lamination of the film shall only occur at the factory of the fragment retention film manufacturer. The film shall include an abrasion resistant coating on the surface that does not receive the film adhesive. Fragment retention film shall be a minimum thickness of 0.004 inch (0.10 mm) and shall be clear. The film shall be supplied with an optically clear weatherable pressure sensitive adhesive. The adhesive shall contain ultraviolet inhibitors to protect the film for its required life and shall limit ultraviolet transmission to not more than 8 percent of the radiation between 300 and 380 nanometers. The adhesive shall not be water activated. A water soluble detackifier and/or release liner may be incorporated over the adhesive to facilitate film application. The adhesive shall be 90 percent cured within 30 days of installation. The

following tests to indicate compliance with specified requirements shall be performed by an independent testing laboratory, and the laboratory reports shall be signed by a responsible official of the laboratory.

#### 2.2.1 Impact Performance

Fragment retention film shall be tested for impact in accordance with ANSI Z97.1 or 16 CFR 1201. Tests shall be conducted on fragment retention film applied to 1/8 to 1/4 inch -thick annealed flat glass which conforms to the requirements of ASTM C 1036, Type I, Class 1, Quality q3. After the impact portion of the test is conducted, satisfactory performance of the test specimens shall be determined using ANSI Z97.1, paragraph 5.1.3 or 16 CFR 1201, paragraph 1201.4 (e)--INTERPRETATION OF RESULTS. To be qualified for use under this specification, the manufacturer shall provide a report that the fragment retention film satisfactorily performed in accordance with ANSI Z97.1, paragraph 5.1.3 (1), (3), or (4) or with 16 CFR 1201, paragraph 1204.4 (e) (1) (i), (iv), or (v). ANSI Z97.1, paragraph 5.1.3 (2) or 16 CFR 1201, paragraph 1204.4 (e) (1) (ii) shall not constitute passing criteria.

#### 2.2.2 Tensile Strength

The fragment retention film samples tested shall exhibit a minimum tensile strength at break of 25,000 pounds per square inch when tested in accordance with ASTM D 882. Method A, Static Weighing, Constant Rate of Grip Separation Test, shall be used to conduct this test. The rate of grip separation shall not exceed 1/2 inch per minute.

#### 2.2.3 Peel Strength

Testing shall be conducted following 1,200 hours accelerated weathering exposure per ASTM G 26 Procedure B. The fragment retention film shall exhibit a minimum peel strength of 5.3 pounds/inch for 0.004 inch thick film when tested in accordance with ASTM D 3330. Method A shall be used to conduct the tests. A glass substrate shall be used and a maximum dwell time of 45 days is permitted.

#### 2.2.4 Surface Abrasion

The fragment retention film shall exhibit a change in haze not to exceed 3.2 percent following 100 turns, using 500-gram weights on a CS 10F abrasive wheel when tested in accordance with ASTM D 1044.

#### 2.2.5 Flame Spread and Smoke Density

The fragment retention film shall exhibit a flame spread index not exceeding 25 and a smoke density index not exceeding 100 when tested in accordance with ASTM E 84. For the test, the specimen shall be mounted to 1/4 inch thick tempered glass which conforms to the requirements of ASTM C 1048, Kind FT, Type I, Class 1, Quality q3.

### PART 3 EXECUTION

#### 3.1 SURFACE PREPARATION

The glass surface to which the fragment retention film is to be applied shall be cleaned of paint, foreign compounds, smears, and spatters. After the initial cleaning, the surface to receive the film shall be further cleaned in accordance with the film manufacturer's instructions.

### 3.2 APPLICATION

Fragment retention film shall be provided on existing exterior window and door glass **not being replaced under this contract**. After surface preparation, the fragment retention film shall be applied in accordance with the manufacturer's recommendations and instructions. Film shall be applied to the interior (room) side of the glass for both single and double glazed sheets. Multiple applications of film to achieve specified thicknesses is not allowed. The film shall not be applied if there are visible dust particles in the air, if there is frost on the glazing, or if any room condition such as temperature and humidity do not meet the manufacturer's instructions. After film application, room conditions shall be maintained as required by the manufacturer's instructions to allow for proper curing of the adhesive.

#### 3.2.1 Application to Existing Glass and Frame Without Dismantlement

Fragment retention film shall be applied past the edge of the visible glass and extend onto the frame. Amount of film overlap, edge connection to the frame, and adhesive for adhering film to frame shall be as recommended by the film manufacturer. When contact between the glazing compounds and/or gaskets and the film occurs, the Contractor shall ensure compatibility.

#### 3.2.2 *Splicing*

***Splices or seams in fragment retention film are not permitted.***

### 3.3 CLEANING

Cleaning of the fragment retention film shall be in accordance with the manufacturer's instructions.

### 3.4 FIELD INSPECTION

The applied fragment retention film shall be clean and free of peeling, splitting, scratches, creases, wrinkles, discoloration, and foreign particles. The film application shall be free of air bubbles after 30 days. Fragment retention film shall not show signs of waviness and distortion at the time the work is accepted. This determination shall be made by the unaided eye (except for corrective prescription glasses), when the film is viewed from a distance of 10 feet from the interior room side at angles up to 45 degrees when looking at a clear or uniformly overcast sky. Unacceptable fragment retention film applications shall be removed in accordance with manufacturer's instructions and new film applied.

-- End of Section --

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