

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE		PAGE 1 OF 78
2. AMENDMENT/MODIFICATION NO. A001		3. EFFECTIVE DATE 03/18/2012	4. REQUISITION/PURCHASE REQ. NO.		5. PROJECT NO. (If applicable)
6. ISSUED BY CODE U.S. Embassy Al Kindi Street International Zone Baghdad, Iraq			7. ADMINISTERED BY (If other than Item 6) CODE		
8. NAME AND ADDRESS OF CONTRACTOR (NO., street, city, county, State, and ZIP Code)			9a. AMENDMENT OF SOLICITATION NO. S-IZ100-12-R-0022		
			X 9b. DATED (SEE ITEM 11) March 4, 2012		
			10a. MODIFICATION OF CONTRACT/ORDER NO.		
			10b. DATED (SEE ITEM 13)		
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS					
<p>[<input checked="" type="checkbox"/>] The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers [<input checked="" type="checkbox"/>] is extended, [] is not extended. Offers 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: (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 <u> </u> copies to the issuing office.					
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)					
A. The solicitation is hereby amended to reflect that the due date for submission of proposals is extended from 12:00 noon Baghdad time on March 20, 2012 to 12:00 noon Baghdad time on March 25, 2012.					
B. Attachment No. 4 – Statement of Work, is replaced with the attached revised Statement of Work [Revision 1 dated <u>March 18, 2012</u>].					
C. Attachment No. 6 – OBO Specifications, is revised to add 08110 Steel Doors and Frames, and 08714 Door Hardware.					
Continued on page 2 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 OF CONTRACTING OFFICER Joseph D. Hogan		
15B. NAME OF CONTRACTOR/OFFEROR BY _____ (Signature of person authorized to sign)		15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY  (Signature of Contracting Officer)		16C. DATE SIGNED March 18, 2012

ATTACHMENT #4
STATEMENT of WORK



CONTRACT DOCUMENTS
For

2012 Rec Center Metal Stairwell

U.S. EMBASSY BAGHDAD, IRAQ

Revision 1
18 March 2012

Statement of Work

Specification Sections

01521 Construction Safety and Occupational Health
02833 Ornamental Metal Security Fences
02843 Perimeter Gate Facilities
03300 Cast in Place Concrete
05511 Metal Stairs
08110 Steel Doors and Frames
08714 Door Hardware
09912 Painting

Drawings

S1 Stairwell Details
S2 Stairwell Details
S3 Stairwell Details
S4 Stairwell Details
S5 Stairwell Details
S6 Stairwell Details
S7 Stairwell Details
S8 Stairwell Details
S9 Stairwell Details



STATEMENT of WORK

GENERAL CONSTRUCTION SERVICES

2012 Rec Center Metal Stairwell
U.S. EMBASSY BAGHDAD, IRAQ

U.S. EMBASSY
BAGHDAD, IRAQ

Revision 1
18 March 2012

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Attachments:

Specification Sections

01521	Construction Safety and Occupational Health
02833	Ornamental Metal Security Fences
02843	Perimeter Gate Facilities
03300	Cast in Place Concrete
05511	Metal Stairs
08110	Steel Doors and Frames
08714	Door Hardware
09912	Painting

Drawings

S1	Stairwell Details
S2	Stairwell Details
S3	Stairwell Details
S4	Stairwell Details
S5	Stairwell Details
S6	Stairwell Details
S7	Stairwell Details
S8	Stairwell Details
S9	Stairwell Details

1. Project Description

1.1 Project Synopsis

- A. The project will provide one exterior stairwell at the Recreation Center building to improve the roof access.

1.2 BACKGROUND

- A. The existing roof access door/hatch at the Recreation Center is difficult and dangerous for climbers to open while balancing on the ladder. Also, the safety cage for the ladders inside going up two stories to the roof does not follow any safety specifications or a benefit for climbers.

1.3 SOLUTION

- A. Provide exterior stair case to enable for easier and safer access to the roof. The stair case would make it easier to carry working tools and repair materials when servicing roof equipment.

2. GENERAL CONDITIONS

- 2.1 **Fixed-Price Proposal.** The Contractor shall provide one fixed-priced Proposal for the complete Project that includes every aspect of the Work.

- 2.2 **Specifications.**

- A. The Work shall be governed by the United States Department of State Overseas Buildings Operations New Embassy Compound, Baghdad, Iraq Master Specifications, International Codes, which include the International Building Code, International Mechanical Code, International Plumbing Code, and National Electric Code, also are applicable. Should there be a discrepancy between the NEC Specifications and the applicable Building Code, the more stringent of the two shall govern.
- B. The Contractor is responsible for compliance with all Building Codes; Work not in compliance with the Codes shall be deemed to be unacceptable.

- 2.3 **Execution.** The Work shall be executed in a diligent and workmanlike manner in accordance with the negotiated fixed-price, this Scope of Work, the Project Schedule, referenced Building Codes, and the laws of the City of Baghdad where applicable.

- 2.4 **Work Hours.** Unless otherwise agreed with Facilities Management, the Work shall be executed during normal Embassy work hours. Night, weekend or holiday work shall not be permitted except as arranged in advance with Facilities Management. Embassy holiday schedule is available from Facilities Management.

- 2.5 **Safety.**

- A. The Contractor shall be responsible for conducting the work in a manner that ensures the safety of residents, employees and visitors to the Embassy, and the Contractor's employees.
- B. The Contractor is required to comply with the Construction Safety and Occupational Health Regulations of OBO Specification Section 01521 and the US Army Corps of Engineers Safety and Health requirements Manual. (EM385).

- 2.6 **Workforce.**
- A. The contractor shall provide all supervision, skilled and unskilled labor needed to perform the work. The Contractor shall provide all skilled and unskilled labor needed to perform the Work.
 - B. In order to comply with the Embassy's minimum escort ratio requirement of one (1) escort to four (4) workers, the Contractor will have on his staff an employee(s) with an RSO vetted "Escort" Badge.
 - C. If the Contractor has no staff with an Escort Badge the Contractor will have 10 days from award to submit the required paperwork. The RSO vetting process could take up to 30 days and must be shown on the Contractors Project Schedule.
 - D. Information for all non-badged staff must be submitted to the COR for processing to allow the workers access to the NEC. This list must be resubmitted every 30 days or when modified.
 - E. If escorts are needed prior to being vetted by the RSO the Contractor may submit a request to the COR for government furnished escorts. The COR will schedule temporary escorts ONLY if they are available and the request must be submitted at least 48 hours in advance of the preferred date.
- 2.7 **Subcontractors.** Contractor shall be responsible for the conduct and workmanship of Subcontractors engaged in the Project, and for Subcontractors compliance with the terms of this Statement of Work. The Contractor is responsible for the behavior and workmanship of Subcontractors while on Embassy property.
- 2.8 **Modification to Contract.** The Contractor shall not incur any costs beyond those described in this SOW unless directed otherwise in writing by the Contracting Officer. Any work performed by the Contractor beyond this SOW without written direction from the Contracting Officer will be at the Contractor's own risk and at no cost to the Embassy.
- 2.9 **Stop Work.** At any time during the Project, the Contracting Officer reserves the right to Stop Work for protection of employees or visitors, security, or any other reason at his/her discretion.
- 2.10 **Construction Cost Breakdown.** The Government provided "Construction Cost Breakdown" is for bid comparison only, and the contractor is responsible to field measure and to quantify the required materials and tasks as to complete the job.
- 2.11 **Submittals.** The contractor is responsible to submit shop drawings prior to fabrication and release of any materials for the FAC Engineer's review and approval. The Engineer's review, however, does not relieve of the contractor's responsibility for the engineering work as to provide a complete working system.
- 2.12 **Excavation and Utilities.** The contractor is responsible to locate all existing utility lines prior to any excavation. Prior to disconnecting any existing utility services, the contractor is responsible to provide 48-hour advance notice to the COR.
- 2.13 **Close-out.** Prior to final acceptance, the contractor is to submit to the Engineer marked up drawings (As-Builts) reflecting the work as constructed. The drawings shall be digitally submitted on a CD-ROM in both AutoCAD and PDF format.

- 2.14 **Housekeeping.** The contractor is responsible to clean up daily after working hours. The Contractor is also responsible for Final Cleaning of the area, ready for use by the Government.

3. BID FORM - CONSTRUCTION COST BREAKDOWN

Rec Center Metal Stairwell - Feb 2012
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No	Descriptions	Unit	Qty	Unit Price \$	Total Price \$
1	Administration				
A	Mobilization/Demobilization	LS	1		
B	Submittals and shop drawings	LS	1		
C	Cleanup, Disposal	LS	1		
	Administration			Sub-Total	
2	New Work				
A	Security fence with concrete footing	EA	2		
B	Stairwell	EA	2		
C	3'x7' Metal door, frame and hardware set	EA	1		
D	Painting	EA	2		
	New Work			Sub-Total	
3	DBA Insurance				
A	Contractor shall cover each of its workers at the site with DBA Workers' Compensation coverage, and require its subcontractors to do the same. Contractor must furnish certificate evidencing this coverage to Engineer prior to starting work.	%			
	DBA Insurance			Sub-Total	
	Items 1 thru 3			Sub-Total	
	General & Admin Markup: %				
				Sub-Total	
				Profit: %	
				Contract Cost	

4. SCOPE OF WORK

4.1 General Requirements

- A. The Contractor is to provide all labor, logistics, equipment and material for the Work requested based on the attached and referenced drawings and specifications, and the specific instructions noted in this Statement of Work.
- B. Contract requires Steel Fabrication Shop Drawings per NISD standards www.nisd.org. Shop Drawings to be submitted for FAC approval prior to any fabrication.
- C. Comments below supplement the referenced specifications and are to be incorporated into the Work. If there are any conflicts, the most stringent standard applies.
- D. Except as noted, within 5 days of Notice to Proceed, the contractor shall provide to the COR a project schedule showing start to completion.
- E. Except as noted, within 10 days of NTP, the Contractor shall provide to the COR details of the proposed installation utilizing written description or sketches or both.
- F. The contractor is responsible to dispose of the construction debris outside of the IZ. Include, but not limited to soils, rock excavation, packing materials, scrap steel, and debris generated by project.
- G. The contractor is responsible to properly layout and prepare for the installation based on locations provided by FAC.
- H. Concrete surfacing in the area is assumed adequate to sustain the base plate anchor bolts but must be verified in the field by the Contractor.
- I. When pursuing the work, the contractor is to take extra care as not to damage existing structure.

4.2 Stairwell Installation

- A. Prior to any fabrication or construction, submit Steel Fabrication Shop Drawings per NISD standards (www.nisd.org). Shop Drawings are to be approved by FAC prior to any fabrication.
- B. Provide metal security fence, gate and concrete foundation as per attached details. The Contractor shall provide a proposed layout of the stairwell location to minimize the underground utility disturbance.
- C. For concrete landing pad, excavate 350mm deep over the area in which the new pad is to be located. Existing gravel, pavers, concrete curbs and pavement are to be removed as a part of this excavation. When removing the existing concrete structure, provide saw cutting machine.
- D. Provide a Sub-base course 150 mm compacted thickness in a single layer, compacted by hand-operated tampers. Compact sub-base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 95 percent of maximum dry unit weight according to ASTM D 698.
Sub-base Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.
- E. Provide form work as to properly layout and prepare for the concrete pour.
- F. All concrete pad edges are to receive chamfered finishing.
- G. All concrete is to be from a nearby IZ batch plant. No hand mix concrete will be accepted.

- H. Concrete is to be poured monolithically. Therefore, no expansion joints are to be installed. However, the control joints are to be installed in every 2.5 m x 2 m grid with 13 mm joint wide.
- I. Provide curing of concrete pad with wet burlaps for minimum of seven (7) days.
- J. The concrete is to receive smooth float finish.
- K. Furnish and install metal pan steel staircase with a metal platform at the head of each stair (see attached concept drawings).
- L. The stair construction is to include stringers, headers, treads, risers, railings, clips, hangers, struts, braces and other supports and related members necessary to complete the installation. Wherever practicable concealed supporting members, braces etc. are to be used.
- M. All structural steel members are to be connected by steel bolts. Welding shall not be used in lieu of steel bolt connection. The bolts shall meet SAE-6r.5 standard.
- N. Provide metal pan type stairs as to safely support a minimum live load of 100 psf and dead load of 60 psf for tread and platform surfaces.
- O. Provide necessary concrete footing at the stair landing. Include, but not limited to, structural calculation for the footing requirement, form work with chamfered edges, 95% modified proctor compaction on sub-base and sub-grade prior to concrete placement of the footing.
- P. Each stair is to have minimum 36" wide clearance, a platform at each level and 42" high handrails on each side of the stairwell.
- Q. The contractor is responsible to provide mid rail on each handrails to meet OSHA standards.
- R. Railing members are to be made with 32mm steel pipe with intermediate posts welded to railings.
- S. The stairs are to include metal risers and treads.
- T. The treads is to have diamond plate finish.
- U. All structural members are to be made of ASTM A36 steel.
- V. The contractor is responsible to use continuous welding. No tack welding will be accepted for this project. Make joints true and tight, and make connections between parts light-proof and tight. Provide continuous welds, ground smooth where exposed.
- W. **The height of the stairs at each location shall be adjusted to meet the building parapet height.**
- X. **Provide safety reflection tapes to meet the safety standards.**
- Y. **All field welds are to be wire brushed, primed and painted.**
- Z. **All areas of exposed metal are to have one coat primer and two coats final paint.**
- AA. **Provide an additional top coat of paint following welding operation to provide a clean finished product.**
- BB. **Beams and columns are to be cleaned prior to acceptance.**
- CC. **Contractor to provide 5 gallons (20 liters) of paint as attic stock upon completion.**
- DD. **Provide minimum 8m high stairwell at the Rec Center.**
- EE. **The additional 8m high stairwell shall meet all the requirements as stated on above items from 4.2.A through 4.2.BB.**
- FF. **Provide 3'x7' exterior steel metal door, frame and hardware set at the top of stair landing per Specifications 08110 and 08714.**
- GG. **Provide HW-114 hardware set.**
- HH. **When installing the door, the contractor shall cut existing louvers. Welding of louver to the metal framing shall be included in this SOW.**

- 4.3 **Closeout**
- A. At completion of work, the Contractor shall clean any impacted areas to a condition equal to original condition.
 - B. All shipping materials and construction debris are to be disposed of in a legal manner outside of the IZ.
 - C. Prior to Final Acceptance the Contractor shall submit to the Contracting Officer Representative marked up drawings (As-Built) reflecting the work as constructed. The drawings shall be digitally submitted on a CD-ROM in both AutoCAD and PDF format.

5. DELIVERABLES – See also Section E.9

- 5.1 Pre-Construction:
- A. Safety, Security Plan
 - B. DBA Insurance
 - C. Bank Guarantee
 - D. Schedule
 - E. Complete Steel Fabrication Shop Drawings
- 5.2 Construction:
- A. Meeting Minutes, Progress reports
 - B. Updated Schedule
 - C. Safety Incidents
- 5.3 Close-out
- A. As-built Drawings
 - B. O&M Manuals

6. PROJECT SCHEDULE

Commencement, Prosecution, and Completion of Work – See Section E

7. RESPONSIBILITIES AND PROJECT MANAGEMENT

- 7.1 **COR.** A Contracting Officers Representative (COR) will be assigned to ensure quality assurance goals are met. The Contractor shall provide the COR access to the site at all times.
- 7.2 **Point of Contact (POC).** The COR shall be the main point of contact for this Project. The Contractor shall report to the COR on (a) status of the Project, (b) changes in Schedule, (c) accidents and safety issues, (d) disruptions to elevator or utility services; and all other important information pertaining to the Project
- 7.3 **English Speaking Representative.** The Contractor shall provide an English-speaking representative on-site during all working hours with the authority to make all decisions on behalf of the Contractor and subcontractors.
- 7.4 **Management Personnel.** The Contractor shall staff the site, full-time, with a competent senior manager who shall perform project management. Remote project management is

not an option. This individual shall keep a detailed photographic and written history of the project and shall update the Government weekly.

- 7.5 **Site Security.** The Contractor is responsible for on-site security as necessary to ensure no unauthorized access to their work sites. The Contractor is 100% responsible for securing their working materials and equipment. Any damage to facilities or infrastructure, which happens due to a lack of security, will be the responsibility of the Contractor to correct.
- 7.6 **Contractor's Temporary Work Center.** The Contractor will be permitted to use a designated area within the contract limits for operation of his construction equipment and office if warranted. If directed by the Contracting Officer, the Contractor shall not receive additional compensation to relocate his operations. The Contractor is responsible for obtaining any required additional mobilization area above that designated. On completion of the contract, all facilities shall be removed from the mobilization area within 5 days of final acceptance by the Contractor and shall be disposed of in accordance with applicable host government laws and regulations. The site shall be cleared of construction debris and other materials and the area restored to its final grade. The Contractor is responsible for maintaining this area in a clear orderly manner.
- 7.7 **Health and Safety.**
- A. The Contractor shall be solely responsible for risk assessments, managing health, and safety issues associated with this project. The Contractor must provide cold water to all workers at the job sites. Based on hazard assessments, Contractors shall provide or afford each affected employee personal protective equipment (PPE) that will protect the employee from hazards. At a minimum PPE shall consist of eye protection, hard hats, and closed toe shoes.
 - B. If the workers arrive on-site with sandals or athletic shoes, the Contractor is expected to provide rubber boots to them or send them home. All construction workers and management personnel must wear hard hats at all times on the construction sites. Contractor provided rubber boots and rubber gloves shall be worn when working around concrete placement. Other PPE such as gloves, dust masks, air respirators (sewage work) are also recommended. These items must be provided at the Contractor's expense. Workers may use discretion if they feel unsafe in using the equipment in a hostile environment. Any worker at an elevated location above 4 meters, with the exception of a portable ladder, must be provided and utilize a safety harness.
 - C. The Contractor must adhere to the Construction Safety and Occupational Health Regulations of OBO Specification Section 01521.

7.8 **Confined Spaces.**

- A. Work conducted in confined spaces must have a written permit issued by the POSHO. Confined space is any area limited in dimension or ventilation with restricted means of entry or exit. Identify with the COR any spaces which may be subject to permit.



- 7.9 Permit-required confined spaces include sewers, electrical vaults, utility tunnels, sump pits, mechanical rooms, tanks, pits, excavations deeper than 1200 mm, as well as other types of enclosures. Any space that is accessed by lifting a manhole cover is a permit-required confined space. COR will provide forms for the permit. Contractor is responsible to identify activity in confined space and to apply for the POSHO permit prior to initiating work.

ATTACHMENT # 6

OBO NEC Specifications

01521 Construction Safety and Occupational Health

02833 Ornamental Metal Security Fences

02843 Perimeter Gate Facilities

03300 Cast in Place Concrete

05511 Metal Stairs

08110 Steel Doors and Frames

08714 Door Hardware

09912 Painting

SECTION 08110 - STEEL DOORS AND FRAMES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Steel doors.
2. Steel door frames.
3. Stainless-steel doors and frames.
4. Sidelight or borrowed-light frames.
5. Hollow-metal panels and frames.
6. Fire-rated door and frame assemblies.
7. Louvers in doors.

B. Related Sections include the following:

1. Division 4 Section "Unit Masonry Assemblies" for building anchors into and grouting frames in masonry construction.
2. Division 5 Section "Formed-Metal Fabrications" for customized hollow-metal work other than doors, panels, and frames.
3. Division 8 Section "Flush Wood Doors" for wood doors installed in steel frames.
4. Division 8 Section "Sound Control Doors" for acoustical doors with an STC rating of 43 to 52.
5. Division 8 Sections for door hardware and weather stripping.
6. Division 8 Section "Glazing" for glass in doors and sidelights or borrowed lights.
7. Division 9 Section "Gypsum Board Assemblies" for steel stud and gypsum board partitions.
8. Division 9 Section "Painting" for field painting primed doors and frames.

1.2 DEFINITIONS

- A. Uncoated steel sheet thickness is indicated as the minimum thickness according to HMMA 803, Steel Tables.
- B. Metallic-coated steel sheet thickness is indicated as the minimum thickness of the uncoated base metal.
- C. Stainless-steel sheet thicknesses are indicated as the specified thickness for which over and under thickness tolerances apply according to ASTM A 480/A 480M.

1.3 SUBMITTALS

- A. Product Data: Include construction details, material descriptions, core descriptions, label compliance, sound and fire-resistance ratings, and finishes for each type of door and frame specified.

- B. Shop Drawings: Show fabrication and installation of doors and frames. Include details of each frame type, elevations of door design types, conditions at openings, details of construction, dimensions of profiles and hardware preparation, location and installation requirements of door and frame hardware and reinforcements, location and thickness of lead lining, and details of joints and connections. Show anchorage and accessories.
 - 1. Electric Hardware Devices: Indicated routing of electrical conduit for electric hardware devices.
 - 2. Security System Components: Indicate all cutouts required to metal door and frame components to accept security system components.
- C. Door Schedule: Submit schedule of doors and frames using same reference numbers for details and openings as those on Drawings.
 - 1. Coordinate glazing frames and stops with glass and glazing requirements.
- D. Product Certificates: Signed by manufacturers of doors certifying that products furnished comply with or exceed the acceptance criteria of ANSI A250.4 for Level A doors.
- E. Oversize Construction Certification: For door assemblies required to be fire rated and exceeding limitations of labeled assemblies, submit certification of a testing agency acceptable to authorities having jurisdiction that each door and frame assembly has been constructed to comply with design, materials, and construction equivalent to requirements for labeled construction.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A firm experienced in manufacturing custom steel doors and frames similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- B. Fire-Rated Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to NFPA 252.
 - 1. Test Pressure: Test at atmospheric pressure.
 - 2. Oversize Fire-Rated Door Assemblies: For units exceeding sizes of tested assemblies, provide certification by a testing agency acceptable to authorities having jurisdiction that doors comply with standard construction requirements for tested and labeled fire-rated door assemblies except for size.
 - 3. Temperature-Rise Rating: If indicated, provide doors that have a temperature-rise rating of 250 deg C maximum in 30 minutes of fire exposure.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver doors and frames palleted, wrapped, or crated to provide protection during transit and Project site storage. Do not use nonvented plastic.

- B. Inspect doors and frames, on delivery, for damage. Minor damage may be repaired provided refinished items match new work and are approved by COR; otherwise, remove and replace damaged items as directed.
- C. Store doors and frames under cover at building site. Place units on minimum 100-mm-high wood blocking. Avoid using nonvented plastic or canvas shelters that could create a humidity chamber. If wrappers on doors become wet, remove cartons immediately. Provide minimum 6-mm spaces between stacked doors to permit air circulation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide doors and frame by one of the following:
 - 1. Steel Doors and Frames:
 - a. Amweld Building Products, Inc.
 - b. Ceco Door Products.
 - c. Curries Company.
 - d. Deronde Products, Inc.
 - e. Firedoor Corporation of Florida.
 - f. Fleming: S. W. Fleming Limited.
 - g. Steelcraft; a division of Ingersoll-Rand.
 - h. Tex-Steel Corporation.
 - 2. Stainless-Steel Doors and Frames:
 - a. Curries Company.
 - b. Deronde Products, Inc.
 - c. Fleming: S. W. Fleming Limited.
 - d. Next Door Company.
 - e. Steelcraft; a division of Ingersoll-Rand.
 - f. Tex-Steel Corporation.

2.2 MATERIALS

- A. Hot-Rolled Steel Sheets: ASTM A 569/A 569M, CS (commercial steel), Type B; free of scale, pitting, or surface defects; pickled and oiled.
- B. Cold-Rolled Steel Sheets: ASTM A 366/A 366M, CS (commercial steel), Type B.
- C. Metallic-Coated Steel Sheets: ASTM A 653/A 653M, CS (commercial steel), Type B; with Z180 zinc (galvanized) or ZF180 zinc-iron-alloy (galvannealed) coating.
- D. Stainless-Steel Sheets: ASTM A 666, austenitic stainless steel, Type 304.

- E. Inserts, Bolts, and Fasteners: Manufacturer's standard units. Where items are to be built to exterior walls, zinc coat according to ASTM A 153/A 153M, Class C or D as applicable.
- F. Filler: Sound deadening and heat-retarding mineral fiber insulating material. At doors required to have temperature rise rating provide mineral fiberboard core.
- G. Glazing and Glazing Felt: Clear Wire Glass: Type II, Class 1, Form 1, with pattern M1 (diamond) wire mesh where shown.
 - 1. Fire Resistance Rated Wire Glass: Provide wire glass products that are identical to those tested per ASTM E163 (UL 9) and are labeled and listed by UL or other testing and inspecting agency acceptable to authorities having jurisdiction.
- H. Lead Lining: Rolled sheet lead conforming to requirements of FS QQ-L-201, Grade C (Chemical Lead) in sizes and thicknesses indicated.

2.3 DOORS

- A. General: Provide flush-design doors, 44 mm thick, of seamless hollow construction, unless otherwise indicated. Construct doors with smooth, flush surfaces without visible joints or seams on exposed faces or stile edges. Exterior doors to be IGGA (1.5mm) galvanized interior doors 18 GA (1.2mm).
 - 1. Visible joints or seams around glazed or louvered panel inserts are permitted.
 - 2. For single-acting swing doors, bevel both vertical edges 3 mm in 50 mm.
 - 3. For double-acting swing doors, round vertical edges with 54-mm radius.
 - 4. Exterior doors to have flush tops.
- B. Metallic Core Construction: Provide the following core construction welded to both door faces:
 - 1. Continuous Truss-Form Inner Core: 0.33-mm- thick steel reinforcement spot welded to face sheets a maximum of 75 mm o.c. vertically and horizontally.
- C. Fire Door Cores: As required to provide fire-protection and temperature-rise ratings indicated.
- D. Astragals: As required by NFPA 80 to provide fire ratings indicated.
- E. Top and Bottom Channels: Spot weld metal channel not less than thickness of face sheet to face sheets not more than 150 mm o.c.
 - 1. Reinforce tops and bottoms of doors with inverted horizontal channels of same material as face sheet so flanges of channels are even with bottom and top edges of face sheets.
 - 2. For exterior doors, close bottom edge with metallic-coated steel closing channel and top edge with filler channel of same material, so webs of channels are flush with bottom and top door edges.
- F. Hardware Reinforcement: Fabricate reinforcing plates from the same material as door to comply with the following:
 - 1. Hinges and Pivots: 4.2 mm thick by 38 mm wide by 150 mm longer than hinge, secured by not less than six spot welds.

2. Lock Face, Flush Bolts, Closers, and Concealed Holders: 2.3 mm thick.
 3. All Other Surface-Mounted Hardware: 1.3 mm thick.
- G. Interior Doors: Fabricate face sheets of doors from two 1.06-mm- thick, cold-rolled, stretcher-leveled steel sheets and other metal components from hot- or cold-rolled steel sheets.
- H. Exterior Steel Doors: Fabricate face sheets of doors from two 1.3-mm-thick, stretcher - leveled, metallic-coated steel sheets. Provide weep-hole openings in bottom of doors to permit entrapped moisture to escape. Seal joints in top edges of doors against water penetration.
- I. Stainless-Steel Doors: Fabricate face sheets of doors from two 1.3-mm-thick, stainless-steel sheets permanently and continuously bonded to nonmetallic cores or welded to rigid, internal stainless-steel core.
1. Internal Construction: Vertically reinforced with 1.3-mm-thick, stainless-steel sheet sections, spaced not more than 150 mm o.c., extended full-door height, and spot welded to both face sheets at not more than 125 mm o.c.
 2. Reinforce tops and bottoms of doors with 1.3-mm-thick, stainless-steel horizontal channels spot welded a maximum of 150 mm o.c. to door faces.
 - a. For exterior doors, close bottom edge with minimum 1.3-mm-thick, stainless-steel closing channel and top edge with same thickness of stainless-steel filler channel, so webs of channels are flush with bottom and top door edges. Provide weep-hole openings in bottom of doors to permit entrapped moisture to escape. Seal joints in top edges of doors against water penetration.
- J. Electrical Requirements: Provisions for installation of electrical items specified elsewhere; arrange so that wiring can be readily removed and replaced.
1. Security System Components: Provide all cutouts and reinforcements required for metal doors to accept security system components.
- K. Doors With Electric Hinges: General: Provide with metal conduit raceway to permit wiring from electric hinge to other electric door hardware.
1. Hinge Location: Center for doors less than 2286 mm or 2nd hinge from door bottom for doors greater than 2286 mm; top or bottom electric hinge locations shall not be permitted.

2.4 PANELS

- A. Provide panels of same materials, construction, and finish as specified for doors.

2.5 FRAMES

- A. Fabricate frames of full-welded unit construction, with corners mitered, reinforced, and continuously welded full width of mitre. Knockdown frames are acceptable for drywall construction only.
1. For exterior use, form frames from 1.9-mm-thick, metallic-coated steel sheets galvanized.

2. For interior use, form frames from cold- or hot-rolled steel sheet of the following thicknesses:
 - a. Openings up to and Including 1200 mm Wide: 1.5 mm.
 - b. Openings More than 1200 mm Wide: 1.9 mm.
 3. For stainless-steel doors, form frames from 1.6-mm-thick, stainless-steel sheets with No. 4 finish.
 4. Lead Lined Frames: 1.519 mm thick steel.
- B. Hardware Reinforcement: Fabricate from same material as frame. Minimum thickness of steel reinforcing plates for the following hardware:
1. Hinges and Pivots: 4.2 mm thick by 38 mm wide by 150 mm longer than hinge, secured by not less than six spot welds.
 2. Strikes, Flush Bolts, and Closers: 2.3 mm.
 3. Surface-Mounted Hold-Open Arms and Panic Devices: 2.3 mm.
- C. Mullions and Transom Bars: Provide closed or tubular mullions and transom bars where indicated. Fasten mullions and transom bars at crossings and to jambs by butt welding. Reinforce joints between frame members with concealed clip angles or sleeves of same metal and thickness as frame.
1. Provide false head member to receive lower ceiling where frames extend to finish ceilings of different heights.
- D. Head Reinforcement: Where installed in masonry, leave vertical mullions in frames open top for grouting.
- E. Supports and Anchors: After fabricating, galvanize units to be built into exterior walls according to ASTM A 153/A 153M, Class B.
- F. Jamb Anchors: Weld jamb anchors to frames near hinges and directly opposite on strike jamb as required to secure frames to adjacent construction.
1. Masonry Construction: Adjustable, flat, corrugated, or perforated T-shaped anchors to suit frame size; formed of same material as frame; not less than 1.3 mm thick; with leg not less than 50 mm wide by 250 mm long. Furnish at least the number of anchors per jamb according to the following frame heights:
 - a. Two anchors per jamb up to 1500 mm in height.
 - b. Three anchors per jamb from 1500 to 2250 mm in height.
 - c. Four anchors per jamb from 2250 to 2400 mm in height.
 - d. One additional anchor per jamb for each 600 mm or fraction thereof more than 2400 mm in height.
 2. Metal-Stud Partitions: Insert type with notched clip to engage metal stud, welded to back of frames, formed of same material as frame, not less than 1.0 mm thick. Provide at least the number of anchors for each jamb according to the following heights:
 - a. Three anchors per jamb up to 1500 mm in height.

- b. Four anchors per jamb from 1500 to 2250 mm in height.
 - c. Five anchors per jamb from 2250 to 2400 mm in height.
 - d. One additional anchor per jamb for each 600 mm or fraction thereof more than 2400 mm in height.
3. In-Place Concrete or Masonry: Anchor frame jambs with minimum 9-mm-diameter concealed bolts into expansion shields or inserts 150 mm from top and bottom and 650 mm o.c., unless otherwise indicated. Reinforce frames at anchor locations. Except for fire-rated openings, apply removable stop to cover anchor bolts, unless otherwise indicated.
- G. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, formed of same material as frame, 1.7 mm thick, as follows:
1. Monolithic Concrete Slabs: Clip-type anchors, with two holes to receive fasteners, welded to bottom of jambs and mullions.
 2. Separate Topping Concrete Slabs: Adjustable type with extension clips, allowing not less than 50-mm height adjustment. Terminate bottom of frames at finish floor surface.
- H. Head Anchors: Provide two head anchors for frames more than 1066 mm wide and mounted in steel-stud walls.
- I. Head Strut Supports: Provide 9-by-50-mm vertical steel struts extending from top of frame at each jamb to supporting construction above, unless frame is anchored to masonry or to other structural support at each jamb. Bend top of struts to provide flush contact for securing to supporting construction above. Provide adjustable wedged or bolted anchorage to frame jamb members.
- J. Structural Reinforcing Metals: Provide as part of frame assembly, where indicated at mullions, transoms, or other locations to be built into frame.
- K. Head Reinforcement: For frames more than 1200 mm wide in masonry wall openings, provide continuous steel channel or angle stiffener, 2.3 mm thick for full width of opening, welded to back of frame at head.
- L. Spreader Bars: Provide removable spreader bar across bottom of frames, tack welded to jambs and mullions.
- M. Rubber Door Silencers: Except on weather-stripped doors, drill stop in strike jamb to receive three silencers on single-door frames and drill head jamb stop to receive two silencers on double-door frames. Install plastic plugs to keep holes clear during construction.
- N. Plaster Guards: Provide 0.4-mm-thick plaster guards or dust-cover boxes of same material as frame, welded to frame at back of hardware cutouts to close off interior of openings and prevent mortar or other materials from obstructing hardware operation.
- O. X-Ray Door Frame Struts and Lead Linings:
1. Struts: Provide vertical steel struts, 9.525 mm x 50 mm extended from top of frame at each jamb to supporting structural construction above, unless frame is set in masonry or attached directly to concrete. Bend top of struts at a right angle and attach to supporting

structural construction above by bolting. Use inserts or expansion anchors into supporting structural construction above. Provide bolted attachment of struts to frame at jambs to permit height adjustment during installation. Adapt jamb anchor clips at struts to permit adjustment.

2. Lead Lining: All X-ray door frames shall be provided with a minimum 25 mm x 50 mm x 4.76 mm continuous structural angle welded to the full length of the hinge, head, and strike jambs. The door frame and structural angle shall then receive a single 1.5 mm thickness of lead sheet having a width to provide an effective lead lap with the lead of the adjoining wall construction lead shielding materials. Lead sheet shall be factory installed as a continuous lining formed to the contour of the door frame and structural angle and around areas prepared to receive hardware. Lead lining shall be held in place with retaining clip devices.

2.6 LOUVERS

- A. Door Louvers: Fabricate louvers and mount flush into doors without overlapping moldings on surface of door face sheets. Provide internal support as recommended by louver manufacturer. Prime paint steel louvers after fabrication.
 1. Interior Louvers: Sightproof, stationary type, constructed of inverted Y-shaped blades formed of same material as door.
 - a. Steel: 0.8 mm thick.
 - b. Stainless Steel: 0.95 mm thick.

2.7 STOPS AND MOULDINGS

- A. Provide stops and moldings around solid, glazed, and louvered panels where indicated.
- B. Form fixed stops and moldings integral with frame, unless otherwise indicated.
- C. Provide removable stops and moldings where indicated or required, formed of 0.8-mm-thick steel sheets matching steel frames. Secure with countersunk flat or oval head machine screws spaced uniformly not more than 300 mm o.c. Form corners with butted hairline joints.
- D. Coordinate rabbet width between fixed and removable stops with type of glass or panel and type of installation indicated.

2.8 FABRICATION

- A. Fabricate doors and frames rigid, neat in appearance, and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles. Weld exposed joints continuously; grind, fill, dress, and make smooth, flush, and invisible. Where practical, fit and assemble units in manufacturer's plant. Clearly identify work that cannot be permanently factory assembled before shipment, to assure proper assembly at Project site.
 1. Fabricate doors to comply with acceptance criteria of ANSI A250.4 for a Level A door.
- B. For doors with metallic core constructions, weld cores to both door face sheets.

- C. Exposed Fasteners: Provide countersunk flat or oval heads for exposed screws and bolts, unless otherwise indicated.
- D. Thermal-Rated (insulating) Assemblies: At exterior locations and elsewhere as shown or scheduled, provide doors and frames fabricated as thermal-insulating assemblies and tested according to STM C 236 or ASTM C 976.
 - 1. Provide thermal-rated assemblies with U-factor of 1.7 W/sq. m x K, unless otherwise indicated.
- E. Sound-Rated (Acoustical) Assemblies: Where shown or scheduled, provide door and frame assemblies fabricated as sound-reducing type, tested according to ASTM E 1408, and classified according to ASTM E 413.
 - 1. Provide acoustical assemblies with STC sound ratings of 33 or better, unless otherwise indicated.
- F. Hardware Preparation: Prepare doors and frames to receive hardware, including cutouts, reinforcement, mortising, drilling, and tapping, according to final hardware schedule and templates provided by hardware supplier. Comply with applicable requirements of ANSIA115 Series specifications for door and frame preparation for hardware.
 - 1. Reinforce doors and frames to receive surface-applied hardware. Drilling and tapping for surface-applied hardware may be done at Project site.
 - 2. Locate hardware as indicated or, if not indicated, according to HMMA 831, "Recommended Hardware Locations for Custom Hollow Metal Doors and Frames."

2.9 GLAZED LIGHT FRAMES

- A. Form glazed light frames to the profiles shown. Provide anchors at jambs same as for door frames. Provide closed mullion sections same as for door frames. Fabricate from 1.519 mm thick steel for interior work.
- B. Miter, fit, and weld corners of panel moldings for glass panels in sidelights and borrowed lights to form continuous frame around panels. Provide non-removable panel moldings on the exterior. Secure removable moldings with not less than No. 6 x 32 Phillips oval-head countersunk machine screws at 300 mm on center.
- C. Provide continuous felt strips cemented in place, on all bed and stop surfaces for interior light frames to be glazed so that at no time does metal touch glass.
 - 1. Glaze light frames with wire glass.

2.10 BULLET RESISTANT ACOUSTICAL DOORS

- A. Provide special bullet resistant acoustical doors fabricated from sheet steel where shown with Z180 zinc (galvanized) or ZF180 zinc-iron-alloy (galvannealed) coating or scheduled, compete with frames. Provide a Sound Transmission Class of 49, as determined in accordance with

ASTM E413, for each door, threshold and frame assembly when installed. The door and frame assembly shall be designed to withstand a commercially loaded handgun or rifle ammunition, including armor piercing ammunition, having a muzzle velocity not to exceed 3,500 feet per second and maximum energy of 5,250 foot pounds. The assembly shall be complete with necessary gasketing, thresholds and sound seals to achieve the specified STC rating and bullet resistance. Doors shall be designed for use with standard builder's hardware as scheduled.

- B. Basis of Design: Moduline APR Type Single Leaf Personnel Doors Modified to comply with the requirements; Industrial Acoustics Company, or equal.

2.11 FINISHES, GENERAL

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for cleaning, treating, priming, and when specified, finishing.
- B. Finish products specified in this Section after fabrication.

2.12 METALLIC-COATED STEEL FINISHES

- A. Surface Preparation: Clean surfaces with nonpetroleum solvent so surfaces are free of oil and other contaminants. After cleaning, apply a conversion coating suited to the organic coating to be applied over it. Clean welds, mechanical connections, and abraded areas, and apply galvanizing repair paint specified below to comply with ASTM A 780.
 - 1. Galvanizing Repair Paint: High-zinc-dust-content paint for regalvanizing welds in steel, complying with SSPC-Paint 20.
- B. Factory Priming for Field-Painted Finish: Apply shop primer specified below immediately after surface preparation and pretreatment. Apply a smooth coat of even consistency to provide a uniform dry film thickness of not less than 0.02 mm.
 - 1. Shop Primer: Manufacturer's or fabricator's standard, fast-curing, lead- and chromate-free, primer complying with ANSI A 224.1 acceptance criteria; recommended by primer manufacturer for zinc-coated steel; compatible with substrate and field-applied finish paint system indicated; and providing a sound foundation for field-applied topcoats despite prolonged exposure.

2.13 STEEL SHEET FINISHES

- A. Surface Preparation: Clean surfaces to comply with SSPC-SP 1, "Solvent Cleaning"; remove dirt, oil, grease, or other contaminants that could impair paint bond. Remove mill scale and rust, if present, from uncoated steel, complying with SSPC-SP 3, "Power Tool Cleaning," or SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
- B. Factory Priming for Field-Painted Finish: Apply shop primer specified below immediately after surface preparation and pretreatment. Apply a smooth coat of even consistency to provide a uniform dry film thickness of not less than 0.02 mm.

1. Shop Primer: Manufacturer's or fabricator's standard, fast-curing, corrosion-inhibiting, lead- and chromate-free, universal primer complying with ANSI A 224.1 acceptance criteria; compatible with substrate and field-applied finish paint system indicated; and providing a sound foundation for field-applied topcoats despite prolonged exposure.

2.14 STAINLESS-STEEL FINISHES

- A. Remove tool and die marks and stretch lines or blend into finish. Grind and polish surfaces to produce uniform, directionally textured polished finish indicated, free cross scratches. Run grain with long dimension of each piece.
 1. Bright, Directional Polish: No. 4 finish.
 2. When polishing is completed, passivate and rinse surfaces. Remove embedded foreign matter and leave surfaces chemically clean.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Install doors and frames according to DHI A115.IG and manufacturer's written instructions.
- B. Frames: Install frames for doors, transoms, sidelights, borrowed lights, and other openings, of size and profile indicated.
 1. Set masonry anchorage devices where required for securing frames to in-place concrete or masonry construction.
 - a. Set anchorage devices opposite each anchor location according to details on Shop Drawings and anchorage device manufacturer's written instructions. Leave drilled holes rough, not reamed, and free of dust and debris.
 2. Floor anchors may be set with powder-actuated fasteners instead of masonry anchorage devices and machine screws, if so indicated on Shop Drawings.
 3. Placing Frames: Set frames accurately in position; plumb; align, and brace securely until permanent anchors are set. After wall construction is complete, remove temporary braces and spreaders, leaving surfaces smooth and undamaged.
 - a. At existing concrete or masonry construction, set frames and secure in place with machine screws and masonry anchorage devices.
 - b. At fire-rated openings, install frames according to NFPA 80.
 - c. Field splice only at approved locations. Weld, grind, and finish as required to conceal evidence of splicing on exposed faces.
 - d. Remove spreader bars from each frame only after frame is properly set and secured.

- C. Doors: Fit non-fire-rated doors accurately in their respective frames, with the following clearances:
 - 1. Jams and Head: 2 mm.
 - 2. Meeting Edges, Pairs of Doors: 3 mm.
 - 3. Bottom: 9 mm, if no threshold or carpet.
 - 4. Bottom: 3 mm, at threshold or carpet.
- D. Fire-Rated Doors: Install with clearances as specified in NFPA 80.
- E. Smoke Control Doors: Install according to NFPA 105.

3.2 ADJUSTING AND CLEANING

- A. Final Adjustments: Check and readjust operating hardware items just before final inspection. leave work in complete and proper operating condition. Remove and replace defective work, including doors or frames that are warped, bowed, or otherwise unacceptable.
- B. Prime-Coat Touchup: Immediately after erection, sand smooth any rusted or damaged areas of prime coat and apply touchup of compatible air-drying primer.
- C. Stainless-Steel Touchup: Immediately after erection, smooth any abraded areas of stainless steel and polish to match undamaged finish.

END OF SECTION 08110

SECTION 08714 - DOOR HARDWAREPART 4 - GENERAL4.1 SUMMARY

- A. This Section includes the following:
1. Commercial door hardware for the following:
 - a. Swinging Doors
 - b. Security Gates
 - c. Electrified Hardware
- B. Related Sections:
1. Division 8 Section for metal doors and frames.
 2. Division 8 Section for wood doors.
 3. Division 8 Section for FE/BR door assemblies.
 4. Division 16 for electronic security and power for electrically operated hardware devices.
 5. Classified Volume, Paragraph 3.7 for Hardware Sets in classified areas.

4.2 SUBMITTALS

- A. General: Submit Security hardware and non- security hardware sets separately in accordance with Division 1 requirements.
- B. Product Data: Submit three copies of catalog cuts of all items used in the supplier's schedule.
- C. Hardware Schedules: Based on hardware indicated, organize hardware schedule into groups or sets showing complete designations of every item required for each door opening. Schedule shall be vertical layout similar to the format used herein. Lines shall be double-spaced with pages numbered and dated. Security Hardware Sets shall be listed as SHW-1, SHW-2, etc; non-security Hardware Sets shall be listed as HW-101, HW-102, etc.
1. For doors of different sizes or where hinges, locks or closers are different, a separate heading shall be used. No labeled openings shall be combined with non-labeled openings. Horizontal hardware schedules are not acceptable. Include the following:
 - a. Number, location, hand, fire rating, Government Code, size and material of each door opening (hands and swings to be determined in relation to key side of opening).
 - b. Type, style, function, size, finish and quantity of each hardware item.
 - c. Name and manufacturer of each item.

- d. Fastening requirements.
 - e. Explanation of abbreviations used.
 - f. Keying information.
 - g. Wiring diagrams (after each corresponding hardware group).
- D. Hardware Schedule Index: Furnish an index cross referencing Contract Document door number and hardware group, and supplier's hardware set.
- E. Keying Schedule: Submit separate detailed schedule, indicating the Government's approved master key system, for Government review and approval after Hardware Schedule has been approved.
- F. Wiring Diagrams: Furnish wiring diagrams illustrating point-to-point hook-up of all electrical hardware specified herein. Include fire alarm and/or access control system interface where applicable. Diagrams shall be complete by opening and shall indicate connections between all components affected. Manufacturers' standard line diagrams are not acceptable.
- G. Samples: If requested by the COR, submit one sample of each requested item tagged with full description for coordination with the hardware schedule. These items will remain on file in the COR's office until all other similar items have been installed in the project. At that time, items on file will be released for installation in pre-determined Project locations.
- H. Operating Instructions: Furnish the Government with one complete set of installation instructions, including special adjusting tools and maintenance instructions listing routine maintenance procedures, possible breakdowns and repairs, and troubleshooting guides. One complete catalog shall be furnished for each manufacturer listed in the approved hardware schedule.
- I. Templates: Furnish templates and approved hardware schedule to door and frame fabricators. Where fabricator cannot work to paper templates, ship templates and or physical hardware to factories of respective manufacturers. Prepay cost for shipping and delivery.
- J. Informational Submittals: Submit the following:
- 1. Certifications specified in Quality Assurance article.
 - 2. Qualifications Data: Hardware Suppliers Qualification data.
- K. Closeout Submittals: Submit specified warranty in accordance with Division 1 requirements.
- L. Certification: After completion of hardware installation, submit written certification attesting that hardware has been installed in accordance with manufacturer's templates and instructions and that hardware has not been altered.

4.3 QUALITY ASSURANCE

- A. General Requirements: Hardware has been specified by manufacturer's name, brand and catalog numbers for purpose of establishing basis for quality, design and operational function.
- 1. Except where specifically indicated otherwise (i.e., LCN, Von Duprin - no substitution), equivalent products from other listed manufacturers are also acceptable.

2. Provide designated product, or where more than one product or manufacturer is listed, provide equivalent product of one of other listed manufacturers.
 3. Obtain each type of hardware from single manufacturer.
 4. Hardware Sets within this Section are not complete with respect to thickness of doors, hand, backset, method of fastening, and other detail requirements.
 5. Review Drawings and Door Schedules thoroughly and provide required hardware for all openings, including openings that may have been inadvertently omitted from Door Schedules.
 6. Should opening be omitted or opening not indicated with hardware set, provide hardware of same quality, design and function as specified for similar openings.
 7. Furnish hardware complete with brackets, plates, fittings, fastenings and other accessories required for installation.
- B. Regulatory Requirements: Comply with UFAS to accommodate barrier free design except where specifically indicated by the Government.
1. Provide knurled tactile warning on door hardware to hazardous areas; abrasive coating not acceptable.
 2. Comply with NFPA 80 for hardware at fire-rated assemblies.
 3. Provide hardware that has been tested and listed by UL or FM for fire-rated assemblies of types that comply with requirements of door and frame labels.
- C. Hardware Supplier Qualifications: Door hardware supplier who has been furnishing hardware for a period of not less than two years, and who is, or who employs an Architectural Hardware Consultant (AHC) who will be available at reasonable times during the course of Work for consultation about Project's hardware requirements.

4.4 DELIVERY, STORAGE, AND HANDLING

- A. Pack each hardware item separately. Include manufacturer's printed installation instructions, trim, fasteners accessories, and special tools necessary for installation.
- B. Legibly mark and adequately label each package indicating opening for which intended. Provide markings corresponding with approved Hardware Schedule.
- C. Deliver permanent security cores and keys as indicated in Keying section, not less than two months prior to scheduled substantial completion.

4.5 WARRANTY

- A. Special Warranty: Prepare and submit in accordance with Division 1 requirements.
 1. Manufacturer's warranty stating closer will be free from defects in materials and workmanship for a minimum of 10 years from date of manufacturer.

PART 5 - PRODUCTS**5.1 HINGES****A. Acceptable Manufacturers:**

1. Bommer Industries.
2. Hager Companies.
3. McKinney.
4. Stanley Hardware (Manufacturer named in Hardware Sets in this Section).

B. Butt Hinges: Five knuckle design with square corners.

1. Full mortise type. (Heavyweight, Stainless Steel - ANSI A5111).
2. Flat button tip and matching plug.
3. Non-removable pins for out-swing exterior doors and for interior reverse bevel doors equipped with locking; safety stud is not acceptable. Non-rising pin for other doors.
4. Non-ferrous construction at all locations (interior and exterior).
5. Anti-friction bearings may be furnished in lieu of ball bearings, except where prohibited on fire doors by the requirements of NFPA 80.

C. Minimum Number Hinges:

1. Furnish two hinges for doors 1520 mm (60-inches) or less in height and one additional hinge for each additional 760 mm (30 inches) of height or fraction thereof.

D. Minimum Size:

1. Unless otherwise specified, hinges for doors through 914 mm (36-inches) wide shall be 115 by 115 mm (4.5 by 4.5); hinges for doors over 914 mm (36-inches) wide shall be 127 by 115 mm (5 by 4.5).

E. FE/BR Hinges: For FE/BR doors that utilize a continuous Roton hinge, provide Roton 1200 Series of equivalent extra-heavy duty hinge.**5.2 LOCKS, LATCHES, AND DEADLOCKS****A. Acceptable Manufacturers:**

1. Corbin Russwin Architectural Hardware. (Manufacturer named in Hardware Sets in this Section).
2. Schlage Lock Company.

B. Description: Mortise locks and latches shall be equal to Corbin Russwin ML2200 Series with NSM trim.

1. Levers shall be cast or solid metal.
2. All internal working parts of the lock shall be brass bronze, steel or stainless steel.

3. For each lock and latchset, provide strike box and square corner ASA strike with curved lips of sufficient length to protect frames.
- C. Where indicated in the hardware sets, furnish Medeco Series padlocks or Corbin Russwin Series IC-PL 5000 as required.

5.3 PUSHBUTTON LOCKS

- A. Acceptable Manufacturers: No substitutions.
1. Simplex Access Controls.
- B. Trim: Furnish units complete with lever handle trim and ASA strikes.
1. Finish matching lock.
- C. Strike: ASA 123.875 mm (4 7/8-inches)
1. Equip with wrought box.
 2. Finish matching lock.

5.4 COMBINATION LOCKS

- A. Acceptable Manufacturers: No substitutions. Provide as indicated in the Hardware Sets.
1. Sargent & Greenleaf.
 2. Mas Hamilton.
- B. Requirements: Conform to GSA Specification FF-L2740 for Mas Hamilton.

5.5 SECURITY DEADBOLTS

- A. Acceptable Manufacturers: No Substitutions. Provide as identified in the Hardware Sets.
1. Sargent & Greenleaf.
 2. Medeco.
- B. Requirements: Refer to the Hardware Sets for grade and style.

5.6 EXIT DEVICES AND EXIT DEVICE ACCESSORIES

- A. Acceptable Manufacturers: No Substitutions:
1. Von Duprin, Inc.
- B. Refer to the Hardware Sets for trim, grade, and function.

5.7 CYLINDERS AND CORES

- A. Provide cylinders for locks, deadlocks, and other control and locking devices indicated in the Hardware Sets.
- B. Non-Security Doors:
 - 1. Acceptable Manufacturers:
 - a. Corbin Russwin Architectural Hardware (Manufacturer named in Hardware Sets in this Section).
 - b. Schlage Lock Company.
 - 2. Description:
 - a. Cylinders shall be minimum six-pin with interchangeable cores.
 - b. All cylinders shall be equipped with temporary construction core for use during construction.
- C. Security Doors:
 - 1. Manufacturers: No substitutions.
 - a. Medeco.
 - 2. Description:
 - a. Original high security cylinder with interchangeable core. Provide six-pin commercial keyway.
 - b. All cylinders shall be equipped with temporary construction core for use during construction.
- D. Permanent Cores: Contractor shall use only the OBO project numbers for transmitting permanent locks to the Lock Shop in Alexandria, Virginia. Do not identify by project name or location. Refer to "KEYING" Article in this Section.

5.8 KEY CONTROL SYSTEM

- A. Manufacturers: Provide system by this manufacturer or manufacturer approved by the COR.
 - 1. Mosler, Inc.
- B. Description: Furnish a wall key cabinet, equal to Mosler KC-1612, with dual control system including envelopes, labels, tags with self-locking key clips, receipt forms, three-way visible card index, temporary markers, permanent markers and metal cabinet.
 - 1. Equip with pin tumbler locking mechanism.
 - 2. Sized to contain index for Project, plus 10 percent expansion.

5.9 CLOSERS

- A. Manufacturers: No substitutions.
 - 1. LCN Closers.
- B. Description: Non-sized, surface or concealed mounted as indicated.
 - 1. Where parallel arm closers are required, furnish manufacturer's extra-heavy duty arm (No. 3077 EDA).
 - 2. Provide manufacturer's special rust inhibiting finish on closers exposed to the elements.
- C. Required Features: Manufacturer's standard cast iron construction.
 - 1. Rack and pinion construction with compression spring, fully hydraulic.
 - 2. Closing speed and latching speed controlled by independent valves.
 - 3. Adjustable spring power allowing adjustment up to 50 percent in field to suit individual door conditions.
 - 4. Adjustable hydraulic backcheck.
 - 5. Hold open and dead stop features where indicated in Hardware Sets.
- D. Accessories: At surface closers provide manufacturer's standard non-metallic cover.
 - 1. Furnish with necessary arms, track, brackets, plates, shoe, and other accessories to suit door and frame conditions.
- E. Mounting: At surface closers locate on the least conspicuous side of the door (side opposite public view).

5.10 POWER-ASSIST OPERATORS

- A. Manufacturer: No substitutions.
 - 1. LCN Closers.
- B. Description: Units shall be pneumatically powered; surface mounted to frame head, and shall operate as manual door closers unless power-assist is activated and when power is lost.
 - 1. Activation of power-assist shall open doors to 90-degrees.
 - 2. Furnish actuators with satin stainless steel dress plates embossed with the universal handicap symbol. Refer to OBO-ICS Chapter 11 for the power assist operators requirements.
- C. Required Features: Manufacturer's standard cast iron construction.
 - 1. Rack and pinion construction with compression spring, fully hydraulic.
 - 2. Closing speed and latching speed controlled by independently operated valves.
 - 3. Adjustable spring power allowing adjustment up to 50 percent in field to suit individual door conditions.

4. Adjustable hydraulic backcheck.

5.11 AUXILIARY HARDWARE

A. Acceptable Manufacturers:

1. Hager Companies.
2. Ives.
3. Rockwood Manufacturing Co., Inc. (Manufacturer named in Hardware Sets in this Section.)
4. Triangle Brass Manufacturing Co., Inc.

B. Manual Flush Bolts: Top manual flush bolt shall not exceed 1880 mm (74-inches) from floor to centerline.

C. Door Stops: Furnish wall stops equal to Rockwood 400 wherever trim strikes wall. Where wall stops are not suitable, furnish surface mounted overhead stops equal to Glynn-Johnson 450 Series. Where door closers are specified in the Hardware Sets and wall stops are not suitable, provide closer arms with built-in stops (LCN No.3077-CNS).

D. Silencers: Furnish rubber silencers equal to Rockwood 608 for hollow metal frames; three per single door and four per pair. Silencers are not required at doors specified to receive continuous weather-stripping or seals.

5.12 ARCHITECTURAL DOOR TRIM

A. Acceptable Manufacturers:

1. Builder's Brass Works Corp.
2. Hager Companies (Manufacturer named in Hardware Sets in this Section.)
3. Rockwood Manufacturing Co.
4. Triangle Brass Manufacturing Co.

B. Protection Plates: Kick and armor plates shall be beveled on all sides, equal to Hager Companies 194S Series.

1. Size: Unless otherwise indicated or where narrow bottom rails dictate a smaller size, kick plates shall be 250 mm (10-inches) high and armor plates shall be 865 mm (34-inches) high by 400 mm (16-inches) high on fire rated doors. Width shall be 40 mm (1.5-inches) less than the door width on single doors and 25 mm (1-inch) less than the door width on double doors.
2. Factory-prepare flat goods for conflicting hardware (e.g. lever handles, cylinders, turn pieces, etc.) as required.

C. Push and pull plates shall be 150 mm by 400 mm (6 by 16).

D. Fasteners: Flat goods shall be furnished with Phillips undercut, countersunk screws per ANSI A156.6. Trusshead screws are not acceptable.

5.13 OVERHEAD STOPS AND HOLDERS

A. Acceptable Manufacturers:

1. Architectural Builders Hardware.
2. *Glynn-Johnson. (Manufacturer named in Hardware Sets in this Section.)
3. Rixson.

B. Where wall stops will not work, furnish surface overhead stops equal to Glynn-Johnson 450 Series. In Hardware Sets where door closers are specified, provide closer arms with built-in stops (LCN No.3077-CNS).

5.14 THERESHOLDS, WEATHER-STRIPPING AND SEALS

A. Acceptable Manufacturers:

1. Hager Companies.
2. National Guard Products.
3. Pemko (Manufacturer named in Hardware Sets in this Section).
4. Reese Enterprises.
5. Zero International.

B. Description: Refer to the Hardware Sets for grade and style. Where required, field modify thresholds to accept strikes for flush bolts and exit device rods.

C. Smoke Seals: Where required by applicable code, at doors located in Smoke Barrier Partitions, provide smoke seals equal to Pemko S88 at the head and jambs; and at pairs of doors, one Pemko 375CR or two Pemko 303AS astragal seals as appropriate; coordinate with Drawings and schedules.

D. Astragals: Where indicated in the Hardware Sets, provide overlapping astragals equal to Pemko 357SP. Astragals shall be full height, installed on the "threat" side of the opening.

5.15 ACOUSTICAL TREATMENT

A. Provide full door gasketing/acoustical seals with flat threshold installed to maintain STC rating of surrounding walls.

B. Certification: Provide certification that the door construction utilized has been tested at an independent laboratory in accordance with ASTM E90-90, and that the STC determined in accordance with ASTM E413-87 is not less than that specified. The laboratory referenced in the certification must be qualified under the National Voluntary Laboratory Accreditation Program (NAVLAP) of the U.S. Bureau of Standards. Certification must reference laboratory name, test report number, and date of test; substitution of test data not in accordance with ASTM E90-90 and E413-87 will not be acceptable.

C. Secondary Requirements: If fire resistance is required, certify that assemblies have been tested in accordance with ASTM E512-81A (UL 10B) for labeled fire doors and frames and meets the

requirements of NFPA 80. If seismic stability is required, submit calculations showing ability of door systems to withstand pertinent seismic forces.

5.16 ELECTROMAGNETIC DOOR HOLDERS

A. Acceptable Manufacturers:

1. Corbin Russwin Architectural Hardware.
2. LCN Closers.(Manufacturer named in Hardware Sets in this Section.)
3. Rixson.

B. Description: Refer to the Hardware Sets for size and style. Install wall holders with shims as required for a complete installation; coordinate with Drawings and details.

5.17 ELECTRIC STRIKES

A. Manufacturers: No Substitutions. Provide as indicated in Hardware Sets.

1. Folger Adam Co.
2. Trine.

B. Description: Refer to the Hardware Sets for grade and style.

1. Coordinate electrical connection and installation with Division 16.

5.18 ELECTRO-MAGNETIC LOCKS

A. Manufacturer: No substitutions.

1. DynaLock.

B. Description: Units shall be surface-mounted and shall operate at 24V current. Provide filler plates and mounting brackets as required for complete installation.

1. Coordinate electrical connection and installation with Division 16.

5.19 MONITOR SWITCHES

A. Manufacturer: No substitutions. Provide as indicated in Hardware Sets.

1. Sentrol.
2. Wells Fargo.

B. Description: Refer to the Hardware Sets for grade and style. At swinging doors, locate switches in frame head 150 mm (6-inches) from lock edge.

5.20 MISCELLANEOUS EQUIPMENT

- A. The following products shall be provided as indicated in the Hardware Sets. No Substitutions.
1. Armored Cables: Alarm Lock Corp.
 2. Cipher Locks: Continental Instruments.
 3. Combination Lock Lockboxes: Knox Company.
 4. Combination Lock Weather Housing: Federal Security Systems.
 5. Crypto Locks: Moniteq Research Labs.
 6. Disconnect Switches: Ellenco.
 7. Electric Current Transfers: Alarm Lock Corp.
 8. Electric Knob Locks: Alarm Lock Corp.
 9. Electric Power Transfers: Von Duprin, Inc.
 10. Electromechanical Locks: Sargent & Greenleaf.
 11. Fire Door Control Packages: AES (alternate Model No. CC-8946 by Moniteq Research Labs is acceptable).
 12. High Security Deadbolt Locks: ASSA, Inc.
 13. Scramble Pads: Hirsch Electronics.
 14. Wall Actuators: Locknetics.

5.21 KEYING

- A. Development of keying schedule may require a facility clearance to access the complete room schedule where classified access control are involved. In this cases the subcontractor must handle this material in accordance with the Industrial Security Act.
- B. The procurement and marking of all keying schedule should be referenced/marked using only the OBO project number.
- C. The following is the Government recommended keying plan for NON-SECURE DOOR OPENINGS:
1. No keying should be done to a master key or grand master key system. To explain this requirement no one MASTER KEY should operate a complete building or no one GRAND MASTER KEY should operate a group of buildings at a post or site.
 2. Buildings should be Master Keyed by the floor.
 3. The Non-Secure hardware sets shall not have Medeco cylinders.
 4. Each of the following individual areas can utilize KEYED-ALIKE SETS and be passed by the floor master:
 - a. Mechanical Rooms.
 - b. Electrical Rooms.
 - c. Janitor Closets.
 - d. Toilet Rooms.
 - e. Telephone Rooms.
 - f. Stair Wells.
 - g. Kitchen Areas.
 5. EXAMPLE: All of the Mechanical Rooms from the basement to the penthouse should be keyed alike to a set, and be passed by the individual floor Master Key.
-

6. This system allows the roving marine who is carrying each of the Floor Master Keys access to any of these rooms on each floor.
 7. The authorized personnel for any of the individual keyed alike-set area carrying their keyed-alike set key can open their area on any floor and not open any other area. No other area keyed-alike set key will open any other area.
 8. Tenant Areas should utilize keyed different sets and be passed by the floor master.
 9. Special storage areas and cashiers offices should be single keyed different (SKD) with no master key. This protects the integrity of the persons who have the responsibility of these type areas.
 10. Single office space shall be keyed different and passed by the floor master key. If there is more than one entrance door into an office these doors should be keyed alike, and passed by the floor master key.
- D. The following is the Government recommended keying plan for SECURE DOOR OPENINGS:
1. Key locksets and cylinders to factory established and recorded system.
 - a. All key operated locks on individual doors shall be keyed alike.
 - b. Grand Master and Great Grand Master systems are not permitted.
 - c. All exterior FE and FE/BR doors shall have an interior cylinder with a non-removable thumb turn.
 - d. Security doors shall be keyed different and master keyed by building within the following categories: Exterior FE and FE/BR doors; interior hard-line doors; Telecommunications Room doors; and EC Room doors.
 - e. Security doors shall be keyed different and master keyed by floor within the Controlled Access Area, except for the PCC and Secure Conference or Processing rooms.
 - f. Security doors shall be keyed alike with no master key within the following categories: Pharmacy and Safe Haven or safe area.
 - g. Security doors shall be keyed different with no master key within the following categories: Telephone Equipment Rooms; Secure Generator Room; React Room; PCC; and Secure Conference or Processing rooms.
- E. The COR, the General Contractor and either the RSO or the PSO shall meet to determine if there are any special keying conditions required so they may be incorporated into the keying schedule.
- F. Key Quantities : Furnish plain bow keys of nickel silver material in the following quantities:
1. For each master key system, provide:
 - a. Two master keys.
 - b. Two control keys (pinned to the master).
 - c. Two operating keys per cylinder change.
 2. For each individually keyed cylinder, provide:
 - a. Two control keys.
-

- b. Two operating keys per keyed cylinder.
 3. For each construction key system, provide:
 - a. Two control keys.
 - b. Eight master keys.
- G. Identification and Control
 1. Identify master keys with registry number; do not stamp with master key, letter M, or similar identification; manufacturer's trademark or identification not allowed.
 2. Stamp master keys with DO NOT DUPLICATE.
 3. Furnish visual controls system; coordinate provisions with the Government. Stamp or emboss keys and cylinders with identification code.
- H. Delivery.
 1. Deliver construction cores, construction master keys, and construction keys to the Project Site.
 2. Permanent cores, operating keys and permanent control keys shall be individually packaged by the door, identified by the lock and OBO project number, and shipped by the supplier, via prepaid freight to: Department of State, SA-24, Attention: Jim Doyle, 5800 Barclay Drive, Suite 3, Alexandria, VA 22315-5700.
 3. After removal of temporary construction cores, ship construction cores, construction keys, and construction control keys to the above-mentioned address.

5.22 FINISHES

- A. Base Metals: Produce hardware units of basic metal and forming method indicated, using manufacturers' standard metal alloy of composition, temper and hardness, but in no case of lesser quality than specified or inferred by use of a particular manufacturer's number, style or grade or as established by appropriate referenced specification listed herein.
- B. Finishes: Finishes shall conform to the quality of finish including thickness of plating or coating (if any), composition, hardness and other qualities complying with manufacturers' standards, but in no case less than the standards established by ANSI/BHMA A156.18 and Federal Specification FF-H-111C as applicable.
 1. All exposed hardware except door closers shall be satin stainless steel, ANSI/BHMA 630/US32D. Closers shall be painted to match satin stainless steel. Hinges shall be satin stainless steel. Items not available in stainless steel shall be furnished with satin chrome finish, ANSI/BHMA 626/US26D.
 2. Security hardware finish shall match finish of non-security hardware to the maximum extent possible.
- C. Prime Coated Items: Field painted under Division 9 painting sections.

5.23 FASTENERS

- A. Manufacture hardware to conform to published templates, generally prepare for machine screw installation. Do not provide hardware that has been prepared for self-tapping or sheet metal screws except as specifically indicated.
1. Furnish screws for installation with each hardware item. Provide Phillips flat head or oval head screws except as otherwise indicated. Finish exposed (exposed under any condition) screws to match the hardware finish or, if exposed in surfaces of other work, to match the finish of such work as closely as possible, except as otherwise indicated.
 2. Provide concealed fasteners for hardware units that are exposed when the door is closed, except to the extent no standard manufactured units of the type specified are available with concealed fasteners.
 3. Do not use through bolts for installation except where it is not possible to adequately reinforce the work, to accept machine screws or concealed fasteners or other standard type, to satisfactory avoid the use of through bolts. Grommet nuts and cealnuts are not acceptable.
- B. Furnish fasteners that are compatible with both the units fastened and the substrates, and which will not cause corrosion or deterioration of hardware, base material reinforcement, or fastener. Furnish wall stops with expansion anchors and machine screws. Furnish thresholds with lead anchors and 1/4-20 stainless steel machine screws.

5.24 ACCESSORIES

- A. Door Coat and Hat Hook: Provide cast aluminum, double prong hooks on inside face of all private office doors and toilet rooms; Ives Model No. 405 wide body design (ANSI/BHMA A156.16, L33113).

PART 6 - EXECUTION

6.1 EXAMINATION

- A. Examine conditions and proceed with work in accordance with Division 1 requirements.

6.2 INSTALLATION

- A. Install hardware plumb, level, and true to line in accordance with manufacturer's templates, Section 01600, and Project conditions.
1. Install fire rated hardware in accordance with NFPA 80.
 2. Where cutting and fitting is required on substrates to be field painted or similarly finished, install, fit, remove and store hardware prior to finishing. Reinstall hardware after finishing operations are completed.
 3. Do not install surface mounted items until finishes have been completed on the substrate.
 4. Reinforce attachment substrates as necessary for installation and operation.

5. For substrates which are not factory prepared for hardware:
 6. Mortise work to correct size and location without gouging, splintering or causing irregularities in exposed finish work.
 7. Fit faces of mortised components snug and flush without excessive clearance.
 8. Set thresholds at exterior doors in bed of sealant. Remove excess sealant.
- B. Hardware Mounting Heights: Mount hardware units at heights recommended by DHI (see "Recommended Locations for Builders Hardware") on custom doors except as otherwise indicated or required to comply with governing regulations, and except as may be otherwise indicated.
- C. Cylinder Cores: When instructed, Contractor shall remove temporary construction cores. Permanent cores will be installed by the Government. After installation of the permanent cores, ship construction cores, operating keys, and control keys via pre-paid freight to the DS/PEL/SEM address noted in Paragraph on "Keying."
- D. Power-Assist Operators: Where post mounted actuator buttons are indicated, run signal wire below grade in conduit complying with Division 16. Elsewhere, run signal wire concealed in Technical Security System conduit. Run pneumatic lines between pumps and door operators concealed. At curtain walls, run pneumatic lines concealed in metal trays finished to match curtain wall.

6.3 ADJUSTING

- A. Check and adjust each operating hardware item to ensure correct operation and function.
1. Adjust hardware to meet UFAS requirements for operating time and maximum opening force.
 2. Ensure weather-stripping and seals do not inhibit closing and positive latching of door.
 3. Lubricate moving or operating components as recommended by hardware manufacturer. Use graphite type lubrication if none other is recommended.
 4. Replace defective materials or units that cannot be adjusted to operate as intended. Reinstall items found improperly installed.
 5. Prior to date of Substantial Completion, readjust and reapply lubricant to hardware items as necessary.

6.4 DEMONSTRATION

- A. Instruct Government's designated personnel in proper adjustment and maintenance of hardware at time of Substantial Completion.
1. In the presence of the Government's representative, demonstrate that the keys operate freely in designated unit.
 2. Hardware supplier: Completely set-up key control system with keys tagged and placed in cabinet, cross index system executed with appropriate information typed in on index cards and instruct Government's designated personnel in the proper use of the system.

6.5 HARDWARE SETS – NON-SECURE DOORS

HW-101

	Hinges	FBB199		630
1	Latch	ML2010	NSM	630
1	Closer	4041		689
1	Kick Plate	194S		630
1	Stop	A/R		626

HW-102

	Hinges	FBB199		630
1	Lock	ML2055-CT6	NSM	630
1 Set	Flush Bolt	1842/1942		626
1	Dust Strike	570		626
1	Coordinator	1600		600
2	Closers	4041		689
2	Kick Plates	194S		630
2	Stops	A/R		626
1	Astragal	357SP		600

HW-103

	Hinges	FBB199		630
1	Lock	ML2055-CT6	NSM	630
2	Flush Bolt	555		626
1	Dust Strike	570		626
1	Closer	4041-CUSH		689
2	Kick Plates	194S		630
1	Astragal	357SP		600

HW-104

	Hinges	FBB199		630
1	Lock	ML2055-CT6	NSM	630
1	Stop	A/R		626

HW-105

	Hinges	FBB199		630
1	Lock	ML2055-CT6	NSM	630
1	Closer	4041-CUSH		689

HW-106

	Hinges	FBB199		630
1	Latch	ML2010	NSM	630
1	Closer	4041		689
1	Kick Plate	194S		630
1	Stop	A/R		626

HW-107

	Hinges	FBB199		630
1	Lock	ML2055-CT6	NSM	630
1	Closer	4041-CUSH		689

1	Kick Plate	194S		630
HW-108				
1 Set	Bi-Fold Hardware	Stanlev	2916	
2	Dummv Trim	ML2050		630
HW-109				
	Hinges	FBB199		630
1	Latch	ML2010	NSM	630
1	Stop	A/R		626
HW-110				
	Hinges	FBB199		630
1	Latch	ML2010	NSM	630
1	Stop	A/R		626
HW-111				
	Hinges	FBB199		630
1	Lock	ML2055-CT6	NSM	630
1	Stop	A/R		626
HW-112				
	Hinges	FBB199		630
2	Exit Devices	9827L-F-LBR		626
2	Cylinders	3080-CT6		626
2	Closers	4041-EDA		689
2	Kick Plates	194S		630
1 Set	Gasket	332CR	Head & Jambs	
2	Astragals	18041CP		
2	Magnetic Holders	SEM 7850		689
HW-113				
	Hinges	FBB199		630
1	Lock	ML2055-CT6	NSM	630
1	Closer	4041		689
1	Kick Plate	194S		630
1	Stop	A/R		626
HW-114				
	Hinges	FBB199		630
2	Exit Devices	9847L-F-LBR		626
2	Closers	4041-EDA		689
2	Kick Plates	194S		630
2	Stops	A/R		626
HW-115				
	Hinges	FBB199		630
1	Lock	ML2055-CT6	NSM	630
1	Stop	A/R		626

HW-116				
	Hinges	FBB199		630
1	Lock	ML2055-CT6	NSM	630
1	Stop	A/R		626
HW-117				
	Hinges	FBB199		630
1	Lock	ML2055-CT6	NSM	630
1	Closer	4041-EDA		689
1	Kick Plate	194S		630
1	Stop	A/R		626
HW-118				
	Hinges	FBB199		630
1	Lock	ML2057-CT6	NSM	630
2	Flush Bolts	555		626
1	Dust Strike	570		626
2	Armor Plates	194S		630
2	Stops	A/R		626
1	Astragal	357 SP		600
HW-119				
	Hinges	FBB199		630
1	Lock	ML2057-CT6	NSM	630
1 Set	Flush Bolts	1842 / 1942		626
1	Dust Strike	570		626
1	Coordinator	1600		600
2	Brackets	MB		600
2	Closers	4041 EDA		689
2	Kick Plates	194S		630
2	Stops	A/R		626
1	Astragal	357 SP		600
HW-120				
	Hinges	FBB199		630
1	Exit Device	9875L-F	OBS	626
1	Exit Device	9847EO-F		630
1	Cylinder	1080-CT6		626
2	Closers	4041		689
2	Kick Plates	194S		630
2	Stops	A/R		626
HW-121				
	Hinges	FBB199		630
1	Exit Device	98L-F		626
1	Cylinder	3080-CT6		630
1	Closer	4041		689
1	Kick Plate	194S		630
1	Stop	A/R		626

HW-122				
	Hinges	FBB199		630
1	Lock	ML2055-CT6	NSM	630
1	Closer	4041-EDA		689
1	Kick Plate	194S		630
1 Set	Gasketing	S88D	Head & Jambs	
1	Stop	A/R		626
HW-123				
	Hinges	FBB199		630
2	Dummv Trim	ML2050		630
2	Roller Latches	592	Mount at Head	626
2	Stops	A/R		626
HW-124				
	Hinges	FBB199		630
1	Latch	ML2010	NSM	630
1	Closer	4041		689
1	Kick Plate	194S		630
1 Set	Gasketing	S88D	Head & Jambs	
1	Stop	A/R		626
HW-125				
	Hinges	FBB199		630
1	Lock	ML2057-CT6	NSM	630
1	Closer	4041		689
1	Stop	A/R		626
HW-126				
1	Pocket Door Frame	Stanlev	PDFC150N-00-72	
1	Privacv Latch	1069L		626
HW-127				
	Hinges	FBB199		630
1	Lock	ML2057-CT6	NSM	630
1 Set	Flush Bolts	1842 / 1942		626
1	Dust Strike	570		626
1	Coordinator	1600		600
2	Closers	4041		689
2	Kick Plates	194S		630
2	Stops	A/R		626
1	Astragal	357 SP		600
HW-128				
	Hinges	FBB199		630
1	Lock	ML2057-CT6	NSM	630
1	Closer	4041		689
1	Kick Plate	194S		630
1	Stop	A/R		626

HW-129

	Hinges	FBB199		630
1	Lock	ML2030-CT6	NSM	630
1	Closer	4041		689
1	Kick Plate	194S		630
1 Set	Gasketing	S88D	Head & Jambs	
1	Threshold	(Verifv)		
1	Stop	A/R		626

HW-130

	Hinges	FBB199		630
1	Exit Device	98L		626
1	Cylinder	3080-CT6		630
1	Closer	4041-H-CUSH		689
1	Kick Plate	194S		630
1 Set	Weather-strip	332CR	Head & Jambs	
1	Threshold	2005AT		

HW-131

	Hinges	FBB199		630
1	Lock	ML2057-CT6	NSM	630
1	Closer	4041-CUSH		689
1 Set	Weather-strip	332CR	Head & Jambs	
1	Threshold	2005AT		

HW-132

	Hinges	FBB199		630
1	Lock	ML2067-CT6	NSM	630
1	Closer	4041-H-CUSH		689
1	Kick Plate	194S		630
1 Set	Weather-strip	332CR	Head & Jambs	
1	Threshold	2005AT		

HW-133

	Hinges	FBB199		630
2 Sets	Push-Pull Bars	154		630
2	Closers	4041-CUSH		689
2	Door Sweeps	315CN		
1 Set	Weather-strip	332CR	Head & Jambs	
2	Astragals	18041CP		
1	Threshold	2005AT		

HW-134

	Hinges	FBB199		630
1 Set	Push-Pull Bars	154		630
1	Closer	4041-CUSH		689
1	Door Sweep	315CN		
1 Set	Weather-strip	332CR	Head & Jambs	
1	Threshold	2005AT		

HW-135

	Hinges	FBB199	ETW @ inactive	630
1	Lock	ML2057-CT6	NSM	630
1	Hirsh Scramble Pad	Model 8 w/2 interior/exterior pads		630
1 Set	Flush Bolts	1842 / 1942		626
1	Dust Strike	570		626
1	Coordinator	1600		600
2	Brackets	MB		600
2	Closers	4041-CUSH		689
2	Kick Plates	194S		630
1	Electric Strike	6223-FSE		630
1	Astragal	357 SP		600

HW-136

	Hinges	FBB199		630
1	Lock	ML2057-CT6	NSM	630
2	Flush Bolts	555		626
1	Dust Strike	570		626
2	Stops	A/R		626
1	Astragal	357 SP		600

HW-137

	Hinges	FBB199		630
1	Lock	ML2057-CT6	NSM	630
2	Flush Bolts	555		626
1	Dust Strike	570		626
1	Closer	4041-H-CUSH		689
1 Set	Weather-strip	332CR	Head & Jambs	
1	Threshold	2005AT		

6.6 HARDWARE SETS – SECURE DOORS

Set SH-1

1	Exit device EL98NL x 299 strike	Von Duprin
1	Closer 4041-CUSH x SRI	LCN
1	Hinge*	
1	Monitor switch 1076D	Sentrol
1	Power transfer EPT-2	Von Duprin
1	Cylinder & interchangeable core 32-0400A x CT-Y32	Medeco
1	Electromagnetic lock 2268 x DYNST x 24V	DynaLock
1 set	Forced entry locks*	

Note: * Quantity and model to be same as on certified door, except that FE/BR hinges shall be as specified for hinges in Part 2 of this section.

Note: Provide acoustical treatment.

Set SH-1 MOD1

1	Exit device EL98NL x 299 strike	Von Duprin
1	Power-assist closer 4840 equalizer	LCN
1	4840-72 MC Cover	LCN
1	4840-3077 CNS Cush-N-Stop Arm	LCN
1 set	Flexible tubing 925 & fittings - as required	LCN
1	460 Pneumatic transfer hinge	LCN
1	Hinge*	
1	Monitor switch 1076D	Sentrol
1	Power transfer EPT-2	Von Duprin
1	Cylinder & interchangeable core 32-0400A x CT-Y32	Medeco
1	Electromagnetic lock 2268 x DYNST x 24V	DvnaLock
1 set	Forced entry locks*	

Note: * Quantity and model to be same as on certified door, except that FE/BR hinges shall be as specified for hinges in Part 2 of this section. Also furnish door with minimum 940mm clear width to accommodate electromagnetic lock with LCN 4840

Set SH-1 MOD2

1	Exit device EL98NL x 299 strike	Von Duprin
1	Power-assist closer 4840 equalizer	LCN
1	4840-72 MC Cover	LCN
1	4840-3077 CNS Cush-N-Stop Arm	LCN
1	460 Pneumatic transfer hinge	LCN
1 set	Flexible tubing 925 & fittings - as required	LCN
1	Hinge*	
1	Monitor switch 1076D	Sentrol
1	Power transfer EPT-2	Von Duprin
1	Cylinder & interchangeable core 32-0400A x CT-Y32	Medeco
1	Electromagnetic lock 2268 x DYNST x 24V	DvnaLock
1 set	Forced entry locks*	

Note: * Quantity and model to be same as on certified door, except that FE/BR hinges shall be as specified for hinges in Part 2 of this section. Also furnish door with minimum 940mm clear width to accommodate electromagnetic lock with LCN 4840

Set SH-1 MOD3

1 set	Forced entry locks*	
1	Closer 4041-CUSH x SRI	LCN
1	Hinge*	
1	Monitor switch 1076D	Sentrol
1	Exit device 98EO x 299 strike	Von Duprin
1	Electromagnetic lock 2268 x DYNST x 24V	DvnaLock
1	Kick plate 194S	Hager

Note: * Quantity and model to be same as on certified door, except that FE/BR hinges shall be as specified for hinges in Part 2 of this section.

Set SH-1 MOD4

1 set	Forced entry locks*	
1	Hinge*	
1	Exit Device EL98TP x 299 strike	Von Duprin
1	Power-assist closer 4840 equalizer	LCN
1	4840-72 MC Cover	LCN
1	4840-3077 CNS Cush-N-Stop Arm	LCN
1	460 Pneumatic transfer hinge	LCN
1	Flexible Tubing 925 & Fittings	LCN
1	Magnetic door holder SEM 7820	LCN
1	Monitor switch 1076D	Sentrol
1	Power transfer EPT-2	Von Duprin
1	Cylinder & interchangeable core 32-0400A x CT-Y32	Medeco
1	Electromagnetic lock 2268 x DYNST x 24V	DvnaLock
1	Kick plate 194S	Hager

Note: * Quantity and model to be same as on certified door, except that FE/BR hinges shall be as specified for hinges in Part 2 of this section. Also furnish door with minimum 940mm clear width to accommodate electromagnetic lock with LCN 4840

Set SH-2

1	Hinge*	
1	Electric strike 310-2 3/4 x NFS x 24V	Folger Adam
1	Closer 4041-CUSH	LCN
1	Monitor switch 1076D	Sentrol
1	Pushbutton lock L1021M	Simplex
1	Interchangeable core 32-0201	Medeco
1	Electromagnetic lock 2268 x DYNST x 24V	DvnaLock
1 set	Forced entry locks*	

Note: * Quantity and model to be same as on certified door, except that FE/BR hinges shall be as specified for hinges in Part 2 of this section.

Set SH-2 MOD1

1	Hinge*	
1	Closer 4041-CUSH	LCN
1	Monitor switch 1076D	Sentrol
1	Pushbutton lock L1021M	Simplex
1	Deadbolt 11-7400	Medeco
2	Interchangeable core 32-0201	Medeco
1	Electromagnetic lock 2268 x DYNST x 24V	DvnaLock
1 set	Forced entry locks*	

Note: * Quantity and model to be same as on certified door, except that FE/BR hinges shall be as specified for hinges in Part 2 of this section.

Set SH-2 MOD2

1	Hinge*	
1	Pushbutton lock L1021M	Simplex
2	Interchangeable core 32-0201	Medeco

1	Closer 4041-CUSH	LCN
1	Deadbolt 11-7400	Medeco
1	Monitor switch 1076D	Sentrol
1	Electromagnetic lock 2268 x DYNST x 24v	DvnaLock
1 set	Forced entry locks*	

Note: * Quantity and model to be same as on certified door, except that FE/BR hinges shall be as specified for hinges in Part 2 of this section.

Set SH-2A

1 set	Forced entry locks*	
1	Electric strike 310-2 3/4 x NFS x 24V	Folger Adam
1	Closer 4041-CUSH	LCN
1	Hinge*	
1	Monitor switch 1076D	Sentrol
1	Pushbutton lock 2450-41	Simplex
1	Electromagnetic lock 2268 x DYNST x 24V	DvnaLock
1	Exit device 99NL x 990NL-R x 299 strike	Von Duprin
1	Cylinder & interchangeable core 32-0400a x CT-Y32	Medeco

Note: * Quantity and model to be same as on certified door, except that FE/BR hinges shall be as specified for hinges in Part 2 of this section.

Set SH-2A MOD1

1 set	Forced entry locks*	
1	Electric strike 310-2 3/4 x NFS x 24V	Folger Adam
1	Closer 4041-CUSH	LCN
1	Hinge*	
1	Monitor switch 1076D	Sentrol
1	Digitrac Model M1N230 220V Combination Switch	Hirsch
1	Scramble Pad DS-47L	Hirsch
1	Mounting Box MB-8	Hirsch
1	Electromagnetic lock 2268 x DYNST x 24V	DvnaLock
1	Exit device 99NL x 990NL-R	Von Duprin
1	Cylinder & interchangeable core 32-0400a x CT-Y32	Medeco

Note: * Quantity and model to be same as on certified door, except that FE/BR hinges shall be as specified for hinges in Part 2 of this section.

Set SH-2B

1	Forced entry locks*	
1	Closer 4041-CUSH	LCN
1	Hinge*	
1	Monitor switch 1076D	Sentrol
1	Exit device 98EO x 299 strike	Von Duprin
1	Pushbutton lock LP 1020M	Simplex
1	Electromagnetic lock 2268 x DYNST x 24V	DvnaLock
1	Interchangeable core 32-0201	Medeco

Note: * Quantity and model to be same as on certified door, except that FE/BR hinges shall be as specified for hinges in Part 2 of this section.

Set SH-2B MOD1

1 set	Forced entry locks*	
1	Electric strike 310-2 3/4 x NFS x 24V	Folger Adam
1	Closer 4041-CUSH	LCN
1	Hinge*	
1	Monitor switch 1076D	Sentrol
1	Electromagnetic lock 2268 x DYNST x 24V	DvnaLock
2	Cylinder & interchangeable core 32-0201	Medeco
1	Pushbutton lock EE 1021MEE	Simplex

Note: * Quantity and model to be same as on certified door, except that FE/BR hinges shall be as specified for hinges in Part 2 of this section.

Note: Provide acoustical treatment.

Set SH-3

1	Closer 4041-CUSH	LCN
1	Hinge*	
1	Lockset ML2267 with 402F30 Scalp Plate	Corbin Russwin
1	Cylinder and interchangeable core 32-0200 x CT-Z00	Medeco
1	Monitor switch 1076D	Sentrol
1 set	Forced entry locks*	

Note: * Quantity and model to be same as on certified door, except that FE/BR hinges shall be as specified for hinges in Part 2 of this section.

Set SH-3 MOD 1

1	Lockset ML2065	Corbin Russwin
1	Closer 4041-CUSH	LCN
1	Hinge*	
1	Monitor switch 1076D	Sentrol
2	32-0200 x CT - Z00 interchangeable core and cylinder	Medeco
1 set	Forced entry locks*	

Note: * Quantity and model to be same as on certified door, except that FE/BR hinges shall be as specified for hinges in Part 2 of this section.

Set SH-3 MOD2

1	Closer 4041-CUSH	LCN
1	Hinge*	
1	Pushbutton Lock L1021M	Simplex
1	Deadbolt 11-7400	Medeco
2	Interchangeable core 32-0201	Medeco
1	Monitor switch 1076D	Sentrol
1 set	Forced entry locks*	

Note: * Quantity and model to be same as on certified door, except that FE/BR hinges shall be as specified for hinges in Part 2 of this section.

Set SH-4

1	Closer 4041-CUSH x SRI	LCN
1	Hinge*	
1	Lockset ML2267 with 402F30 Scalp Plate	Corbin Russwin
1	Cylinder and interchangeable core 32-0200 x CT-Z00	Medeco
1	Monitor switch 1076D	Sentrol
1 set	Forced entry locks*	

Note: * Quantity and model to be same as on certified door, except that FE/BR hinges shall be as specified for hinges in Part 2 of this section.

Set SH-4 MOD1

1	Closer 4041-SRI x CUSH	LCN
1	Hinge*	
1	Lockset ML2267 with 402F30 Scalp Plate	Corbin Russwin
1	Cylinder and interchangeable core 32-0200 x CT-Z00	Medeco
1	Monitor switch 1076D	Sentrol
1 set	Forced entry locks*	
1	Combination lock with deadbolt extension 8555-102	Sargent & Greenleaf

Note: * Quantity and model to be same as on certified door, except that FE/BR hinges shall be as specified for hinges in Part 2 of this section.

Set SH-4A

1	Closer 4041-CUSH x SRI	LCN
1	Magnetic door holder SEM 7820	LCN
1	Hinge*	
1	Lockset ML2267 with 402F30 Scalp Plate	Corbin Russwin
1	Cylinder and interchangeable core 32-0200 x CT-Z00	Medeco
1	Monitor switch 1076D	Sentrol
1	Electromagnetic lock 2268 x DYNST x 24V	DvnaLock

Note: * Quantity and model to be same as on certified door, except that FE/BR hinges shall be as specified for hinges in Part 2 of this section.

Set SH-5A

1	Hinge*	
1	Exit device EL 98TP x 990 TP-R	Von Duprin
1	Cylinder & interchangeable core 32-0400A x CT-Y32	Medeco
1 set	Forced entry locks*	
1	Electromagnetic lock 2268 x DYNST x 24V	DvnaLock
1	Closer 4041-CUSH x SRI	LCN
1	Power transfer EPT-2	Von Duprin
1	Monitor switch 1076D	Sentrol

Note: * Quantity and model to be same as on certified door, except that FE/BR hinges shall be as specified for hinges in Part 2 of this section.

Set SH-5A MOD1

1 set	Forced entry locks*	
1	Hinge*	
1	Monitor switch 1076	Sentrol
1	Power transfer EPT-2	Von Duprin
1	Exit device EL 98TP x 990 TP-R	Von Duprin
1	Interchangeable core & cylinder 32-0400A x CT-Y32	Medeco
1	Electromagnetic lock 2268 x DYNST x 24V	DvnaLock
1	4840 Equalizer	LCN
1	4840-72 MC Cover	LCN
1 set	Flexible tubing 925 & fittings - as required	LCN
1	4840-3077 CNS Cush-N-Stop Arm	LCN
1	460 Pneumatic transfer hinge	LCN

Note: * Quantity and model to be same as on certified door, except that FE/BR hinges shall be as specified for hinges in Part 2 of this section. Also furnish door with minimum 940mm clear width to accommodate electromagnetic lock with LCN 4840

Set SH-5B

1	Hinge*	
1	Exit device 98EO x 299 strike	Von Duprin
1 set	Forced entry locks*	
1	Electromagnetic lock 2268 x DYNST x 24V	DvnaLock
1	Closer 4041-CUSH x SRI	LCN
1	Monitor switch 1076D	Sentrol

Note: * Quantity and model to be same as on certified door, except that FE/BR hinges shall be as specified for hinges in Part 2 of this section.

Set SH-5B MOD1

1	Hinge*	
1	Exit device EL 98EO x 299 strike	Von Duprin
1	Power transfer EPT-2	Von Duprin
1 set	Forced entry locks*	
1	Electromagnetic lock 2268 x DYNST x 24V	DvnaLock
1	Monitor switch 1076D	Sentrol
1	Power-assist closer 4840 equalizer	LCN
1	4840-72 MC Cover	LCN
1	4840-3077 CNS Cush-N-Stop Arm	LCN
1 set	Flexible tubing 925 & fittings - as required	LCN
1	460 Pneumatic transfer hinge	LCN

Note: * Quantity and model to be same as on certified door, except that FE/BR hinges shall be as specified for hinges in Part 2 of this section. Also furnish door with minimum 940mm clear width to accommodate electromagnetic lock with LCN 4840

Set SH-6

2	Hinges*	
1	Exit device 98EO x 299 strike x mullion	Von Duprin

1 set	Head & foot bolts*	
2	Closer-holders 4413-ME x 24V	LCN
2	Armor plates 194S	Hager
2	Electromagnetic locks 2268 x DYNST x 24V	DvnaLock
2	Monitor switches 1076D	Sentrol
2	Stops 466	Rockwood
1 set	Forced entry locks*	
1 set	Weather-stripping 332CR - Head & Jambs	Pemko
1	Threshold 2005AS (continuous across opening)	Pemko
1	Meeting stile gasket 375CR	Pemko
2	Sill sweeps 315CN	Pemko
1	Astragal*	

Note: * Quantity and model to be same as on certified door, except that FE/BR hinges shall be as specified for hinges in Part 2 of this section.

Set SH-6 MOD1

2	Hinges*	
1	Exit device EL 98NL x 299 strike x mullion	Von Duprin
1	Interchangeable core & cylinder 32-0400A x CT-Y32	Medeco
1	Power transfer EPT-2	Von Duprin
1 set	Head & foot bolts*	
2	Closer-holders 4413-ME x 24V	LCN
2	Armor plates 194S	Hager
2	Electromagnetic locks 2268 x DYNST x 24V	DvnaLock
1	Power supply PS873-2	Von Duprin
2	Monitor switches 1076D	Sentrol
2	Stops 466	Rockwood
2 sets	Forced entry locks*	

Note: * Quantity and model to be same as on certified door, except that FE/BR hinges shall be as specified for hinges in Part 2 of this section.

Note: Top vision panel in each leaf

Set SH-7A MOD1

1	Closer 4041-CUSH	LCN
1	Digitrac Model M1N230 220V Combination Switch	Hirsch
1	Scramble Pad DS-47L	Hirsch
1	Mounting Box MB-8	Hirsch
1	Electric strike 310-2 3/4 x NFS x 24V	Folder Adam
1	Exit device 9875NL-F x 575 strike	Von Duprin
1	Cylinder & interchangeable core 32-0200 x CT-Z01	Medeco
	Hinges T4B3786-NRP	McKinney
1	Monitor switch 1076D	Sentrol

Set SH-8

1	Hinge*	
1	Closer 4041-CUSH	LCN
1	Exit device RX-98EO x 299 strike	Von Duprin

1	Electromagnetic lock 2268 x DYNST x 24V	DvnaLock
1	Monitor switch 1076D	Sentrol
1	Power transfer EPT-2	Von Duprin
1	Fire door control package 944 (includes control module.	AES
1 set	Forced entry locks*	
1 set	Weather-stripping 332CR - Head & Jambs	Pemko
1	Threshold*	
1	Sill sweep 315CN	Pemko

Note: * Quantity and model to be same as on certified door, except that FE/BR hinges shall be as specified for hinges in Part 2 of this section.

Set SH-8 MOD1

1	Hinge*	
1	Closer 4041-CUSH	LCN
1	Electromagnetic lock 2268 x DYNST x 24V	DvnaLock
1	Monitor switch 1076D	Sentrol
1	Fire door control package 944 (includes control module.	AES
1	Exit device RX-EL 98NL x 299 strike	Von Duprin
1	Interchangeable core & cylinder 32-0400A x CT-Y32	Medeco
1	Power supply PS873-2	Von Duprin
1	Power transfer EPT-10	Von Duprin

Note: * Quantity and model to be same as on certified door, except that FE/BR hinges shall be as specified for hinges in Part 2 of this section.

Set SH-9

1	Combination lock CD-X08 with deadbolt extension	Mas Hamilton
1	Door viewer U696	Ives
1	Monitor switch SM-3	Wells Fargo
1	Stop 441CU	Rockwood

Note: Balance of hardware by Vault door manufacturer. GSA class 5 vault door upgraded to Government Code 2133.

Set SH-10

1	Electro-mechanical lock 8497-100	Sargent & Greenleaf
1	Crypto Lock CC-8521A	Monitec
1	Cylinder & interchangeable core 32-0400A x CT-Y32 with	Medeco
1	Armored cable 271	Alarm Lock Corp.
1	Day gate installation kit	Door Manufacturer
1	Stop 441CU	Rockwood
1	Door Closer and door handle for day gate	

Note: Balance of hardware by Vault door manufacturer. Day gate is opaque for acoustic and mechanical reasons.

Set SH-11

	Hinges T4B3386-NRP	McKinney
1	Combination lock 8555 with deadbolt extension x strike as	Sargent & Greenleaf
1	Pushbutton lock L1021M	Simplex
1	Interchangeable core 32-0201	Medeco
1	Monitor switch 1076H	Sentrol
1	Stop A/R	Rockwood

Set SH-11 MOD1

	Hinges T4B3386-NRP	McKinney
1	CD-X08 combination lock with deadbolt extension	Mas Hamilton
1	Pushbutton lock L1021M	Simplex
1	Interchangeable core 32-0201	Medeco
1	Closer 4041-CUSH x SRI	LCN
1	Monitor switch 1076H	Sentrol
1 set	Sound seals 599C - Head & Jamb	Reese
1	Threshold 151A	Pemko
1	Auto door bottom 521C	Reese

Set SH-12A

	Hinges T4B3386-NRP	McKinney
1	Deadlock 11-7400	Medeco
1	Cylinder & interchangeable core 32-0201	Medeco
1	Lockset ML2057	Corbin Russwin
1	Cylinder & interchangeable core 32-0200 x CT-Z01	Medeco
1	Closer 4041-CUSH	LCN
1	Electromagnetic lock 2268 x DYNST x 24V	DvnaLock
1	Electric strike 310-2 3/4 x NFS x 24V	Folger Adam
1	Monitor switch 1076H	Sentrol

Set SH-12A MOD1

	Hinges T4B3386-NRP	McKinney
1	Deadlock 11-7402	Medeco
2	Cylinders & interchangeable cores 32-0201	Medeco
1	Lockset ML2057	Corbin Russwin
1	Cylinder & interchangeable core 32-0200 x CT-Z01	Medeco
1	Closer 4041-CUSH	LCN
1	Electromagnetic lock 2268 x DYNST x 24V	DvnaLock
1	Electric strike 310-2 3/4 x NFS x 24V	Folger Adam
1	Monitor switch 1076H	Sentrol
1	Power-assist closer 4840 equalizer	LCN
1	4840-72 cover	LCN
1	4820-3077 CNS Cush-N-Stop Arm	LCN
1 set	Flexible tubing 925 & fittings - as required	LCN

Set SH-12B

	Hinges T4B3386-NRP	McKinney
1	Deadlock 11-7400	Medeco
1	Pushbutton lock L1021M	Simplex
2	Cylinders & interchangeable cores 32-0201	Medeco

1	Closer 4041-CUSH	LCN
1	Electric strike 310-2 3/4 x NFS x 24V	Folger Adam
1	Monitor switch 1076H	Sentrol
Set SH-12B MOD1		
	Hinges T4B3386-NRP	McKinney
1	Deadlock 11-7402	Medeco
1	Pushbutton lock EE1021M/EE1021M	Simplex
3	Cylinders & interchangeable cores 32-0201	Medeco
1	Closer 4041-CUSH	LCN
1	Electromagnetic lock 2268 x DYNST x 24V	DvnaLock
1	Electric strike 310-2 3/4 x NFS x 24V	Folger Adam
1	Monitor switch 1076H	Sentrol

Set SH-12C

	Hinges T4B3386-NRP	McKinney
1	Combination lock 8555 with deadbolt extension x strike as	Sargent & Greenleaf
1	Pushbutton lock L1021M	Simplex
1	Interchangeable core 32-0201	Medeco
1	Closer 4041-CUSH	LCN
1	Electric strike 310-2 3/4 x NFS x 24V	Folger Adam
1	Monitor switch 1076H	Sentrol

Note: Provide acoustical treatment at doors located at waiting areas, growth area, and entry areas to the suites.

Set SH-12C MOD1

	Hinges T4B3386-NRP	McKinney
1	Combination lock 8555 with deadbolt extension x strike as	Sargent & Greenleaf
1	Pushbutton lock L1021M	Simplex
1	Interchangeable core 32-0201	Medeco
1	Closer 4041-CUSH	LCN
1	Monitor switch 1076H	Sentrol

Note: Provide acoustical treatment at doors located at TDY office, TDY work stations, meeting rooms, and conference rooms.

Set SH-12C MOD2

	Hinges T4B3386-NRP	McKinney
1	Pushbutton lock L1021M	Simplex
1	Interchangeable core 32-0201	Medeco
1	Closer 4041-CUSH	LCN
1	Monitor switch 1076H	Sentrol
1	Combination lock CD-X08 with deadbolt extension	Mas Hamilton

Set SH-12C MOD3

	Hinges T4B3386-NRP	McKinney
1	Combination lock CD-X08 with deadbolt extension	Mas Hamilton
1	Pushbutton lock L1021M	Simplex
1	Interchangeable core 32-0201	Medeco

1	Closer 4041-CUSH	LCN
1	Electric strike 310-2 3/4 x NFS x 24V	Folger Adam
1	Monitor switch 1076H	Sentrol
Set SH-13		
	Hinges T4B3386-NRP	McKinnev
1	Lockset ML2067 with 402F30 Scalp Plate	Corbin Russwin
1	Cylinder & interchangeable core 32-0200 x CT-Z00	Medeco
1	Monitor switch 1076H	Sentrol
1	Stop A/R	Rockwood
Set SH-13 MOD1		
	Hinges T4B3386-NRP	McKinnev
1	Lockset ML2022	Corbin Russwin
2	Cylinders & interchangeable core 32-0200 x CT-Z00	Medeco
1	Monitor switch 1076H	Sentrol
1	Stop A/R	Rockwood
1 set	Weather-stripping 332CR – Head & Jambs*	Pemko
1	Threshold 2005AT*	Pemko
1	Sill sweep 315CN*	Pemko
Note: * At exterior Door No. C-304A.		
Set SH-14		
1	Latchset ML2010	Corbin-Russwin
1	Combination lock 8555 with deadbolt extension x strike as	Sargent & Greenleaf
	Hinges T4B3386-NRP	McKinnev
1	Stop A/R	Rockwood
1	Monitor switch 1076H	Sentrol
Set SH-14 MOD1		
	Hinges T4B3386-NRP	McKinnev
1	Pushbutton lock L1021M	Simplex
1	Cylinder & interchangeable core 32-0201	Medeco
1	CD-X08 combination lock with deadbolt extension	Mas Hamilton
1	Monitor switch 1076H	Sentrol
1	Stop A/R	Rockwood
Set SH-15		
	Hinges T4B3386-NRP	McKinnev
1	Pushbutton lock L1021M	Simplex
1	Cylinder & interchangeable core 32-0201	Medeco
1	Monitor switch 1076H	Sentrol
1	Stop A/R	Rockwood
Set SH-15 MOD1		
	Hinges T4B3386-NRP	McKinnev
1	Pushbutton lock L1021M	Simplex
1	Cylinder & interchangeable core 32-0201	Medeco
1	Monitor switch 1076H	Sentrol

1	Closer 4041-CUSH	LCN
1	Sliding deadbolt and strike SM-181 x #14	Sargent & Greenleaf

Set SH-15A

	Hinges T4B3386-NRP	McKinnev
1	Deadlock 11-7400	Medeco
1	Pushbutton lock L1021M	Simplex
2	Cylinders & interchangeable cores 32-0201	Medeco
1	Monitor switch 1076H	Sentrol
1	Stop A/R	Rockwood

Set SH-15A MOD1

	Hinges T4B3386-NRP	McKinnev
1	Pushbutton lock L1021M	Simplex
1	Cylinder & interchangeable core 32-0201	Medeco
1	Monitor switch 1076H	Sentrol
1	Closer 4041-CUSH	LCN
1	Electromagnetic lock 2268 x DYNST x 24V	DvnaLock

Set SH-15A MOD2

	Hinges T4B3386-NRP	McKinnev
1	Pushbutton lock L1021M	Simplex
1	Cylinder & interchangeable core 32-0201	Medeco
1	Deadlock 4013 x less outside cylinder	Corbin Russwin
1	Closer 4041-H-CUSH	LCN
1	Monitor switch 1076H	Sentrol

Note: Provide acoustical treatment.

Set SH-16

	Hinges T4B3386-NRP	McKinnev
1	Deadlock 11-7400	Medeco
1	Pushbutton lock L1021M	Simplex
2	Cylinders & interchangeable cores 32-0201	Medeco
2	Sliding deadbolts and strikes SM 181 x #13	Sargent Greenleaf
2	Monitor switches 1076D	Sentrol
1	Stop A/R	Rockwood

Set SH-17

1	Lockset ML2067 with 402F30 Scalp Plate	Corbin Russwin
1	Cylinder & interchangeable core 32-0200 x CT-Z00	Medeco
1	Monitor switch 1076D	Sentrol
	Hinges T4B3386-NRP	McKinnev
1	Stop A/R	Rockwood

Set SH – 18- Lock and Leave (L&L) Primary Opaque Door

1	Cypher Lock (access control) SB-24-110	Continental Instruments (or equal, see Note #1)
Varies	Certified Forced Entry Lock x Manufacturer (no external keyway)*	Note #2
1	Door Closer 4041 x Cush-n-Stop x Finish	LCN
Varies	Certified Hinge x Manufacturer*	Note #2
1	Combination lock with deadbolt extension (reverse bevel door) 8565-102	Sargent & Greenleaf (or DS-approved equal, see Note #2)
1	Magnetic Switch (door monitor) 1076D	Sentrol
1	Electric Power Transfer EPT-1024 x Finish	Von Duprin
1	Panic Exit Device (access control) RXEL98DT-F x 980DT trim x 299F strike x Finish	Von Duprin (See Notes #3, #4, #5, & #6)
1	Electromagnetic Locking Device 2268DYNST/24V-10 x	Locknetics (See Note #6)
1	Combination Lock Weather Cover FSS-961	Federal Security Systems (or DS-approved equal)
1	Combination Lock Interior Service Cover FSS-962	Federal Security Systems (or DS-approved equal)
Note:	<p>A) * Quantity and model to be same as on certified door, except that FE/BR hinges shall be as specified for hinges in Part 2 of this section.</p> <p>B) for compliance with the Uniform Federal Accessibility standards: Delete: LCN door closer Add: LCN 4840, LCN 4840-72MC Cover, LCN 4840-3077 , LCN 460 Pneumatic Transfer Hinges and LCN 925 Pneumatic Tubing.</p>	
NOTE 1:	Power to the EL99 must be provided by an AES726 or 926 power supply. The electronic door control is typically a HIRSCH M8. Other DS approved automated access system locks lock may be substituted. For very small posts, a Moniteq CC-8521 A keypad is acceptable. Provide a battery backup.	
NOTE 2:	For non-forced entry doors, substitute one Medeco Maxum Deadbolt (model No. 11-7400-6ff-kk) or an equivalent DS-approved one-inch deadbolt lock instead of the manufacturers forced entry locks, and McKinney (or equivalent) none-removable pin hinges (1 and ½ pair) instead of the certified hinge. The S&G combination lock is optional.	
NOTE 3:	The Von Duprin Electric Power Transfer (21a) and RX sensor switch (Von Duprin part #050226) may be ordered as separate items to field upgrade an existing Von Duprin EL99.	
NOTE 4:	Existing EL99 panic exit devices equipped with the dogging feature must have the mechanical housing cover plate reversed, to prevent the dogging of the electric latch.	
NOTE 5:	The RX option is not required on doors having automated access readers on both the interior and exterior side for entry/exit monitoring and anti-passback. This design requires that the electromagnetic lock be incorporated into the fire alarm system to provide emergency deactivation.	

NOTE 6: DS-approved alternative hardware with comparable locking force may be substituted for the electric locking hardware. OBO/SM/TSB shall be consulted on all projects that are OBO funded.

Set SH - 18A - Lock and Leave (L&L) Transparent Door

1	Cypher Lock (access control) SB-24-110	Continental Instruments (or equal, see Note # 1)
Varies	Certified Forced Entry Lock x Manufacturer*	Note #2
1	Door Closer 4041 x Cush-n-Stop x Finish	LCN
Varies	Certified Hinge x Manufacturer*	Note #2
1	Magnetic Switch (door monitor) 1076D	Sentrol
1	Electric Power Transfer EPT-1024 x Finish	Von Duprin (See Note # 3)
1	Panic Exit Device (access control) RXEL98NL x 980NL-R Trim less cylinder x 299F strike x Finish	Von Duprin (See Notes #3, #4, #5, & #6)
1	Electromagnetic Locking Device 2268DYNST/24V-10 x MBS	Locknetics (See Note #6)
1	Recessed Mount Key Control Lockbox (w/Combination Lock) 4440-GCI	Knox (or DS-approved equal)
1	High Security Deadbolt Lock (w/Interior Thumbturn) 6000 x Finish x 2-3/4 x D	ASSA (See Notes #2, #7, & #8)
1	Toggle Switch (Rating 1 Amp @ 24 VDC or greater) Generic	Generic

Note:

A) * Quantity and model to be same as on certified door, except that FE/BR hinges shall be as specified for hinges in Part 2 of this section.

B) for compliance with the Uniform Federal Accessibility standards:

Delete: LCN door closer

Add: LCN 4840, LCN 4840-72MC Cover, LCN 4840-3077 , LCN 460 Pneumatic Transfer Hinges and LCN 925 Pneumatic Tubing.

NOTE 1: Power to the EL99 must be provided by an AES726 or 926 power supply. The electronic door control is typically a HIRSH M8. A DS approved automated access system may be substituted. For very small posts a Monteq CC-8521 A keypad is acceptable. Provide battery backup.

NOTE 2: For non-forced entry doors, substitute McKinney (or equivalent) non-removable pin hinges (1 and ½ pair for the certified hinge, a Medeco Maxim Deadbolt with removable Medeco core for the ASSA deadbolt, and eliminate the manufacturers forced entry locks. The combination lock key container and Toggle Switch are optional.

NOTE 3: The Von Duprin Electric Power Transfer and RX sensor switch (Von Duprin part #050226) may be ordered as separate items to field upgrade an existing Von Duprin EL99.

NOTE 4: Existing EL99 panic exit devices equipped with the dogging feature must have the mechanical housing cover plate reversed, to prevent the dogging of the electric latch.

- NOTE 5: The RX option is not required on doors having automated access readers on both the interior and exterior side for entry/exit monitoring and anti-passback. This design requires that the electromagnetic lock be incorporated into the fire alarm system to provide emergency deactivation.
- NOTE 6: DS-approved alternative hardware with comparable locking force may be substituted for the electric locking hardware. A/FBO/PE/CSM shall be consulted on all projects that are A/FBO funded.
- NOTE 7: The ASSA deadbolt with key must be procured through DS/PEL/SEM.
- NOTE 8: The ASSA deadbolt (49) key is to be securely tethered to the interior of the Key Lockbox (48). The tether should be of chain type material and of a thickness sufficient to withstand daily usage.

Set SH - 18B: Emergency Exit (L&L) Bypass Opaque or Transparent Door

Varies	Certified Forced Entry Lock x Manufacturer w/Exterior Cylinder x ASSA Keyway*	Note #2
1	Door Closer 4041 x Cush-n-Stop x Finish	LCN
Varies	Certified Hinge x Manufacturer	Note #2
1	Magnetic Switch (door monitor) 1076D	Sentrol
1	Electromagnetic Locking Device 2268DYNST/24V-10 x	Locknetics
1	Panic Exit Device SS98EO x 299 Strike X Finish	Von Duprin
1	Fire Door Control Package AES-944 (may not be present on existing doors)	AES
1	Recessed Mount Key Control Lockbox (w/Combination Lock) 4440-GCI	Knox (or DS-approved equal)
1	Toggle Switch (Rating 1 Amp @ 24 VDC or greater) Generic	Generic
1	Interchange Core & Rim Cylinder Assembly 32-0400A-6ff-kk X CT-Y32	Medeco

Note:

A) * Quantity and model to be same as on certified door, except that FE/BR hinges shall be as specified for hinges in Part 2 of this section.

B) for compliance with the Uniform Federal Accessibility standards:

Delete: LCN door closer

Add: LCN 4840, LCN 4840-72MC Cover, LCN 4840-3077 , LCN 460 Pneumatic Transfer Hinges and LCN 925 Pneumatic Tubing.

Set SH-19

2 sets	Forced entry locks with exterior cylinders*	
2	Hinges*	
1	Latchset ML2010	Corbin-Russwin
1	Combination lock 8555 with deadbolt extension x strike as	Sargent & Greenleaf
1 set	Head & foot bolts*	
2	Stops A/R	Rockwood

Note: * Quantity and model to be same as on certified door, except that FE/BR hinges shall be as specified for hinges in Part 2 of this section.

Set SH-21 MOD1

	Hinges T4B3386-NRP	McKinnev
2	Monitor switches 1076H	Sentrol
1	Latchset ML2010	Corbin-Russwin
1	Deadlock 11-7400	Medeco
1	Cylinder & interchangeable core 32-0201	Medeco
2	Sliding deadbolts and strikes SM 181 x #13	Sargent Greenleaf
2	Stops A/R	Rockwood

Set Gate Hardware

	Exterior padlocks 54-510R00KA	Medeco
	Gate C-106B.C-106C	
	Gates C-301A. C-301B. C-305B & C-305C	
	2 each at C-304B & C-304	

END OF SECTION 08714

NOB SECURITY DOOR & HARDWARE SCHEDULE

The "Swing" column indicates "xxR"; a reverse bevel swing door is required for all FEBR doors. The swing to be determined by the A&E (RHRB or LHRB). "Dxx" indicates a double door with undetermined swing. The designer shall coordinate the following: adding proper design of required acoustic protection, stops, finishes (for both hardware and doors), thresholds, weatherstripping, seals, sweeps, etc.; updating Government Code to coordinate with required fire protection; updating schedule as design is developed; setting degree of opening for closers; verifying model of LCN pneumatic control box and tubing works with design location of control box to door; updating doors & hardware with design changes; etc.

The following security hardware are provided as a general guidance. However the contractor is responsible to design the security hardware according to the RFP package in consultation with OBO/PE/DE/SEB Security Branch .

Note :

Acoustical Treatment: Provide full door gasketing/acoustical seals with flat threshold installed to maintain STC rating of surrounding walls.

NO.	LOCATION	DOS CODE	SWING xxR	SEC. HARD -WARE	DOOR MATL.	ACOU -STICS EQ'D	GLAZING	MODI- FICATIONS	COMMENTS
CCAC-01	Cer. CAC, Consular Main Entrance	1141		SHW-5A (Mod 1)			Full height		Exterior.
CCAC-02	Cer. CAC, Consular Main Exit	1141		SHW-5B (Mod 1)			Full height		Exterior.
CCAC-03	Cer. CAC, Emp/ Visitor Main	1141		SHW-5A (Mod 1)			Full height		Exterior.
CCAC-04	Cer. CAC, Emp/ Visitor Main Exit	1141		SHW-5B (Mod 1)			Full height		Exterior.
CCAC-05	Cer. CAC, Corridor to Guard Booth	1123		SHW-3 (Mod 2)			½ light (top)		
CCAC-06	Cer. CAC, Corridor to Sally Port	1111		SHW-12B (Mod 1)			Full height		Exterior.
CCAC-07	Cer. CAC, Sally Port to Compound	---		---			---	---	Swing not shown correctly on plans. Use Remote Latch, weather-rated, operated from within Ceremonial CAC Guard Booth with override
CCAC-08	Compound to Cer. CAC Elec Room	2111		SHW-21 (Mod 1)			---		Pair. Exterior.
CCAC-09	Cer. CAC Cons. Exit, CAC to	1111		SHW-12A (Mod 1)			Full height		Exterior.
CCAC-10	Cer. CAC Cons. Entrance, CAC to Compound	1111		SHW-12A (Mod 1)			Full height		Exterior.

NO.	LOCATION	DOS CODE	SWING xxR	SEC. HARD -WARE	DOOR MATL.	ACOU -STICS EQ'D	GLAZING	MODI- FICATIONS	COMMENTS
CCAC-11	Cer. CAC Visitor Exit, CAC to Compound	1111		SHW-12A (Mod 1)			Full height		Exterior.
CCAC-12	Cer. CAC Visitor Entrance, CAC to Compound	1111		SHW-12A (Mod 1)			Full height		Exterior.
CCAC-13	Cer. CAC, CAC to Visa Passback	1123		SHW-2 (Mod 1)			½ light (top)		
SCAC-1	Serv. CAC Entrance, Parking	1141	RHR	SHW-1 (Mod 1)			Full height		Exterior.
SCAC-2	Serv. CAC, Corridor to Guard	1123	RHR	SHW-3 (Mod2)			½ light (top)		
SCAC-3	Serv. CAC, Corridor to Sally	1111	RHR	SHW-12B (Mod 1)			Full height		Exterior.
SCAC-4	Serv. CAC, Sally Port to Compound	---	RHR	---			---	---	Use Remote Latch, weather-rated, operated from within Service CAC Guard Booth with override controls at MSG Post 1
SCAC-5	Serv. CAC Corridor to Elec Room	2x11	DRHR	SHW-21 (Mod 1)			---		Pair.
SCAC-6	Serv. CAC Screening Area to	1111	RHR	SHW-12A (Mod 1)			Full height		
SCAC-7	Service CAC, Parking Lot to Loading/X-ray	---	--	---			---	---	Overhead door. Use two (2) Padlocks -- Medeco 54-510R00KA.

NO.	LOCATION	DOS CODE	SWING xxR	SEC. HARD -WARE	DOOR MATL.	ACOU -STICS EQ'D	GLAZING	MODI-FICATIONS	COMMENTS
SCAC-8	Service CAC, Loading/X-ray to Compound	---	--	---			---	---	Overhead door. Use two (2) Padlocks -- Medeco 54-510R00KA.
SCAC-9	Service CAC, Compound to Loading/X-ray	2111	LHR	SHW-13			---		Exterior.
SCAC-10	To Protected Generator	2133	DRHR	SHW-19			---		Pair. Not shown on plans. Could be located in Service CAC or elsewhere. Could be exterior. If switchgear, automatic transfer switch, and other equipment required to operate protected generator is located out of
SCAC-11	Service CAC, Outside to Trash Area	---	---	---			---		Provide two (2) Padlocks -- Medeco 54-510R00KA.

NO.	LOCATION	DOS CODE	SWING xxR	SEC. HARD -WARE	DOOR MATL.	ACOU -STICS EQ'D	GLAZING	MODI-FICATIONS	COMMENTS
B2-xx	Loading Dock to Lobby/Vestibule	1123	DRHR	SHW-6 (Mod 1)			½ light (top)	Delete Von Duprin 99EO; Add Von Duprin EL99NL x 990NL-R Trim less cylinder x 299 strike,	Exterior.
B2-xx	Exterior – Emergency door	2123		SHW-8			---		Exterior.
B2-xx	Loading Dock to GSO Shops	1123	DRHR	SHW-6 (Mod 1)			½ light (top)	Delete Von Duprin 99EO; Add Von Duprin EL99NL x 990NL-R Trim less cylinder x 299 strike,	Pair. Exterior.
B2-xx	Lobby/Vestibule to Bldg Corridor	1123	DRHR	SHW-6 (Mod 1)			½ light (top)	Delete Von Duprin 99EO; Add Von Duprin EL99NL x 990NL-R Trim less cylinder x 299 strike,	Pair.
B2-xx	Corridor to MSG Post	1123		SHW-3			½ light (top)		With deal tray.

NO.	LOCATION	DOS CODE	SWING xxR	SEC. HARD -WARE	DOOR MATL.	ACOU -STICS EQ'D	GLAZING	MODI-FICATIONS	COMMENTS
B2-xx	Corridor to EC Room	2111 or		SHW-17			---		.
B2-xx	Corridor to Pouch Vault	2133		SHW-9			---		GSA Class 5 Vault Door. R.O. width = 1194 mm min, 1244 max. R.O. height = 2083 mm min, 2108
B2-xx	Corridor to Political Liaison Remote	2111 or		SHW-12C (Mod 2)			---		
B2-xx	Corridor to ESC	2111 or		SHW-12C			---		
B2-xx	ESC suite to ESC Vault	2133		SHW-9			---		Vault Door. R.O. width = 1194 mm min, 1244 max. R.O. height = 2083 mm min, 2108
B2-xx	FSN Medical Unit to Pharmacy	2111 or		SHW-11			---		
B2-xx	Corridor to Mailroom Suite	2111 or		SHW-16			---		
B2-xx	Mailroom Service Window	--		--			---	--	Provide Medeco 54-510R00KA padlock.
B2-xx	Reproduction Room to Mailroom	2111 or		SHW-15A			---		
B2-xx	Regional Courier Suite to Secure	2111 or		SHW-16 (Mod 4)			---	Add 2 kickstand/hol	Pair.

NO.	LOCATION	DOS CODE	SWING xxR	SEC. HARD -WARE	DOOR MATL.	ACOU -STICS EQ'D	GLAZING	MODI-FICATIONS	COMMENTS
B2-xx	FBIS Suite to FBIS Systems Room	2111 or		SHW-11 (Mod 2)			---		.
B2-xx	Corridor to Secure Storage	2111 or		SHW-11			---		.
B2-xx	Corridor to DAO Controlled Storage	2111 or		SHW-11 (Mod 1)			---		.
B1-xx	Medical Unit to Pharmacy	2111 or		SHW-11			---		
1-xx	Main Lobby to Interview Room	2123		SHW-1		STC-45	---		
1-xx	Interview Room to Interview Room Vestibule	2111 or 3111		SHW-15		STC-45	---		
1-xx	Interview Room Vestibule to	2123		SHW-2B (Mod 1)		STC-45	---		
1-xx	Main Lobby to IRC	1123		SHW-5			Double light		Pair, split with a mullion to act as
1-xx	IRC to Bldg. Corridor	2111 or		SHW-15A (Mod 3)			---		
1-xx	Conference Center to Building	1123		SHW-2A (Mod 1)			½ light (top)		
1-xx	Consular Work Area to CA Cashier	1111, 2111, or		SHW-15A			---		
1-xx	Building Corridor to DS Local Investigator Suite	2111 or 3111		SHW-15			---		
1-xx	Building Corridor to MSG Suite	2111 or		SHW-12C			---		

NO.	LOCATION	DOS CODE	SWING xxR	SEC. HARD -WARE	DOOR MATL.	ACOU -STICS EQ'D	GLAZING	MODI- FICATIONS	COMMENTS
1-xx	Terrace to Dining Area	1123		SHW-5 (Mod 1)			Double light		Pair, split with a mullion to act as 2 single doors. Exterior.
1-xx	Terrace to Dining Area	1123		SHW-5 (Mod 1)			Double light		Pair, split with a mullion to act as 2 single doors. Exterior.
	Peace Corps Corridor	1111, 2111		SHW 15A					
2-xx	FAS suite to FAS Systems Room	2111 or		SHW-11 (Mod 2)			---		
2-xx	FCS suite to FCS Systems Room	2111 or		SHW-11 (Mod 2)			---		
2-xx	AID suite to AID Systems Room	2111 or		SHW-11 (Mod 2)			---		
2-xx	CDC suite to CDC Systems Room	2111 or		SHW-11 (Mod 2)			---		
3-xx	Corridor to Exec Suite Entrance	2111		SHW-12C			---		
3-xx	Corridor to Exec Suite Exit	2111 or		SHW-13 (Mod 1)		YES	---		
3-xx	Corridor to Exec Suite Private	2111 or		SHW-15A (Mod2)		Yes	---		
3-xx	Corridor to Admin Suite Entrance	2111 or		SHW-12C		Yes	---		

NO.	LOCATION	DOS CODE	SWING xxR	SEC. HARD -WARE	DOOR MATL.	ACOU -STICS EQ'D	GLAZING	MODI-FICATIONS	COMMENTS
3-xx	Corridor to Pol/Econ/EST/Ref. Suite Egress	2111 or 3111		SHW-13 (Mod 1)		Yes	---		
3-xx	Corridor to Pol/Econ/EST/Ref. Suite Entrance	2111 or 3111		SHW-12C		Yes	---		
3-xx	Regional Marine Suite to Reg. Marine Storage	2111 or 3111		SHW-11			---		
3-xx	FMO Corridor to Cashier Booth	1111, 2111, or		SHW-15A			---		
3-xx	FMO Corridor to Cashier Booth	1111, 2111, or		SHW-15A			---		
3-xx	FMO Corridor to Cashier Booth	1111, 2111, or		SHW-15A			---		
3-xx	Corridor to IRM Unclassified Computer Room	2111 or 3111		SHW-11 (Mod 2)			---		Min. 915 mm clear width req'd.
3-xx	Corridor to Main Terminal Space	2111 or		SHW-13			---		Assumed next to UCR.
3-xx	Corridor to Telephone Equip	2111 or		SHW-13			---		Assumed next to MTS.
3-xx	IRM suite to Controlled Storage Room near IMO	2111 or 3111		SHW-14			---		

NO.	LOCATION	DOS CODE	SWING xxR	SEC. HARD -WARE	DOOR MATL.	ACOU -STICS EQ'D	GLAZING	MODI- FICATIONS	COMMENTS
3-xx	Corridor to Telecom Closet	2111 or 3111		SHW-14			---		Assumes Telephone Closet houses C-LAN switch. If no C-LAN switch, SHW not required.
3-xx	Corridor to Telecom Closet	2111 or 3111		SHW-14			---		Assumes Telephone Closet houses C-LAN switch. If no C-LAN switch, SHW not required.
3-xx	Freight Elev Vestibule to CAA Corridor	2111 or 3111		SHW-15 (Mod 2)			---	Add LCN 4041-SRI x cush-n-stop x degree of opening, add Folger Adam 310 2 3/4	Requires wall-mounted telephone and phone list in elevator vestibule,
3-xx	Passenger Elevator Vestibule to CAA Corridor	2111 or 3111		SHW-15 (Mod 2)			---	Add LCN 4041-SRI x cush-n-stop x degree of opening, add Folger Adam 310 2 3/4 or Trine EN960	Not shown correctly on plans. Requires wall-mounted telephone and phone list in elevator vestibule, adjacent to

NO.	LOCATION	DOS CODE	SWING xxR	SEC. HARD -WARE	DOOR MATL.	ACOU -STICS EQ'D	GLAZING	MODI- FICATIONS	COMMENTS
3-xx	Center Corridor to CAA Corridor	2111 or 3111		SHW-15 (Mod 2)			---	Add LCN 4041-SRI x cush-n-stop x degree of opening, add Folger Adam	Requires wall-mounted telephone and phone list in elevator vestibule,
3-xx	Corridor to CAA Conference/Mtg.	2111 or		SHW-12C (Mod 3)		YES	---	Delete Folger Adam	
3-xx	Corridor to CAA Conference/Mtg.	2111 or		SHW-12C (Mod 3)		YES	---	Delete Folger Adam	
3-xx	Corridor to CAA Conference/Mtg.	2111 or		SHW-12C (Mod 3)		YES	---	Delete Folger Adam	
3-xx	Waiting area/entry and growth area	2111 or		SHW -12C		YES			
3-xx	TDY office and Meeting room	2111 or 3111		SHW 12 C (Mod1)		YES			
4-xx	Corridor to Political Liaison Suite	2111 or		SHW-12C (Mod 1)		YES	---		
4-xx	Corridor to Political Liaison Suite Exit	2111 or 3111		SHW-15 (Mod 1)		YES	---		If this door required to be fire egress for suite, then hardware will require modification. Consult OBO for this

NO.	LOCATION	DOS CODE	SWING xxR	SEC. HARD -WARE	DOOR MATL.	ACOU -STICS EQ'D	GLAZING	MODI- FICATIONS	COMMENTS
4-xx	Corridor to Political Liaison Suite 2 nd Exit	2111 or 3111		SHW-15 (Mod 1)		YES	---		If this door required to be fire egress for suite, then hardware will require modification. Consult OBO
4-xx	Political Liaison Suite to Computer Equipment Room	2111 or 3111		SHW-14 (Mod 1)			---		
4-xx	Political Liaison Suite to Secure Safe/Pouch Room	2111 or 3111		SHW-11 (Mod 1)			---		
4-xx	Political Liaison Suite to Workshop	2111 or		SHW-15			---		
4-xx	Political Liaison Suite to Political Liaison	2111 or 3111		SHW-16 (Mod 3)		YES	---		Pair.
4-xx	Political Liaison Suite to Political Liaison Meeting	2111 or 3111		SHW-11 (Mod 1)			---		
4-xx	Corridor to Regional Support	2111 or		SHW-12C (Mod 3)		YES	---	Delete Folger Adam	
4-xx	Corridor to Type II Conference Room	2111 or		SHW-12C (Mod 3)		YES	---	Delete Folger Adam	
4-xx	Corridor to Radio Repeating Equip.	2111 or		SHW-13			---		
4-xx	Corridor to ESC	2111 or		SHW-12C		YES	---		

NO.	LOCATION	DOS CODE	SWING xxR	SEC. HARD -WARE	DOOR MATL.	ACOU -STICS EQ'D	GLAZING	MODI-FICATIONS	COMMENTS
4-xx	Corridor to DS Suite Entrance	2111 or		SHW-12C		YES	---		
4-xx	Corridor to DS Suite Rear Entrance	2111 or 3111		SHW-12C (Mod 4)		YES	---	Delete Medeco Maxum 11-7400, delete Medeco 32-0201; Add Corbin-Russwin deadlock 4013 x less outside cylinder, add	
4-xx	Corridor to DAO Entrance	2111 or		SHW-12C (Mod 1)		YES	---		
4-xx	DAO Suite to DAO Computer Equipment Room	2111 or 3111		SHW-11 (Mod 2)			---		
4-xx	DAO Suite to DAO Disintegrator Room	2111 or		SHW-16 (Mod 3)		STC-45	---		
4-xx	Passenger Elevator Vestibule to CAA Corridor	2111 or 3111		SHW-15 (Mod 2)			---	Add LCN 4041-SRI x cush-n-stop x degree of opening, add Folger Adam	Requires wall-mounted telephone and phone list in elevator vestibule,

NO.	LOCATION	DOS CODE	SWING xxR	SEC. HARD -WARE	DOOR MATL.	ACOU -STICS EQ'D	GLAZING	MODI-FICATIONS	COMMENTS
4-xx	Passenger Elev. Vestibule to North Suites	2111 or 3111		SHW-15 (Mod 2)			---	Add LCN 4041-SRI x cush-n-stop x degree of opening, add Folger Adam 310 2 3/4	Requires wall-mounted telephone and phone list on non-secure side, adjacent to
4-xx	Center Corridor to CAA Corridor	2111 or 3111		SHW-15 (Mod 2)			---	Add LCN 4041-SRI x cush-n-stop x degree of opening, add Folger Adam 310 2 3/4	Requires wall-mounted telephone and phone list on non-secure side, adjacent to
4-xx	Center Corridor to North Suites	2111 or 3111		SHW-15 (Mod 2)			---	Add LCN 4041-SRI x cush-n-stop x degree of opening, add Folger Adam 310 2 3/4	Requires wall-mounted telephone and phone list on non-secure side, adjacent to
4-xx	Freight Elev. Vestibule to CAA Corridor	2111 or 3111		SHW-15 (Mod 2)			---	Add LCN 4041-SRI x cush-n-stop x degree of opening, add Folger Adam 310 2 3/4 or Trine EN960	Min. 915 mm clear width. Requires wall-mounted telephone and phone list on non-secure side, adjacent to

NO.	LOCATION	DOS CODE	SWING xxR	SEC. HARD -WARE	DOOR MATL.	ACOU -STICS EQ'D	GLAZING	MODI-FICATIONS	COMMENTS
4-xx	Freight Elev. Vestibule to North Suites	2111 or 3111		SHW-15 (Mod 2)			---	Add LCN 4041-SRI x cush-n-stop x degree of opening, add Folger Adam 310 2 3/4	Requires wall-mounted telephone and phone list on non-secure side, adjacent to
4-xx	Corridor to CAA Conference/Mtg.	2111 or		SHW-12C (Mod 3)		yes	---	Delete Folger Adam	
4-xx	Corridor to CAA Conference/Mtg.	2111 or		SHW-12C (Mod 3)		Yes	---	Delete Folger Adam	
4-xx	Corridor to CAA Conference/Mtg.	2111 or		SHW-12C (Mod 3)		Yes	---	Delete Folger Adam	
4-xx	Corridor to CAA Conference/Mtg.	2111 or		SHW-12C (Mod 3)		YES	---	Delete Folger Adam	
4-xx	Corridor to CAA Conference/Mtg.	2111 or		SHW-12C (Mod 3)		YES	---	Delete Folger Adam	
4-xx	Corridor to CAA Conference/Mtg.	2111 or		SHW-12C (Mod 3)		YES	---	Delete Folger Adam	
4-xx	Corridor to CAA Conference/Mtg.	2111 or		SHW-12C (Mod 3)		YES	---	Delete Folger Adam	
4-xx	Corridor to CAA TDY suite	2111 or 3111		SHW-12C (Mod 3)		YES	---	Delete Folger Adam 310 2 3/4.	Not shown on plans.
4-xx	Corridor to Telecom Closet	2111 or 3111		SHW-14			---		Assumes Telephone Closet houses C-LAN switch. If no C-LAN switch, SHW not required.

NO.	LOCATION	DOS CODE	SWING xxR	SEC. HARDWARE	DOOR MATL.	ACOU-STICS EQ'D	GLAZING	MODIFICATIONS	COMMENTS
4-xx	Corridor to Telecom Closet	2111 or 3111		SHW-14			--		Assumes Telephone Closet houses C-LAN switch. If no C-LAN switch, SHW not required.
R-xx	Roof to Penthouse	2111	LHR	SHW-13 (Mod 5)				Delete Corbin-Russwin ML2067, delete Scalp Plate 402F30; Add Corbin-Russwin	Exterior.
R-xx	Cooling Tower Area to Penthouse	2111	LHR	SHW-13 (Mod 5)				Delete Corbin-Russwin ML2067, delete Scalp Plate 402F30; Add Corbin-Russwin	Exterior?
R-xx	Cooling Tower Area to Roof	2111	LHR	SHW-13 (Mod 5)				Delete Corbin-Russwin ML2067, delete Scalp Plate 402F30; Add Corbin-Russwin	Exterior.

END OF SECTION 08714