

Project: 4D2Q 21 Renovate Suicide Cell

Scope:

1. Provide "Detention Door" to fit existing opening with half lite and cuff slot. Door shall be 12 GA ribbed & insulated with cuff slot. Dimensions are 35 ½" 84 7/16" x 2". Prep for (3) non-stud hinges, FA/80 keyed one side hinge side mounted, surface pull hinge side only, cuff slot prep for FA/12 lock and a 20"x30"x1" glass clad polycarbonate half lite installed. Door and glazing shall comply with Technical Design Guidelines 08 34 63, 08 71 63, and 08 88 53. Exact field measurements will be done with contractor once the contract is awarded.
2. Provide (3) observation windows and frames. Frame shall be 12 GA set up for 1" glass clad polycarbonate, make size as listed clear view dimensions. 32" wide x 72" high. OAJ punched and dimpled 2 sides and bottom of frame. Frames will be installed in CMU wall. Windows shall be 32" x 72" x 1" glass clad polycarbonate. Frames and glazing shall comply with Technical Design Guidelines 08 56 63 and 08 88 53.
3. Security hardware included: (3) 4 ½" x 4 ½" non-stud hinges, surface pull x 32D w/torx, (2) cuff slot hinges w/built in stop, HM plate w/escutcheon & torx for FA/82 lock.
4. Shipping and Handling to be included in price.
5. Locks to be supplied by customer

Attachments: Technical Design Guideline Sections 08 34 63, 08 56 63, 08 71 63, 08 88 53

SECTION 08 34 63 – DETENTION HOLLOW METAL DOORS AND FRAMES**PART 1 - GENERAL****1.1 SUMMARY**

- A. This section includes detention metal doors, frames, windows, transoms, sidelights, borrowed lights, grille doors, grille partitions and similar formed hollow metal work indicated in secure areas. Work shall also include the following items:
 - 1. Embedded items, such as weld plates and embedded subframes.
 - 2. Hardware enclosures interconnected with conduit, elbows, and connectors where electrically operated hardware is required.
- B. Provide materials meeting the following criteria:
 - 1. ASTM A366M-91 - Specification for Steel, Sheet, Carbon, Cold-Rolled, Commercial Quality.
 - 2. ASTM B117-07a - Standard Test Method of Salt Spray (Fog) Testing.
 - 3. ASTM D1735-08 - Standard Practice for Testing Water Resistance of Coatings Using Water Fog Apparatus.
 - 4. AWS D1.1 - Structural Welding Code: Steel.
 - 5. HMMA 863-04 - Guide Specifications for Detention Hollow Metal Doors and Frames, including requirements for Storage and Handling.
 - 6. NFPA 80 - Standard for Fire Doors and Fire Windows.
 - 7. HMMA 840-07 – Storage of Hollow Metal Doors and Frames.
 - 8. Test doors and frames by an independent testing laboratory in accordance with ASTM F1450 certifying compliance.

1.2 QUALITY ASSURANCE

- A. Detention Equipment Subcontractors:
 - 1. Service: The detention equipment subcontractor shall employ a factory-trained and factory-approved service organization. This organization shall have experience in servicing and maintaining this equipment.
 - 2. Service organization shall submit a proposal to the Contracting Officer for service after the warranty period.
- B. Detention hollow metal door and frame manufacturers shall comply with HMMA 863-04, Section 1.06 - Quality Assurance.

- C. Certification: Detention hollow metal door and frame manufacturers shall submit to the Contracting Officer test reports and documentation by an independent testing laboratory in accordance with ASTM F 1450 certifying compliance. Security grades and test load requirements shall comply with HMMA 863-04, Section 1.05, Table 1:

1. Door Type-1 (Type is referenced in Concept Drawings).
 - a. Grade 1 as tested with high strength, low alloy (HSLA) door skins.
2. Required Tests include:
 - a. Door Assembly Impact Test.
 - b. Door Static Load Test.
 - c. Door Rack Test.
 - d. Door Edge Crush Test.
 - e. Bullet Resistance Test.
 - f. Removable Glazing Stop Test.

- D. Labeled Doors and Frames:

1. Where required by the project, furnish doors and frames bearing the label of Underwriters Laboratories or Factory Mutual Engineering Corporation, indicating the applicable rating and wall opening classification specified.
2. In reference to Section 01 41 00, Memorandum dated 01/08/03 entitled "Fire Door Equivalency Request", a letter of certification shall be provided by the fire door manufacturer. For fire doors with paracentric locks, where the hardware is not self-latching, the manufacturer shall provide a certification that the fire door and frame were manufactured to the same specifications for labeled doors and frames, in accordance with NFPA 252/ASTM E152.
3. Submit testing laboratory reports for U.L. labeled fire-rated doors and frames.

- E. Provide factory-trained representatives to demonstrate equipment and instruct Contracting Officer's designated personnel in operation, repair, and maintenance of detention doors and frames.

1.3 SCHEDULING

- A. Government furnished and contractor installed doors and frames.

1. All solid flush, Type 1, Type 2, Type 2A, Type 3, Type 3A, Type 11, and cell chase doors, non fire-rated detention doors and frames will be furnished by the government and installed by the contractor. All fire-rated, electronically operated, DPS/BPS monitored (see Section 28 46

19.50), and other types of doors and frames will be furnished and installed by the contractor. Refer to the FBOP Concept Drawings for door types and locations. Locks, hardware, and glazing for all doors (government and contractor provided) will be furnished and installed by the contractor.

2. Unless otherwise noted, doors and frames will be constructed by Federal Prison Industries, Inc (FPI / UNICOR).
 3. Doors shall be constructed per HMMA 863-04 (detention). Doors shall be provided with glazing stops, glazing stop screws, hardware reinforcement and hardware prep as required. All items associated with slider type doors (doors provided by FPI) will be furnished and installed by the contractor.
 4. Frames will be constructed per HMMA 863-04 (detention). Frames will be provided with anchors, hardware reinforcement and hardware prep as required. Windows associated with frames (sidelights) shown on FBOP Concept drawings will not be provided. These windows will be provided by the contractor and field installed directly or adjacent to the frames provided by the government.
- B. The contractor shall schedule a door review meeting within twenty-one (21) days after receipt of the initial Notice to Proceed. This meeting shall take place at the FBOP offices in Washington, D.C. A representative of FPI will attend this meeting to discuss items related to the furnishing of the doors and frames. Topics are to include, quality control, anchoring systems, proposed hardware, delivery schedules and preparation of door schedules for commercial, security and detention doors and frames. See Section 08 11 13 for Government furnished commercial doors and frames.
1. The Contractor shall provide an estimate of the total number of doors and frames to be furnished by the Government. The Contractor is responsible for updating this estimate to keep it current.
- C. Prior to or accompanying the submission of Preliminary Package A (if it contains doors) and Preliminary Package B, provide door and frame elevations, floor plans, details, hardware specifications, hardware product data, hardware templates, hanging charts and a detailed door schedule for government and contractor furnished doors and frames. At a minimum, the door schedule will provide the information shown on the sample schedule provided Section 08 11 13. The door schedule shall have a level one sorting by building and a level two sorting by door number.
- D. After review and acceptance of the Preliminary Package-B door, frame, and hardware information, the FBOP shall issue design review comments to the Design Builder. Once comments are resolved to the Government's satisfaction, a Door and Hardware Keying Meeting will be scheduled to review each door opening's specifications. The meeting shall be held at either the Detention Contractor's office, or a design office chosen by the

Design Builder. The location should be a centrally convenient location for all attending parties. Attending parties shall include, but is not limited to:

1. Representatives from FBOP Design & Construction Branch Central Office and Jobsite Office.
2. The FBOP Chief, Armory & Lock Technology Section in Central Office.
3. A Representative from the Design-Builder.
4. An Architectural/Engineering (AE) Representative.
5. A Representative(s) from the Detention Contractor.
6. A Representative from the Federal Prisons Industries (FPI), a.k.a. UNICOR.

E. Once all comments from the Door and Hardware Keying Meeting are resolved and all requirements are completed, the BOP will provide the contractor with a letter stating the submission is accepted. Based on the issue date of the letter, the contractor can anticipate the delivery of doors and frames based on the following:

1. See Schedule in TDG Section 01 11 00-2.1.D.
2. The Door Schedule from the Keying Meeting, with all revisions accepted by FBOP, shall be considered the Baseline Door Schedule. Any further revisions made to the Baseline Door Schedule shall be issued to the Design-Builder through the Contracting Officer.
3. The Contractor shall schedule a milestone in the Project Schedule (P3 Schedule) for the delivery of the baseline Door, Frame and Hardware Schedules.

F. There will be standard shipments of doors and frames based on a percentage of the total amount of openings provided by UNICOR for the project. An early housing unit shipment of frames may be added upon request.

G. Deliveries of shipments will be limited to the project site and two (2) other pre-determined locations. All shipments will be in truckload lots.

H. A designated drop location will be determined prior to any delivery. This location will be clearly marked and be accessible to a tractor trailer.

1.4 DELIVERY, STORAGE, AND HANDLING

- I. Detention Door and Frame Delivery and Storage: Shall be shipped individually packed. Frames shall be shipped with angle spreaders at door opening bottoms. Store doors and frames on building site, in an upright position, under cover, on wood sills or floors and in a manner that prevents rust or damage and meets HMMA 863-04 requirements for Storage and Handling. Ventilate canvas or plastic covers to prevent moisture traps.

- J. Storage and installation of the doors and frames shall comply with HMMA 840-07, HMMA 863, and the requirements in this section.

1.5 WARRANTY

- A. The subcontractor shall warrant his material and workmanship on this project for a period of one (1) year from the date of Substantial Completion. The subcontractor agrees to repair or replace any defective materials, and to correct any defective security work, when given written notice by the Contracting Officer during this warranty period. The subcontractor also agrees to respond to these notices within five (5) calendar days and make all repairs as required for proper operation during this warranty period.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Provide products meeting the following criteria.
 - 1. Embedded items shall be mild steel shapes and plate and, where required, shall be 5 mm or 6 mm thick, and shall comply with ASTM A366.
- B. Detention-type Hollow Metal Doors:
 - 1. Detention-type hollow metal doors shall have a thickness of 50 mm (2") (actual). Doors shall have 3 mm side clearance with proper bevel to operate without binding. Furnish all accessory items as required for a complete installation.
 - 2. Doors shall be custom-made, of the types and sizes shown on approved shop drawings, and shall be prepared for hardware in accordance with the manufacturer's recommendation and the final approved Hardware Schedule. Doors shall be constructed using commercial-quality cold-rolled steel that complies with ASTM A366. The steel used shall be free from scale, pitting, coil breaks, or other surface blemishes. The steel shall also be free of buckles, waves, or any other defects caused by the use of improperly leveled sheets. Door face sheet thicknesses shall be 12-gauge. All exterior frames, and frames used in areas with high humidity shall have a zinc (galvanized) or zinc-iron alloy (galvanneal) coating per HMMA 863-04. High humidity areas include the Kitchen and Dishwash areas. (Refer to Section 08 71 63 for locations.)
 - 3. Door edge seams shall be continuously welded and finished smooth such that there are no visible seams. Doors shall be strong, rigid, and neat in appearance, free from warpage or buckle. Edge bends shall be true and straight and of minimum radius for the thickness of metal used.

4. Doors shall be stiffened by continuous vertically formed steel sections that, upon assembly, shall span the full thickness of the interior space between door faces. These stiffeners shall be 16-gauge minimum thickness, spaced such that the vertical interior webs shall be no more than 100 mm o.c. and securely fastened to both face sheets by spot welds spaced a maximum of 60 mm o.c. vertically. Spaces between stiffeners shall be filled with 48 kg per cubic meter fiberglass or mineral rock wool batt-type material. If the manufacturer must use heavier materials and/or closer stiffener and weld spacings to meet the performance criteria set forth in Subparagraph, 1.2.C "Certification," of this section, they shall be used in the door construction for this project. Door construction details must be submitted for approval as part of the submittal drawings.
5. Stiffeners thinner than 16-gauge (but not less than 28-gauge) may be used when the door is constructed utilizing a truss design core material which utilizes truncated triangular sections extending continuously from one door face to the other. Welds in a truss section must be spaced at a maximum of 75 mm (3 in) o.c. vertically and 70 mm (2-3/4 in) horizontally. Core material must extend to the full height and width of the door. Manufacturers utilizing truss stiffeners must meet the performance criteria set forth in this specification. Spaces between stiffeners shall be filled with 48 kg per cubic meter (3 pounds per cubic foot) fiberglass or mineral rock wool batt-type material.
6. Vertical edges shall be reinforced by a continuous steel channel, not less than 10-gauge thick, extending the full length of the door. Channel that is broken at the hinge mortises shall not be acceptable. Noncontinuous channel at lock edge shall be acceptable only to accommodate lock preparation. In these cases, hardware reinforcements shall be welded to the channel such that they become an integral part of the channel. The top and bottom edges shall be closed with a continuous channel, also not less than 10-gauge spot-welded to both face sheets a maximum of 75 mm o.c. The 10-gauge closing channels shall be continuously welded to the vertical reinforcing channel at all four corners.
7. Top and bottom channel shall be fitted with an additional flush closer plate of not less than 16-gauge. The flush closing plate shall be welded in place at the corners and 60 mm long welds 300 mm o.c. Installation of closer plate using screws, security or otherwise, shall be deemed unacceptable. The end channel and flush closer plate shall be installed such that they are permanent and non-removable.
8. Edge profiles shall be provided on both vertical edges of door as follows:
 - a. Single-Acting Doors: Beveled 3 mm in 50 mm.
 - b. Horizontal tract doors on equivalent square profiles.

9. Hardware Reinforcements:
 - a. Doors shall be mortised, reinforced, drilled, and tapped at the factory for completely templated, mortised hardware in accordance with the final approved hardware schedule and templates provided by the hardware supplier. Where surface-mounted hardware is to be applied, door shall be reinforced, drilled, and tapped in accordance with final approved hardware schedules and templates.
10. Minimum thicknesses for hardware reinforcements shall be as follows:
 - a. Full mortised hinges and pivots: 6.0 mm.
 - b. Surface-applied maximum security: 6 mm plate.
 - c. Reinforcements for lock fronts, concealed holders, or surface: 4.5 mm.
 - d. Mounted closures: 4.5 mm.
 - e. Internal reinforcements for all other surface-applied hardware: 4.5 mm.
11. Hinge and pivot reinforcement shall consist of a 200 mm long, pressed formed, 4.5 mm angle that is projection-welded in six (6) places to the face of the door, and additionally plug-welded at each end to the opposite door face sheet, forming a rigid structural angle reinforcement at each hinge. Flat or offset strap reinforcements that are welded to the inside edge of the door or to perimeter channel shall be unacceptable. Reinforcements for mortised hardware occurring in the edge of the door shall be securely welded to the inside of both face sheets of the door.
12. Doors containing manual prison locks (80 series) will be flush-mounted with the face sheets of the door (refer to detail).
13. Doors that require additional hardware (e.g., food pass openings, locks, and hinges) will be as shown on detail.
14. All detention grade hollow metal doors 900 mm or greater in width shall be hung using 4 hinges. (See detail 08 34 63 – D5 for hinge locations)
15. Glass Moldings and Stops:
 - a. Doors shall be provided with steel moldings to secure glazing in accordance with glass sizes and thicknesses shown with a minimum 25 mm glass engagement.
 - b. Fixed glass molding shall be not less than 2.5 mm, and shall be spot-welded on the secure side a minimum of 75 mm o.c.
 - c. Removable glass stops shall be pressed steel angle not less than 3.5 mm with tight-fitting mitered corner joints or notched corner joints, and secured with #1/4-20 Torx pinhead screws spaced 150 mm o.c. maximum with a maximum spacing of 50 mm from the ends of the stops.

- d. Where glass thickness dictates, 10-gauge, offset surface-mounted glass stops shall be used. The corners shall be tight-fitting mitered or notched corners, and the glass stop shall be secured to the face of the door using #1/4-20 Torx pinhead screws spaced 150 mm o.c. maximum with a maximum spacing of 50 mm from the ends of the stops.
- e. Removable glass stops specified in paragraphs 2.3 I.3 and 2.3 I.4 shall meet performance criteria designated in the performance section of this specification.
- f. Removable stops shall be on the side opposite the area of inmate confinement or where they are likely to be unsupervised.

16. Detention Louver Design:

- a. Door face sheets shall be furnished with 25 mm wide horizontal slats of length equal to the designated louver width, and spaced 25 mm apart. The number of slats shall be determined by the designed louver height. The louvers shall be of a 12-gauge Z-type construction and welded 100 mm o.c. to the inside face sheets along the 25 mm strips between the slats. Vertical channels of 12-gauge shall be welded in place on each end of the louver slats and shall extend above and below the slats 100 mm. The Z louvers shall be continuously welded at each end to the channels. Upon completion, the louvers shall become an integral part of the internal door construction. Full width by full height face sheet louver cutouts shall be unacceptable. Doors with louvers, including the louvers, shall meet impact load tests as designated in the performance section of this specification.

17. Food Pass Openings:

- a. The food pass opening shall be a flush opening fabricated using 12-gauge interior channels, securely welded to the inside of both face sheets. The four corner seams shall be continuously arc-welded and dressed smooth. The finished opening shall be constructed such that it cannot be dismantled or otherwise affected by tampering or scraping.
- b. See Section 08 71 63 for food pass hinge requirements.
- c. Food Pass doors shall be chemically treated for maximum paint adhesion and given a shop coat of rust-inhibitive primer.

18. Speak Ports:

- a. The speak ports shall consist of a square pattern of round holes, no more than 6 mm diameter, in both face sheets directly across from each other. The minimum size of the rectangular hole pattern shall be 100 mm high x 100 mm wide with a minimum of

five rows of holes spaced no more than 25 mm o.c. The interior of the door between the hole patterns shall be baffled using pressed steel sections, minimum 2 mm thick such that no objects can be passed or poked through.

19. Finish:

- a. After fabrication, tool marks and surface blemishes shall be filled and sanded as required to make both faces and both vertical edges smooth and free from irregularities. After appropriate preparation, exposed surfaces shall receive two shop coats of a rust-inhibitive primer that meets or exceeds ASTM B117 salt spray for 150 hours and ASTM D1735 water fog test for organic coatings for 200 hours, and that is fully cured prior to shipment.

20. Door manufacturer shall provide drilled and tapped holes for all surface-applied hardware according to approved templates.

C. Detention Hollow Metal Frames:

1. Frames shall be constructed of commercial-quality cold-rolled steel that complies with ASTM A366. The steel shall be free of scale, pitting, coil breaks, or other surface defects. Metal thicknesses shall be 12-gauge or 10-gauge as noted. All exterior frames, and frames used in areas with high humidity shall have a zinc (galvanized) or zinc-iron alloy (galvanneal) coating per HMMA 863-04.
2. Detention door openings 915mm (36") wide and wider shall have 10-gauge hollow metal frames. All other door frames shall be 12 gauge.
3. Frames shall be custom-made welded units of the sizes and types shown on approved shop drawings. Finished work shall be strong and rigid, neat in appearance, square, and free of defects, warps, or buckles. Pressed steel members shall be straight and of uniform profile throughout their lengths.
4. Corner joints shall have contact edges closed tight with faces mitered and stops either butted or mitered. Corner joints shall be continuously welded, and the use of gussets or splice plates will be unacceptable.
5. Stops: Minimum depth of stops in door opening shall be 15 mm except at electric locks; the minimum depth of the stop on the lock side of the jamb shall be 25 mm in lieu of the 15 mm. For glass and panel openings, stops shall be 25 mm minimum glass or panel engagement, or as approved by the security glazing manufacturer, to include rabbeted depth of stops.
6. Loose Glazing Stops:
 - a. Pressed steel angle glazing stops shall be no less than 3.5 mm. Angle stops shall be mitered or notched and tight-fitting at the corner joints.

- b. There shall be a 5 mm x 62 mm continuous backup plate spot-welded under the frame where loose glazing stops are to be attached. Threaded Weld-Nuts for attaching glazing stops may be used in addition to, not in lieu of, the steel bar backer plate reinforcing.
 - c. The frame under the glazing stops and the inside of the glazing stop shall be chemically treated for maximum paint adhesion and painted with a rust-inhibitive primer prior to installation in the frame.
 - d. Stops shall be secured with Torx-head tamper proof machine fasteners where security glazing is scheduled. Screws shall be 6 mm -20 x proper length. Locate fasteners not more than 50 mm from each end of glazing stop nor more than 150 mm o.c.
 - e. Removable stops shall be on the side opposite the area of inmate confinement or where they are likely to be unsupervised.
7. Frames for multiple openings shall have mullion members that, after fabrication, are closed tubular shaped conforming to profiles shown and having no visible seams or joints. Joints between faces of abutted members shall be continuously welded and finished smooth. Joints between stops of abutted members shall be welded along the depth of the stop and left neat and uniform in appearance.
8. Hardware Reinforcements and Preparation: Frames shall be mortised, reinforced, drilled, and tapped for all templated mortised hardware in accordance with the final approved Hardware Schedule and templates provided by the hardware supplier. Where surface-mounted hardware is to be applied, frames shall be reinforced, drilled, and tapped in accordance with final approved hardware schedules and templates. Minimum thicknesses of hardware reinforcing plates shall be as follows:
- a. Hinge and pivot reinforcements - 6 mm x 250 mm steel plate.
 - b. Strike reinforcements - 4.5 mm.
 - c. Closer reinforcements - 4.5 mm.
 - d. Flush bolt reinforcements - 4.5 mm.
 - e. Reinforcements for surface-applied hardware - 4.5 mm.
 - f. Frame reinforcements for glazing stops - 25 mm x 3.5 mm continuous around entire opening.
 - g. Hinge and pivot reinforcements shall consist of 6 mm x 37 mm long straps, projection-welded in a triangle pattern in three (3) places at each end. The strap shall be additionally reinforced by a 2.5 mm thick by 50 mm side angle welded in two (2) places at the center of the strap reinforcement and two places to the inside face of the frame. This additional angle is to be provided at all hinges.
 - h. Where electrically operated hardware is required, hardware enclosures shall be provided. Lock pocket shall be 2.5 mm thick steel welded on all sides. Attach the lock to an additional 5 mm steel backup plate shall be spot-welded in the lock pocket.

- Provide 5 mm steel lock pocket cover plate deburred. Surface-mount with 1/4-20 twist-off head security screws, with a minimum of eight (8) screws. These screws shall be equally spaced around the cover plate. Frame manufacturer shall install electrical conduit within the hollow metal door frame as required for specific electro mechanical locks and door position switches. Minimum size of conduit shall be 20 mm or as specified. Termination of conduit shall be within lock pocket or recessed motor boxes.
9. Floor anchors with two holes for fasteners shall be fastened inside jambs with at least four (4) spot welds per anchor. Where so scheduled, adjustable floor anchors providing not less than 50 mm height adjustment shall be fastened in place with at least four (4) spot welds per anchor. Thickness of floor anchors shall be 4.5 mm steel.
10. Jamb Anchors:
- a. Masonry: At each jamb provide 12-gauge floating masonry “TEE” anchors or “UL” strap/stirrup anchors at a maximum spacing of 400 mm (See Detail D6).
 - b. Concrete: 12-gauge steel anchors or 12 mm X 150 mm headed studs fully welded to the back side of the frame, with a maximum spacing of 400 mm (See Detail D6). The use of weld plate embeds for concrete cell construction is prohibited, frames for cells must be cast in place.
 - c. Pre-finished Masonry and Concrete openings: 4.8 mm thick steel angles or formed-steel plates, 100 mm long, welded to back of detention window frames as required to secure frames to embed plates.
 - 1) Embedded Plates: Fabricated from mild steel shapes and plates, minimum 6 mm thick; with minimum 13 mm X 100 mm headed studs welded to back of plate.
 - 2) Provide a 25 mm stitch weld at 400 mm centers to secure the window to the embed plate.
 - d. The use of any other type of jamb anchor requires FBOP approval. For approval to be considered, submit manufacturer's test data showing that the proposed anchors are equal or superior to the required type.
11. Plaster guards made from no less than 0.4 mm thick steel shall be welded in place at hardware mortises on frames to be set in masonry or concrete openings.
12. Frames shall be provided with two (2) temporary steel spreaders welded to the feet of jambs to serve as bracing during shipping, handling, and installation.

13. When shipping limitations so dictate, fabricate frames for large openings in sections designated for splicing in the field by others. Where splicing is necessary, install angle splices at the corners of the profile and extend at least 100 mm on either side of the joint. Splicing angles shall be the same gauge thickness as the frame.
14. Prepare frame for silencers. Provide three single silencers for single doors on strike side and two single silencers on frame head at double doors without mullions.
15. Frames for exterior windows at Holding and Psychiatric Observation Cells shall be a double slit window. Frames for exterior windows at SHU Cells at FCIs and USPs shall be a double slit window. Each slit opening shall be a maximum of 125 mm (5"), meeting the total area for ACA natural light requirements. Double slit windows require an additional 50 mm X 10 mm flat steel intermediate brace at 600 mm centers for windows higher than 1200 mm (See Detail D10).
16. Frames for exterior windows in FDC's are limited to a single 125 mm slit window (See Detail D9). Provide a minimum of 6 mm X 100 mm additional frame reinforcement around the perimeter of the 125 mm opening. This may be accomplished by either reinforcing the frame or structure.
17. Finish: After fabrication, all tool marks and surface imperfections shall be removed, and exposed faces of all welded joints shall be dressed smooth. Frames shall be chemically washed to ensure maximum paint adhesion and, after appropriate preparation, exposed surfaces shall receive two shop coats of a rust-inhibitive primer that meets or exceeds ASTM B117-03 salt spray for 150 hours and ASTM D1735-04 water fog test for organic coatings for 200 hours, and that is fully cured prior to shipment.

D. Bars and Structural Steel Tubes at Windows and Other Glazed Openings

1. Interior windows and other glazed openings where required in Section 08 88 53: 25 mm diameter round bars. Space between bars not to exceed 125 mm. Project bars into frames 25 mm and weld bars to frame at the back side. Bars at Central Control shall be horizontal (See Detail D7). All other bars shall be vertical.
2. Interior and exterior windows and other glazed openings: 50 mm x 50 mm x 7 mm structural steel tubing. Space between tubing or bars required in Section 08 88 53 shall not exceed 125 mm (See detail D11). These types of windows are not permitted for exterior windows at FDC's or SHU, Holding and Psychiatric Observation Cells (Refer to Section K).
3. All bars longer than 600mm and tubes longer than 1200 mm located in Type A or B walls shall be reinforced with a 60 mm x 10 mm intermediate flat brace. The flat stock is to be installed perpendicular to the bars and shall be evenly spaced to prevent the bars from being spread. Bars at Central Control do not require this brace.

E. Steel Grilles

1. Steel grille partitions and doors shall be constructed of the quality, sizes, and shapes of the members specified herein. Vertical ribbed bars shall pass through and positively interlock at each intersection with horizontal flat bars without reducing the diameter of the vertical bars. Pipe sleeves, wedging, caulking, or other interlocks that are not positive, or dependent on friction for security, are unacceptable for this work. Provide vertical flat bar framing members of the same size and material quality specified for horizontal bars.

F. Grille Partitions:

1. Grille partitions are to be constructed in sections or panels, of proper width, comprised of 22 mm (7/8") diameter homogeneous, double-ribbed vertical bars, spaced not to exceed 149 mm (5 7/8") o.c. Intermediate horizontal flat bars and framing members shall be 57 mm (2 1/4") x 10 mm (3/8") mild steel, with horizontal spacing not to exceed 305 mm (12") o.c.
2. Top horizontal flat bars shall be connected to vertical framing members with a 51 mm (2") x 51 mm (2") x 6 mm (1/4") angle knee securely shop plug-welded in place.
3. Intermediate horizontal flat bar intersections with vertical framing members shall be secured permanently in place by 5 mm shop fillet welds.
4. Vertical double-ribbed bars shall be securely welded in place at both the top and bottom flat bar framing members.

G. Grille Doors:

1. When grille doors are required in grille partitions, they shall be constructed of the same materials as the partitions of which they are a part.
2. Grille doors shall be shop-prepared to receive hardware as specified. Sliding grille doors shall have provisions for hanger, guide, and strike shop-applied.
3. Food openings shall be provided in grille doors where indicated in Section 08 71 63. Opening in grille shall be 384 mm wide X 127 mm (5") high, framed at the top with a flat bar same as intermediate horizontal bars. Provide a 6 mm (1/4") thick steel plate shelf, approximately 127 mm (5") wide x 350 mm (14") long, at the bottom of the food openings.
4. Grille doors are to be constructed of 22 mm (7/8") diameter homogeneous, double-ribbed vertical bars, spaced not to exceed 149 mm (5-7/8") o.c. Intermediate horizontal flat bars and framing members shall be 57 mm (2 1/4") x 10 mm (3/8") mild steel, with horizontal spacing not to exceed 305 mm (12") o.c.

PART 2 - EXECUTION

2.1 INSTALLATION

- A. Installation shall be in accordance with shop drawings and shall be accomplished by skilled workmen. Welding shall be done as indicated in accordance with American Welding Society Publication D1.1.
- B. Security metal doors, frames and windows shall be provided in all security and substantial construction walls, and in locations designated by Sections 08 88 53 (SECURITY GLAZING) and 08 71 63 (DETENTION DOOR HARDWARE). All glazed openings wider than 127 mm in these locations shall receive structural steel tubes or bars per the requirements of this section. See Section 01 00 00 (SECURE CONSTRUCTION REQUIREMENTS) for secure and substantial construction wall locations.
- C. Install frames plumb, square, straight, true, rigidly secured in place, and properly braced. Anchor frames securely to floor and at jambs. Weld field joints, grind smooth, and fill with body putty to completely conceal seams, including those at transom paneling, and to form a smooth, unbroken, finished surface. Frames and mullions shall be filled with grout that has a minimum strength of 25 MPa.
- D. For hardware requirements in secure areas coordinate with Sections 01 00 00 - SECURE CONSTRUCTION REQUIREMENTS and 08 71 63 - DETENTION DOOR HARDWARE.
- E. The following standard drawings and/or details are provided as examples of how the requirements for this section can be met. These or other drawings approved by FBOP shall be included in the contract documents for the project.
- F. For security reasons, door undercuts shall be a maximum of 19 mm.
- G. Expansion bolts shall not be utilized for the installation of frames in pre-finished and existing opening. All other methods of attachment are subject to approval by the FBOP.

SCHEDULE OF DRAWINGS

08 34 63 - D1 (09-05-11) MEDIUM AND HIGH SECURITY GENERAL HOUSING ROOM DOOR

08 34 63 - D2 (09-05-11) HIGH SECURITY SPECIAL HOUSING ROOM DOOR

08 34 63 - D3 (09-05-11) LOW & MEDIUM SECURITY SPECIAL HOUSING ROOM DOOR

08 34 63 - D4 (09-05-11) ARMORY INTERIOR GRILLE WITH PASS

DETENTION HOLLOW METAL DOORS AND FRAMES

08 34 63-14

08 34 63 - D5	(09-05-11)	TYPICAL DETENTION HM FRAME ELEVATIONS
08 34 63 - D6	(09-05-11)	MASONRY AND CONCRETE JAMB ANCHORS
08 34 63 - D7	(09-05-11)	CONTROL ROOM FRAME ELEVATION
08 34 63 - D8	(09-05-11)	CONTROL ROOM WINDOW FRAME DETAIL
08 34 63 - D9	(09-05-11)	SINGLE 125MM WINDOW
08 34 63 - D10	(09-05-11)	DOUBLE SLIT 125MM WINDOW
08 34 63 - D11	(09-05-11)	WINDOW - STRUCTURAL STEEL TUBE
08 34 63 - D12	(09-05-11)	TYPICAL SECURITY HOLLOW METAL FRAMES
08 34 63 - D13	(09-05-11)	FRAME DETAIL WITH ELECTRIC LOCK MOUNT
08 34 63 - D14	(09-05-11)	JAMB DETAIL WITH ELECTRIC LOCK MOUNT
08 34 63 - D15	(09-05-11)	COVER PLATE ON HINGE SIDE FLUSH WITH DOOR SKIN
08 34 63 - D16	(09-05-11)	FOOD PASS DETAIL
08 34 63 - D17	(09-05-11)	PAPER PASS - SILL DETAIL (CASHIER & PHARMACY ONLY)
08 34 63 - D18	(09-05-11)	PAPER PASS-HEAD DETAIL
08 34 63 - D19	(09-05-11)	PAPER PASS - JAMB DETAIL
08 34 63 - D20	(09-05-11)	PAPER PASS THRU WINDOW ELEVATION
08 34 63- D21	(09-05-11)	ARMORY WEAPONS ISSUE DOOR - INTERIOR ELEVATION
08 34 63 - D22	(09-05-11)	ARMORY WEAPONS ISSUE DOOR
08 34 63 - D23	(09-05-11)	SPECIAL HOUSING OUTSIDE RECREATION GATE (FCI)
08 34 63 - D23a	(09-05-11)	SPECIAL HOUSING OUTSIDE RECREATION GATES (USP)
08 34 63 - D23b	(09-05-11)	SPECIAL HOUSING OUTSIDE RECREATION GATES (USP)
08 34 63 - D24	(09-05-11)	PHARMACY PASS THRU WINDOW ELEVATION
08 34 63 - D25	(09-05-11)	DUTCH DOOR DETAILS B TOOL ROOM
08 34 63 - D26	(09-05-11)	EXTERIOR ELEVATION - GUARD TOWER WINDOWS
08 34 63 - D27	(09-05-11)	SILL DETAIL "B" - SLIDING WINDOW
08 34 63 - D28	(09-05-11)	HEAD DETAIL "A" - SLIDING WINDOW
08 34 63 - D29	(09-05-11)	RECORDS OFFICE TRANSACTION WINDOW SECTION

- 08 34 63 - D30 (09-05-11) RECORDS OFFICE TRANSACTION WINDOW
ELEVATION
- 08 34 63 - D31 (09-05-11) SECTION AT CHUTE - COMMISSARY SALES
- 08 34 63 - D32 (09-05-11) COMMISSARY SALES WINDOW ELEVATION
- 08 34 63 - D33 (09-05-11) SHU CELL EXTERIOR WINDOW SCREEN -
ELEVATION AND PLAN
- 08 34 63 - D34 (09-05-11) SHU CELL EXTERIOR WINDOW SCREEN -
SECTION AND DETAIL
- 08 34 63 - D35 (09-05-11) INTERSTITIAL ACCESS PANEL ELEVATION

END OF SECTION 08 34 63

SECTION 08 56 63 – DETENTION WINDOWS**PART 1 - GENERAL****1.1 SUMMARY**

- A. Detention windows approved for use on a FBOP projects are referenced in this Section and Section 08 34 63. The purpose of this section is to provide a criteria on detention windows not specified in Section 08 34 63.
- B. This is to include pre-manufactured windows and windows constructed out of materials such as stainless steel, and galvanized or galvanized steel. Proposed use of stainless steel windows shall be submitted during the solicitation phase or as a Contractor's Proposed Change (CPC) during the design phase.
- C. All General Housing Unit and Segregation Housing Unit buildings shall have exterior stainless steel windows.
 - 1. Exterior detention window frames shall be manufactured from 12 gauge galvanized steel or 14 gauge stainless steel.
- D. Related Sections include the following:
 - 1. Section 08 51 00 - METAL WINDOWS.
 - 2. Section 08 88 53 - SECURITY GLAZING.
 - 3. Section 08 34 63 - DETENTION HOLLOW METAL DOORS AND FRAMES.
 - 4. Section 05 05 53 - SECURITY METAL FASTENINGS.
- E. Windows Included in this section:
 - 1. Inmate Cell, Holding Cell, and Medical Observation Cell windows.
 - 2. Windows and sidelites with security glazing designated by an "SG" type in Section 08 88 53.
 - 3. Windows and sidelites with security bars or structural tubes in Type A, and Type B Security Walls, and Substantial Construction Walls.
 - 4. Windows with an opening width of 127mm (5") or less.

1.2 SUBMITTALS

- A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for detention windows.

- B. Shop Drawings: Include plans, elevations, sections, details, attachments to other work, and the following:
 - 1. Full-size section details of framing members, including detention bars.
 - 2. Location of weep holes.
 - 3. Glazing details.
 - C. Coordination Drawings: Drawings of each detention window opening, drawn to scale and coordinated with anchorages for detention windows. Show the following:
 - 1. Locations and installation details of embedded items for anchoring detention windows.
 - 2. Locations, dimensions, and profiles of detention bars and perimeter frames for detention windows.
 - 3. Elevations of each detention window type showing dimensions, locations, and preparations for anchorages.
 - 4. Details of each detention window type.
 - 5. Anchorages and accurate substrate conditions.
 - D. Samples for Verification: For each type of exposed finish required, prepared on 300-mm long sections of frame members.
 - 1. Samples of each type of exposed finish and each type of Security fastener.
 - E. Qualification Data: For Installer, Nationally Recognized Testing Laboratory.
 - F. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for each type of detention window.
 - G. Thermal-Performance Reports: Calculations based on referenced standard, performed by a qualified professional engineer or testing agency.
- 1.3 Products in this Section to meet:
- A. ASTM B117-07a - Standard Test Method of Salt Spray (Fog) Testing.
 - B. ASTM D1735-08 - Standard Practice for Testing Water Resistance of Coatings Using Water Fog Apparatus.
 - C. AWS D1.1 - Structural Welding Code: Steel.
 - D. NFPA 80 - Standard for Fire Doors and Fire Windows.

1.4 SYSTEM PERFORMANCE

A. Structural Performance: Hollow metal windows shall withstand the effects of wind loads determined as follows, with no permanent deformation or breakage within window assembly when tested according to ASTM E 330:

1. Basic Wind Speed: The A/E shall determine wind loads and resulting design pressures applicable to Project according to SEI/ASCE 7, "Minimum Design Loads for Buildings and Other Structures," Section 6.4.2, "Analytic Procedure," based on mean roof heights above grade as indicated on Drawings.
2. Window assemblies must comply with IBC Section 1714-Preconstruction Load Tests.

B. Air Infiltration and Water Resistance:

1. Air Infiltration: Window assemblies must comply with ASHRAE 90.1 referring to Fenestration and Doors. Window assemblies must comply with the National Fenestration Rating Council (NFRC) 400-2001-Procedure for Determining Fenestration Product Air Leakage.
 1. Air Infiltration for Fixed Windows: Not more than 0.093 L/s per m (0.060 cfm/ft.) of crack length at an inward test pressure of 75 Pa (1.56 lbf/sq. ft.) when tested according to ASTM E 283.
2. Water Resistance: No water penetration as defined in test method at an inward test pressure of 137 Pa (2.86 lbf/sq. ft.) when tested according to ASTM E 331.
3. Water Resistance: No water penetration while window is subjected to a continuous flow rate of 18.92 L/h-.09sm (5 U.S.gal. / h-ft²) and 4 cycles of 5 minutes at a static air pressure difference of 18.60 newtons / sm [12.50 psf = 70 mph (112.65 km / h)], when tested in accordance with ASTM E 547.
4. Submit testing laboratory reports for air infiltration and water resistance as described above.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An authorized representative of detention window manufacturer for installation of units required for this Project.
- B. Source Limitations: Obtain detention windows through one source from a single manufacturer.

- C. Testing Agency Qualifications: Accredited by NFRC for thermal-transmittance simulation and testing.
- D. Welding: Qualify procedures and personnel according to the following:
 - 1. AWS D1.1, "Structural Welding Code--Steel."
 - 2. AWS D1.2, "Structural Welding Code--Aluminum."
 - 3. AWS D1.3, "Structural Welding Code--Sheet Steel."
 - 4. AWS D1.6, "Structural Welding Code--Stainless Steel."
 - 5. Submit welding test reports.

1.6 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of detention windows that fail in materials or workmanship within specified warranty period. Failures include, but are not limited to, the following:
 - 1. Structural failures including deflections exceeding 6 mm.
 - 2. Failure of welds.
 - 3. Lateral deflection of glass lite edges in excess of 1/175 of their length or 19 mm, whichever is less.
 - 4. Excessive air or water leakage.
 - 5. Faulty operation of ventilators and hardware.
 - 6. Deterioration of metals, metal finishes, and other materials beyond normal weathering and detention use.
- B. Warranty Period: One (1) year from date of Substantial Completion.

1.7 MAINTENANCE TOOLS

- A. Tool Kit: Provide six sets of tools for use with security fasteners, each packaged in a compartmented kit configured for easy handling and storage.

1.8 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Security Fasteners: Furnish not less than 1 box for every 50 boxes or fraction thereof, of each type and size of security fastener installed.

PART 2 - PRODUCTS**2.1 MATERIALS**

- A. General: Provide detention windows that comply with performance requirements specified as determined by testing manufacturer's standard assemblies representing those indicated for this Project.
- B. Exterior detention window frames shall be manufactured from 12 gauge galvanized steel or 14 gauge stainless steel.
- C. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- D. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, CS (Commercial Steel), Type B; free of scale, pitting, or surface defects; pickled and oiled.
- E. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, CS (Commercial Steel), Type B.
- F. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, CS (Commercial Steel), Type B; with G90 zinc (galvanized) or A90 zinc-iron-alloy (galvannealed) coating designation.
- G. Cold-Rolled Stainless Steel Sheet: AISI Type 304, finish type 2B.
- H. Cast-in-Place Anchors in Concrete: Fabricated from corrosion-resistant materials capable of sustaining, without failure, a load equal to five (5) times the load imposed, as determined by testing per ASTM E 488, conducted by a qualified testing agency.
 - 1. Threaded or wedge type; galvanized ferrous castings, either ASTM A 27/A 27M cast steel or ASTM A 47/A 47M malleable iron. Provide bolts, washers, and shims as required; hot-dip galvanized per ASTM A 153/A 153M or ASTM F 2329.
- I. Embedded Plate Anchors: Fabricated from steel shapes and plates, minimum 4.8 mm (3/16 inch) thick; with minimum 12.7 mm (1/2-inch) diameter, headed studs welded to back of plate.
- J. Loose Glazing Stops:
 - 1. Pressed steel angle glazing stops shall be no less than 3.5 mm. Angle stops shall be mitered and tight-fitting at the corner joints.
 - 2. There shall be a 5 mm x 62 mm continuous backup plate spot-welded under the frame where loose glazing stops are to be attached.

Threaded Weld-Nuts for attaching glazing stops may be used in addition to, not in lieu of, the steel bar backer plate reinforcing.

3. The frame under the glazing stops and the inside of the glazing stop shall be chemically treated for maximum paint adhesion and painted with a rust-inhibitive primer prior to installation in the frame.
 4. Stops shall be secured with Torx-head tamper proof machine fasteners where security glazing is scheduled. Screws shall be 6 mm -20 x proper length. Locate fasteners not more than 50 mm from each end of glazing stop nor more than 150 mm o.c.
 5. Removable stops shall be on the side opposite the area of inmate confinement or where they are likely to be unsupervised.
- K. Design Requirements: Comply with structural-performance, air-infiltration, and water-penetration requirements indicated.
1. Testing: Test each type and size of detention window through a Nationally Recognized Testing Laboratory for compliance with specified performance requirements. Submit Test Reports.
- L. Forced-Entry for Security Glazing:
1. Tested according to ASTM F 1915. Minimum Security Grade 1 for type A security walls. Minimum Security Grade 2 for type B security walls.
 2. Provide continuous steel bar backer plate reinforcing 5 mm X 62 mm behind the window frame for glazing stops. Threaded Weld-Nuts may be used in addition to, but not in lieu of, the steel bar backer plate reinforcing.
- M. Forced-Entry & Ballistics for Security Window Frames and Security Glazing:
1. Tested according to ASTM F 1592-05, Grade 1 / UL 752. Security Frames shall be Security Grade to meet or exceed Security Glazing requirements in Section 08 88 53.
 2. Security Grades and testing requirements for glazing according to Section 08 88 53 for "SG" glazing types.
- N. Use one of the following vertical security bars or tubes:
1. Grade #1 composite tool-resistant steel, 7/8" diameter as defined and tested in accordance with ASTM A627. Submit a testing laboratory report. With a 50mm X 10mm (2" X 0.394") flat bar intermediate brace not to exceed 610mm (24") for openings greater than 1220mm (48").

2. 50mm X 50mm X 7mm (2" X 2" X 0.275") structural steel tube, with 50mm X 10mm (2" X 0.394") flat bar intermediate brace not to exceed 610mm (24") for openings greater than 1220mm (48").

- O. Design Characteristics: Structural performance, air infiltration for fixed windows, water penetration and thermal transmittance shall be designed for optimal performance in the geographic region of the project location. Verify calculated U-values by testing according to NFRC 100-C, performed by a qualified testing agency.

2.2 DETENTION SIDELITES

- A. Use door sidelites that are separated from the door frames by a minimum distance of 204mm (8").
- B. Door sidelites that are attached to detention door frames are to be reinforced with structural steel sections to maintain the strength and rigidity of the assembly.
- C. See Section 08 51 00 - 2.5. for additional detention door sidelite window requirements.

PART 3 - EXECUTION (Not used)

END OF SECTION 08 56 63

SECTION 08 71 63 – DETENTION DOOR HARDWARE**PART I: GENERAL INSTRUCTIONS TO DESIGN BUILDERS****PART 1 - GENERAL****1.1 SUMMARY****A. Section 08 71 63 is arranged in three (3) Parts:**

1. Part I: General Instructions to Design Builders.
2. Part II: Model Specifications for Editing.
3. Part III: Attachment D2 - Lock and Door Matrix.

B. Detention Hardware Requirements:

1. Most projects for the Federal Bureau of Prisons will require all of the products specified in this section. However, the specifier should review the MODEL SPECIFICATION to determine that the project does include all of these items. Delete any products that are not shown in schedules or on the drawings. Coordinate MODEL SPECIFICATION with the edited text and work shown on the drawings. Edit references listed to include only references that are used in this Specification.
2. All of the work specified in this section shall be the responsibility of one subcontractor, the Detention Equipment Contractor (DEC). Specification Sections should be edited to reflect this requirement.
3. It is the responsibility of the specifier to determine if each of the listed suppliers can produce products as specified in this section. Delete any manufacturers whose products are not specified in the edited section. Obtain approval of the Contracting Officer and the Chief, Armory and Lock Technology in Central Office before adding any alternates to this list. Only manual institutional lock sets and prison locks appearing on the list of MANUAL LOCKING MECHANISMS APPROVED FOR USE IN FBOP FACILITIES may be used in secure areas of FBOP facilities.
4. Continuity of Hardware Between Institutions on the Same Site.
 - a. This Section applies to the following door hardware:
 - 1) Series 10 and Series 80 Detention Locks.
 - 2) Electromechanical Locks.
 - 3) Mogul Locksets.
 - 4) Builders Hardware Locksets.
 - 5) Detention Hinges.
 - 6) Remote Controlled Sliding Doors and Grilles.

- b. Provide and install Builders Hardware, Detention Hardware, and Sliding Door/Grille devices with the same manufacturers and model numbers from existing institutions on any one site to the new institution(s) on the same site, or from a new institution(s) on any one site to another new institution(s) on the same site. This applies to institutions defined as one of the following:
 - 1) Low Security Federal Correctional Institution.
 - 2) Medium Security Federal Correctional Institution.
 - 3) High Security United States Penitentiary.
 - 4) Federal Prison Camp - Male or Female.
 - 5) Federal Prison Work Camp.
 - c. If a hardware manufacturer, hardware model number, or sliding door/grille manufacturer is no longer available, the Chief of Lockshop and Armory shall make a selection from available, equivalent products.
- 5. Monitoring requirements for all electrically operated hardware sets, sliding doors and grilles must be coordinated with the FBOP Division 27 Model Documents.
- 6. See Section 08 34 63 for information on doors and frames furnished by the Government and installed by the contractor.
- 7. All door hardware and components that are part of a door assembly shall comply with the Buy American Act.

1.2 SYSTEMS DESCRIPTIONS

A. Use of Lever Hardware:

- 1. Lever hardware shall be used to accommodate accessibility requirements of the Architectural Barriers Act (ABA). Lever hardware shall be used in doors in all areas where there is movement of inmates without assistance or supervision of FBOP staff. Levers should be used on all accessible inmate cells that are not locked with paracentric prison locks, single fixture toilet rooms, and all doors located on the accessible route as defined by the Architectural Barriers Act (ABA), Chapter 4. All areas that are accessible to the general public, such as inmate visitation, main entry to the institution and public toilet rooms must also have lever hardware.
- 2. Where heavy duty mortise locks with mogul cylinders are used with ANSI F-14 function, the function shall be modified as follows: latchbolt retracted by both levers unless locked by key either side. Deadbolt thrown/retracted by key either side. When deadbolt is in locked position, levers are fixed. Latchbolt retracted by key either side.

B. Exits and Exit Devices:

1. Exits shall be keyed both sides. Note the following exceptions:
 - a. Entrances and exterior stair exits in General Housing Units.
 - b. Entrances and exterior stair exits in Special Housing Units.
 - c. Emergency Rescue Doors.
2. Fire exit hardware and panic hardware shall not be utilized within the Secure Perimeter.

C. Frames:

1. Hollow metal frames for all doors inside the Secure Perimeter shall be a minimum thickness of 12-gauge.
2. Hollow metal frames outside the secure perimeter shall be a minimum thickness of 14-gauge except for spaces designated as secure (type A or B) construction which will require a minimum thickness of 12-gauge.

D. Hinges:

1. All detention grade doors (HMMA 863) that are 915 mm (36") or wider shall have at least four (4) hinges.
2. All hinges shall meet the requirements of ASTM F1758 (Grade 2).

E. Use of Builder's Hardware:

1. The Lock/Door Matrix in this section outlines the requirements for the use of security and detention hardware in FBOP facilities. For conditions that are not Type A or B secure construction, Grade 1 builder's hardware conforming to ANSI A156 shall be used unless specified otherwise.
2. Some Builder's Hardware sets have special security features that need to meet the Bureau of Prisons requirements, and are included in the Door and Hardware Security Matrix attachment at the end of this Section.

F. Hardware Related Code Variances:

1. It is the intent of the Federal Bureau of Prisons to comply with all applicable codes. Under certain conditions, the FBOP as the Authority Having Jurisdiction has granted variances to the NFPA 101 Life Safety Code requirements due to the unique operational conditions of a FBOP facility. Refer to Section 01 41 00 for variances currently in effect.

G. Door and Hardware Security Matrix:

1. The Matrix is located in Attachment D2 at the end of this Section.

PART 2 - PRODUCTS (Not used)

PART 3 - EXECUTION (Not used)

SECTION 08 71 63 – DETENTION DOOR HARDWARE**PART II: MODEL SPECIFICATION FOR EDITING****PART 1 - GENERAL****1.1 SUMMARY**

- A. The following are Related Sections and Standards:
 - 1. 01 11 00 – SUMMARY OF WORK
 - 2. 08 11 13 - COMMERCIAL HOLLOW METAL DOORS AND FRAMES.
 - 3. 08 14 16 - FLUSH WOOD DOORS.
 - 4. 08 71 00 - COMMERCIAL DOOR HARDWARE.
 - 5. 08 34 63 - DETENTION HOLLOW METAL DOORS AND FRAMES.
 - 6. AIA A305 — Contractor's Qualification Statement.
 - 7. ANSI/BHMA A156 — Hardware Standards.
 - 8. ANSI/BHMA A156.18 — Materials and Finishes.
 - 9. S D1.1 — Structural Welding Code Steel.
 - 10. MA 861, 862, 863 — Minimum Standards.
 - 11. ASTM F1577-05 — Standard Test Methods for Detention Locks for Swinging Doors.
 - 12. ASTM F1758-05 — Detention Hinges.
 - 13. ASTM F1450-05 — Hollow Metal Swinging Door Assemblies for Detention Facilities.
- B. Work under this section includes labor, materials, equipment, transportation, and services necessary to furnish and install detention hardware and door lock control systems, and shall include the following items:
 - 1. Embedded items such as weld plates and embedded frames.
 - 2. Detention hardware, keys, and accessories.
 - 3. Door control relay cabinets and interconnecting wires between the controlled and monitored doors and relay cabinets.
 - 4. Input/output terminal strips for interface to central processing equipment.

1.2 SYSTEM DESCRIPTION

- A. Provide detention door hardware as part of a detention door assembly that complies with the security grade indicated, when tested according to ASTM 1450.
- B. Bullet resistance: comply with Level 3 when tested according to UL 752.
- C. Tool-Attack-Resistance: comply with small-tool-attack-resistance rating when tested according to UL 1034 and UL 437.

1.3 SUBMITTALS

- A. Shop Drawings: Show quantities, types, and locations. Construction shall be fully detailed, showing weights of material, finish, framing, reinforcing, and anchoring of detention hardware.
- B. Operation/Maintenance Manuals: Furnish two (2) copies of parts catalog, maintenance, and operating manuals for detention hardware and door lock control system. These manuals shall be precisely expressed, clear, and specific.
- C. Templates: Promptly provide the hardware manufacturer's templates to the hollow metal door and frame manufacturers.
- D. Submit Operating and Maintenance Data:
 - 1. Wiring Diagrams: Furnish complete reproducible copies of as-installed single-line electrical wiring diagrams for gate operating systems, locking devices, and monitoring systems.
 - 2. Maintenance manuals, including:
 - a. Parts list of replaceable parts, including manufacturer's part numbers.
 - b. Lubrication requirements.
 - c. Complete information covering items of equipment and operation, including adjustment instructions for variable controls.
- E. Test reports for ASTM F1450, F1577 and F1758.
- F. C-14 (modified ANSI F-14 function) Mortise Lockset sample - Provide one operating lockset with trim, cylinders, and key, mounted in a 305 X 305 door panel. Deliver sample to the Bureau of Prisons Chief, Armory and Lock Technology in Central Office Washington, DC for approval. Notify the FBOP Project Construction Representative and the FBOP Project Manager by sending them a copy of the transmittal.

1.4 QUALITY ASSURANCE

- A. Installer and Suppliers Qualifications: The Detention Equipment Subcontractor shall submit all qualifications of experience to the Contracting Officer, and a properly executed Contractor's Qualification Statement on AIA Document A305.
- B. Acceptable Installation: The detention equipment subcontractor will provide a "turnkey" package with a single source of responsibility for the following sections:

1. Security metal doors and frames.
 2. Detention hardware.
 3. Security glazing.
 4. Detention equipment.
 5. Security fasteners.
 6. Security access doors.
- C. Provide factory-trained representatives for a minimum of five (5) consecutive working days to demonstrate equipment and instruct Contracting Officer's designated personnel in operation, repair, and maintenance of detention hardware and door lock control system.
- D. Provide a certified manufacturers representative to perform a minimum of two intermediate and one final inspection to verify proper installation of hardware. Copies of the intermediate and final inspection reports will be forwarded to the BOP within 14 calendar day of the inspections.
- E. Prior to the project's Final Acceptance, provided four (4) hours of operation and maintenance training on mogul cylinders. All training is be performed by a certified manufactures representative.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Detention Door and Frame Delivery and Storage: Shall be shipped individually packed. Frames shall be shipped with angle spreaders at door opening bottoms. Store doors and frames on building site, in an upright position, under cover, on wood sills or floors and in a manner that prevents rust or damage and meets HMMA 863-04 standards. Ventilate canvas or plastic covers to prevent moisture traps. Refer to Section 08 34 63 for additional requirements.
- B. Packing and Marking: Each item of detention hardware shall be packaged and marked according to set numbers on the approved hardware schedule. Shipping cartons shall be marked "Security Hardware."

1.6 WARRANTY

- A. Warranty: The subcontractor shall warrant his material and workmanship for a period of one (1) year from date of Project Substantial Completion. The subcontractor agrees to repair or replace any defective materials and to correct any defective security work when given written notice by the Contracting Officer during this warranty period. The subcontractor also agrees to respond to these notices within five (5) calendar days and make all repairs as required for proper operation during this warranty period.

- B. Provide certification that detention locks utilized on swing doors have been tested to meet all the requirements of ASTM F1577-96.
- C. Provide certification that lock cylinders on sliding doors have been tested to meet the cylinder test requirements of ASTM F1577-96.

1.7 SPARE PARTS

- A. Deliver the following spare parts to the jobsite prior to project closeout:
 - 1. Fifty (50) Series-80 prison locks and keys as applicable to the project:
 - a. Folger Adam #82-6, #86-6.
 - b. Southern Steel Co #1080T6-1, #1080T6-2.
 - c. Airteq #5086 K-1, K-2.
 - d. Brink #7082, #7086.
 - 2. Fifty (50) Series-10 prison locks and keys as applicable to the project:
 - a. Folger Adam #12-6, #16-6.
 - b. Southern Steel Co #1010T6, #1/1010T6-2.
 - c. Airteq #5016 K-1, K-2.
 - d. Brink #7012, #7016.

PART 2 - PRODUCTS

2.1 MATERIALS- DETENTION HARDWARE

- A. Furnish detention hardware, conduit system, wiring, and accessories for a complete security system to function properly as specified. Furnish templates of hardware if required by other contractors. Security hardware and accessories shall be furnished for a complete security system to properly function as specified. Wiring diagrams of electric locks, door position switches, and other related electrically operated equipment shall be furnished to the contractor for his use. Security fasteners shall comply with the requirements of Section 05 05 53.
- B. System Description: Design electrical locks, except as noted otherwise, to retract the latchbolt by either solenoid operation for exterior doors or by motor operation for interior doors. Exterior doors are to receive galvanized locks.

1. Electric locks for swinging doors shall automatically retract the latchbolt on opening the door and automatically deadlock on closing, except for doors used for emergency egress.
2. Electric locks shall have a mechanical override feature by means of a paracentric or mogul key at the door.
3. Doors with electric locks shall have a door position switch to indicate the open or closed position of the door and a heavy-duty door closer.
4. Electrical doors, door position switches, keeper switches, and locking accessories shall have color-coded wires and a set of miniature cable plug connectors.

C. Contractor's Temporary Detention Locks and Keys

1. The FBOP will not provide detention lock keys to the Contractor and Subcontractors for access to the facility during construction.
2. The Contractor shall use temporary detention locks with keys in the facility during construction where access is required by the Contractor and Subcontractors for the purpose of work progress and storage of materials.
3. Temporary detention locks and keys shall be provided by the Contractor at their expense and are the property of the Contractor. The Contractor shall determine which doors in the project will get temporary detention locks installed.
4. Prior to Substantial Completion inspections the temporary locks shall be removed by the Contractor and the permanent FBOP detention locks shall be installed, tested, and adjusted by the Contractor.

D. Keying and Key Control:

1. Continuity of Hardware Keying Between Institutions on the Same Site.
 - a. New keying shall match existing systems and be an extension of the existing facility keying. New keying must be guaranteed free from unwanted interchange, and will not cause interchange in existing keying. Modification of another manufacturers key section to match existing is not acceptable.
2. Locksets shall be keyed individually or keyed alike in groups or sets. Furnish twelve (12) each keys for locks keyed individually or groups of locks keyed alike. Keying schedule shall be provided by Federal Bureau of Prisons.
3. Delivery of Keys: Manufacturer shall tag keys according to their corresponding locks and deliver directly to the Contracting Officer or his/her authorized representative and obtain signed receipt for same.
4. Paracentric keyways assigned to this project shall be dedicated for use only by the FBOP and as approved by the Federal Bureau of Prisons' Supervisory Security Specialist.

5. Mogul cylinders used on this project shall have a patented design with a keyway sidebar dedicated for use only by the FBOP and as approved by the Federal Bureau of Prisons Supervisory Security Specialist. The FBOP shall be given exclusive use of the keyway and sidebar design based on a written agreement with the patent holder. Where ASSA mogul cylinders are used, C-35 sidebars shall be provided.
 6. Do not inscribe key with number of lock, cylinder identification or manufacturer's key symbol. Inscribe key with notation, "U.S. GOVERNMENT, DO NOT DUPLICATE." Deliver keys to Contracting Officer.
- E. Manufacturers named are for the purpose of listing manufacturers accepted by BOP. However, these do not prohibit the use of other manufacturers' products that meet or exceed these specifications. Manufacturers' products, other than those listed here, require pre-approval prior to the Request for Proposal (RFP) Best and Final Offer (BAFO) by the Contracting Officer and the Bureau's Chief, Armory & Lock Technology Section in Central Office. Security hardware applicable for all security levels:
1. Institutional Hinge — Folger Adam #4-1/2 FM ICS, Southern Steel Co #204 FM SS (Security Hollow Metal Door Hinge - with security studs):
 - a. Each hinge shall be 112 mm x 112 mm (4.4" x 4.4") with 4.7 mm (0.188") thick leaves. Hinge leaves shall be investment cast from 304 stainless steel having a tensile strength of not less than 0.089 MPa (0.01 ksi) of cross-section.
 - b. Hinge pins shall be stainless steel. Hinge pin shall be fully concealed, non-removable. Hinge pins held in place with set screws are not acceptable.
 - c. Entire assembly shall be cross-pinned at assembly.
 - d. Hinges shall be finished US32, US32D, or USP-PRIMED, as called for in the hardware schedule.
 - e. Hinges shall be mounted pinned Torx style heads of appropriate size and length.
 2. Institutional Hinge for Gates — Folger Adam #5 Southern Steel Co #205 (Grille Door Hinge, Sallyport, and the Compound Central Guard Tower Pedestrian Gate Hinge):
 - a. Hinge shall be heavy-duty drop-forged steel, with two (2) concealed thrust bearings with 25 mm (1") diameter balls. Knurled, hardened hinge pin is flush-fitted to prevent tampering and machined to provide an oil hole for lubrication. Hinges feature 50 mm (2") thick drop-forged steel leaves, and shall have an overall dimension of 125 mm x 175 mm (5" x 7").

- b. Grille Door Hinges shall be mounted security-type screws with flush break-off style heads of appropriate size and length.
 - c. Sallyport and Guard Tower 7 Pedestrian Gate Hinges shall be zinc plated and have welded attachment to gate and fence post, two hinges for a 2135 mm high gate. Touch up galvanized surfaces after welding with the following:
 - d. Water-based, zinc-rich galvanizing compound containing no Volatile Organic Compound (VOC), metallic content of 90% or greater.
- 3. Pedestrian Swing Gate Hinge and Vehicle Swing Gate Hinge- Heavy duty machined and welded round body or square body gate barrel type, weld-on hinges. (also for chainlink swing gates at the Loading Dock, at the Fire Loop Road access and slow-down fences, and chainlink control gates inside and outside the Secure Perimeter).
 - a. Hinges shall be 127 mm X 25 mm (5" X 1") round body or 152 mm X 38 mm (6" X 1 ½") square body barrel type hinge having the following:
 - 1) Grease fitting.
 - 2) 16 mm (5/8") stainless steel pin.
 - 3) Concealed thrust steel Ball Bearings, and Bushings.
 - 4) Factory applied zinc plating or galvanizing.
 - 5) Minimum capacity 272 kg (600 lbs) per pair of hinges.
 - 6) A weld plate for post and gate mounting (Round Body Hinges).
 - b. Mount one hinge on each leaf in the opposite direction of the other hinge so that the gate cannot be removed by lifting it off the hinges.
- 4. Institutional Hinge — Folger Adam #3, Southern Steel Co #203 FS (Security Access Panel, Food Pass Hinge):
 - a. Hinge shall be heavy-duty 10 mm (0.4") malleable iron, featuring two (2) concealed thrust bearings. 50 mm (2") knurled and hardened pin fitted flush to prevent removal. Overall dimension shall be 75 mm x 100 mm (3" x 4").
 - b. In lieu of above, a continuous piano hinge may be used for food pass hinge.

5. Door Pull — P/P X US32D (e.g., Sallyport Door):
 - a. Builders brass #290-3. Back-to-back mounting when two (2) push/pulls are specified.
6. Door Pull — Folger Adam #2, Southern Steel Co #212B (e.g., Special Housing Unit Cell Doors):
 - a. Material: Manganese bronze; finish shall be approximately US32D.
 - b. Two (2) 10 mm — 16 mm x 20 mm oval head spanner screws furnished for attaching; attachment holes are 195 mm (7.7") center to center; overall length 215 mm (8.5"); hand hold, 112 mm (4.4") long; clearance between grip and door, 40 mm (1.6").
 - c. For pairs of doors, do not provide two "D-pulls" adjacent to each other on the same side of the doors.
 - 1) Either provide one door leaf with a "D-pull" and the other door leaf with an flush pull on the same side.
 - 2) Or provide both door leafs with flush pulls on the same side.
7. Flush Pull — Folger Adam #4, Southern Steel Co #214S (e.g., Sallyport Door, Plumbing Chase Door):
 - a. Material: Manganese bronze; finish shall be approximately US32D.
 - b. Dimensions: 100 mm x 125 mm (4" x 5"); pocket setback, 100 mm (4").
 - c. Four (4) 25 mm — 20 mm x 8 mm pinned Torx screws furnished for attaching.
8. Escutcheon — Folger Adam #1, Southern Steel Co #218-1:
 - a. Material: Manganese bronze; finish shall be approximately US32D.
 - b. Size: 75 mm (3") diameter, 3 mm (0.1") thick.
 - c. Fasteners: Two (2) 25 mm — 20 mm x 8 mm pinned Torx screws.
 - d. Provide one-way escutcheon for sliding doors; Provide two-way escutcheon for swinging doors.
 - e. Escutcheons prep for Lock Plate side of door shall be by the Lock and Lock Plate manufacturer. Escutcheons installed by the DEC.
 - f. Escutcheon prep for door side shall have 4.5 mm backer plate for field installation of the escutcheons. Drilled and tapped by the DEC, and escutcheons installed by the DEC.
9. Keeper — Folger Adam #80-4C, Southern Steel Co #4C:

- a. Material: 5 mm steel face plate with 1-mm thick steel back box.
 - b. Attach with 25 mm x 20 x 12 mm flat head security screws.
- 10. Cylinder Shield — Folger Adam #2CS, Southern Steel Co #219:
 - a. Made from corrosion-resistant stainless steel and aluminum, the cylinder shield is designed to protect lock cylinders on exterior doors against snow, sand, or other foreign matter. Unit includes a Folger Adam #1, Southern Steel Co #218 escutcheon.
- 11. Cremone Bolt Set — Folger Adam #3800HM, Southern Steel Co. 10380 series:
 - a. Set for each door shall consist of three-point locking by the use of head and foot bolts and a deadlock for center locking. Head and foot bolts shall be 22 mm diameter hardened steel. These bolts shall be operated by the use of a lever handle. Throw for head and foot bolt shall be a minimum of 20 mm. Receptacle for foot bolt shall be self-closing.
- 12. Deadlock - Folger Adam #82-6/#86-6, Southern Steel Co #1080T6-1/1080T6-2:
 - a. The lock case shall be made of drop-forged steel, or stamped case and cover of punched and formed 7mm (1/4") hot rolled steel plate - galvanized. The lock size shall be 140 mm x 95 mm x 38 mm (5.5" x 3.7" x 1.5"). The bolt size shall be not less than 19 mm x 50 mm milled from a solid cold-finished steel bar. Slide to be integral with bolt. Each bolt to have three (3) hardened tool steel inserts not less than 6 mm diameter, inserted into blind holes from the inside of lock. Inserts shall fill holes loosely so that they will turn against action of saws. The throw bolt shall be not less than 19 mm and shall be made of proper length to come flush with door edge when retracted.
 - b. The lock shall be keyed one side or two sides and shall have six (6) spring-tempered hard brass tumblers with notched ends. Each tumbler shall be activated by a flat phosphor bronze spring.
 - c. The lock cylinder shall be made of polished alloy bronze having both hardness and tensile strength equal to mild steel. The cylinder shall extend 12.5 mm (1/2") beyond case and shall be grooved to match and guide similar grooves in key.
 - d. Provide mortise bolt keeper/strike with dustbox and mounting screws, Southern Steel 4C or Folger Adam 80-4DB.

- e. Locks shall pass the following pressure tests which are required by the Federal Bureau of Prisons, test once at the factory and test again after field installation: This test consist of applying 667 N (150 lb) to the lock bolt in the locked position [this is equivalent to applying a load of 1334 N (300 lbs) to the center of the door]. Pressure shall be applied to the center, top, and bottom of the lock bolt equally using a portable air compressor driven, pneumatic side load tester (see attachment D-1), with a calibrated pressure gauge that reads the actual pounds of pressure applied to the lock bolt. After pneumatically applying pressure to the lock bolt in the locked position, the lock must be opened once with a key from both sides of the door if keyed two sides. Pressure shall be applied to both sides of the lock and lock bolt for the factory tests. Pressure shall be applied to lock bolt opposing the direction of the door swing, opposite the hinge side for the field tests. If any lock fails the test, that lock shall be replaced with a lock that does meet the required test at no cost to the Government. Portable pneumatic side load tester shall be provided by the lock manufacturer to the FBOP site staff for the field testing as described below.
 - 1) Specification for Pneumatic Operated Bolt Side Load Tester (Airteq Model #PBT-1 or approved equal): Lock Tester shall facilitate testing criteria on Mechanical Prison Grade Dead Bolt Locks. See Attachment D1.
 - 2) Lock Tester shall introduce 667 N (150 lb) to the lock bolt in the locked position. This is equivalent to applying a load of 1334 N (300 lbs) to the center of the door. Pressure shall be applied to the center, top, and bottom of the lock equally using a portable air compressor driven pneumatic side load tester with a calibrated pressure gauge that reads the actual pounds of pressure applied to the lock bolt. After pneumatically applying pressure to the lock bolt in the locked position, the lock must be opened once with a key from both sides of the door if keyed two sides. Pressure shall be applied to the lock bolt opposing the direction of the door swing, opposite the hinge side.
13. Mechanical Deadlocks — Folger Adam #12-6 and #16-6, Southern Steel Co #1010T6-1/1010T6-2:
- a. The lock case shall be made of drop-forged steel, or stamped case and cover of punched and formed 7mm (1/4") hot rolled steel plate - galvanized. The lock size shall be 105 mm x 75 mm x 21 mm (4.1" x 3" x 0.8"). The bolt size shall be not less than 19 mm x 38 mm milled from a high-strength bronze or hardened

steel. Slide to be integral with bolt. The throw bolt shall be not less than 16 mm and shall be made of proper length to come flush with door edge when retracted. When used as a foot bolt, provide a bolt throw of 31mm.

- b. The locks shall be keyed one side or two sides and shall have six (6) spring-tempered hard brass tumblers with notched ends. Each tumbler shall be activated by a flat phosphor bronze spring.
- c. The lock cylinder shall be made of polished alloy bronze having both hardness and tensile strength equal to mild steel. The cylinder shall extend 12.5 mm beyond case and shall be grooved to match and guide similar grooves in key.

14. Prison Lock — Folger Adam #32D/#36D SSSCo #:1030D-1 / #1030D-2:

- a. A lever tumbler deadlatch for sliding doors. Deadlocks when door is closed by key and unlocks by key. Malleable iron case and steel cover. Latchbolt (hook style) — hardened steel. Deadlock activator — solid steel. Six (6) lever tumblers made of spring-tempered brass, activated by heavy-phosphor bronze springs. Key cylinder, one piece, bronze alloy with paracentric keying. Bolt size 12.5 mm thick; bolt lift 15 mm. Model 32D keyed one side; Model 36D keyed two sides.

15. Lock Mount — Folger Adam #HM, Southern Steel Co #HM:

- a. Prison locks on all hollow metal doors shall be mounted with Folger Adam lock mounting HM or equal. Provide lock mounting plates for interior doors with paintable red-oxide finish only. Provide lock mounting plates for exterior doors and other doors that are galvanized with a paintable galvanized finish. The lock shall be attached to the mounting plate with four (4) flat head spanner screws. The protruding ends of the screws shall be ground smooth and flush with the surface of the plate, which shall be made of 5 mm x 175 mm x 250 mm (0.2" x 7" x 10") hot-rolled, pickled, and oiled steel, and shall be attached to door by eight (8) 6 mm — 20 x 12.5 mm flat twist-off head security screws. Edges of plate shall be neatly and uniformly beveled. Provide a Folger Adam #1, Southern Steel Co #218-1 escutcheon. The pocket for the lock and the framing for attaching the No. HM mounting shall be provided by the door manufacturer. The mounting plate shall fit flush with the face sheet of the door. Framing shall be 3 mm thick steel channel, formed or rolled.

16. Lock Mount — Folger Adam #P, Southern Steel Co #P:

- a. Pressed and welded 5 mm steel cover plate.
 - b. Attached to the gate by means of flat twist-off head security screws.
 - c. Required at chain link swinging gates with manually operated locks, SHU outside recreation doors and GH shower doors.
 - d. Plates shall be galvanized finish.
 - e. Provide a Folger Adam #1, Southern Steel Co #218-1 escutcheon.
17. Lock Mount — Folger Adam #G, Southern Steel Co #G:
- a. Pressed and welded 5 mm steel housing.
 - b. Attached to the grille door by welding to horizontal grating bars.
 - c. Cover plate 5 mm steel attached to housing by security screws.
 - d. Finish shall be USP or galvanized if used on at exterior doors.
 - e. Provide a Folger Adam #1, Southern Steel Co #218-1 escutcheon.
18. Heavy-Duty Pin Tumbler Mortise Lock with Mogul Cylinder — Southern Steel Co, 10514-1/10514-2:
- a. Keyed one side or two sides; lever set operates the latch bolt; deadbolt is controlled by key. Cast alloy case and cover; alloy bronze or stainless steel deadbolt with two (2) hardened steel inserts.
 - b. Heavy-duty mogul cylinders with five (5) stainless steel pin tumblers. Tumbler engagement by stainless steel balls; solid brass knobs and roses. Where ASSA mogul cylinders shall be used, C-35 sidebars shall be provided - see Section 2.2.D.
19. Door Position Switches:
- a. DPS's utilized on chain link gates shall be Folger Adam #524, Southern Steel Co #200 (MRS) or equal.
 - b. The case shall be formed of 3.5 mm thick steel. The top of the box shall be sloped to prevent hiding of contraband. The cover shall be securely fixed in place with pinned Torx screws.
 - c. DPS's utilized for all other type of doors and gates shall be a magnetic reed switch type. Southern Steel Co #200MRS TB or equal.
 - d. Provide, where indicated on the Security Hardware Schedule, a door position switch to provide the following function: When door is ajar or open, a circuit shall be completed (or interrupted) by the

switch contained therein, said circuit to activate (or deactivate) a warning device.

- e. It shall be adjustable so that, when installed, it can complete the circuit before the door is opened far enough to provide vision from the room into the corridor. Where required, it shall operate in conjunction with limit switches in an electro mechanical lock so that the warning device may be activated by either or both.

20. Head and Foot Bolts:

- a. Folger Adam 105HM with foot bolt receptacle 105-FBR or approved equal.

21. Electromechanical Locks:

- a. Electro-mechanical Motorized Lock (M-50) - Southern Steel or Folger Adam 50 series locks. Keyed one side or two sides. Provide with six lever tumblers. Provide with a continuous motor with a two position cam and limit switches for ½ cycle operation to allow the latch bolt to be held retracted with momentary switches in the control center. Provide with separate indication switches to monitor the dead lock and latch bolt. Provide with the no-notch feature so the latch bolt will extend when the motor is energized a second time, regardless of the position of the door. Provide a door position switch for the door.
- b. Electro-mechanical Solenoid Lock (E-50) Southern Steel or Folger Adam 50 series locks. Keyed one side or two sides. Provide with six lever tumblers. Provide with a continuous duty solenoid. Provide with separate indication switches to monitor the dead lock and latch bolt. Provide with the no-notch feature so the latch bolt will extend when the motor is energized a second time, regardless of the position of the door. Provide a door position switch for the door.
- c. Electromechanical Solenoid Gate Lock (E-800) Southern Steel Co #1050DS series or Folger Adam 800 series locks. Keyed one side or two sides. Provide with six lever tumblers. Provide with a continuous duty solenoid. Provide with an indication switch to monitor the deadlock and door position switch for the gate.

22. Electrically Operated Deadlatch Device- Solenoid operated deadlatch with builders hardware cylinder, medium security, Folger Adam NS400E series or approved equal.

23. Electro-mechanical Motorized Lock (M 120) Folger Adam or Southern Steel Co 120 series locks. Keyed one side or two sides. Provide with

six lever tumblers. Provide with a continuous motor with a two position cam and limit switches for ½ cycle operation to allow the latch bolt to be held retracted with momentary switches in the control center. Provide with separate indication switches to monitor the dead lock and roller bolt. Provide with the no-notch feature so the latch bolt will extend when the motor is energized a second time, regardless of the position of the door. Provide a door position switch for the door.

24. Vehicle Sliding Gate Operator – Tymetal Corp Type “PLUSS”:

- a. System Function: System is designed to operate overhead chain link fence sliding gate panel. When device is in the closed position, it shall be impossible to move the gate to the open position except by electrical or mechanical operations provided. Keyless locking to be accomplished by means of a three point mechanical locking column. Gate shall move from the completely opened position to the completely closed and locked position at a rate of 9 m (30') per minute. Gate operator shall be manufactured in accordance with Underwriters Laboratories standards and shall bear the U.L. listed label. Gate System Motor: Motors shall be 1 HP 208 Volt 3 Phase by a nationally recognized manufacturer. Motors shall be protected against overload, either by thermal or a current sensing overload device. The self-enclosed gear-head gearbox shall be manufactured as a single unit, and shall consist of a hardened steel machine cut worm and mating bronze gear running in oil bath. Oil shall be #634 specialty oil with a fluid pour point of -44 degrees F. The gearbox shall perform the following functions: adjustable clutching device and manual disconnect by crank handle. Gearbox Heater: a 110 Volt electrical service shall provide power to the thermostat controlling the internal gearbox heater. Controller shall house all of the required gate logic components including; relays, limit switches and motor starters with overloads all within a NEMA 4 enclosure. For manual operation, a crank handle located in the motor box shall provide a two-step engagement procedure. Open motor box, fold out handle located at ground level and crank the gate open or closed. The control circuit shall be 24 VAC power. The operator shall be equipped with an integral limit system that provides accurate settings to control the open and close positions of the gate and shall not be affected by manual operation or motor removal. Audio Alarm: When a command is recognized by the motor controller this alarm is activated 3-seconds before the motor is energized and the gate starts to move. This is continuously activated while the gate is in motion.

- b. Motor Housing: Motor Housing shall be water resistant. Motor box shall be constructed of 10 gauge galvanized steel located at ground level for maintenance. Motor box shall have detention hinges and pinned Torx security screws. Motor box shall be locked with a prison lock. Provide three (3) paracentric keys per key code.
- c. System Components: For openings up to 24' (7.3m), overhead track shall consist of two 8" (203mm) structural steel channels joined together as shown on the detail drawings, weighing a minimum of 33 lbs/lf (49kg/m). For openings from 25'-30' (7.6 – 9.1m), overhead track shall consist of two 10" (254mm) structural steel channels joined together as shown on the drawings, weighing a minimum of 37 lbs./lf (55kg/m). Trolleys shall be heavy duty and shall be milled from a single block of hardened stainless steel using two (2) sealed ball bearings per wheel, 6 wheels per trolley. Full embedment beam shall consist of a 76 mm X 2.6 kg (3" X 5.7 lb.) galvanized steel I-beam across the entire area of gate travel installed flush with the roadway surface with welded steel guides. Vertical support posts shall consist of two (2) sets (four (4) posts) of support posts, and one motor box support post, of 100 mm (4") OD galvanized steel weighing a minimum of 9.7 kg/m 6.5 lb/ft in accordance with ASTM F 1043. The locking column is constructed of a 127mm x 24kg/m (W 5 x 16lbs/ft) H" beam width removable 12 gauge steel cover, secured with security screws. Three locking tangs to be affixed to the leading edge of the gate panel to provide positive locking into the locking column. Openings in the locking column shall be completely closed when the gate is in the open position. Drive chain shall be #60 roller chain in a rack and pinion system. Gate guide angle shall consist of a 64 mm x 38 mm x 6 mm (2.5" x 1.5" x 0.24") steel angle attached to the bottom of the gate panel running its full length. Provide a limit switch that is electrically "closed when the sliding door is fully open. Division 27 shall monitor the switch and provide indication on the control panel. Coordinate with Division 27.
- d. Submittals – Shop Drawings: Show relationship of system with other work; include details of all major components. Include a parts list showing the manufacturers' names and part numbers for the complete installation. Show all switches, controls, motors and other electrical components. Include wiring diagrams of the complete system as proposed to be installed.
- e. Finish: Entire mechanism except the track rollers, and drive train mechanism shall be hot-dip galvanized.
- f. System Test:

- 1) Preparation: Have the Company Field Advisor adjust the completed system, and then operate it long enough to ensure that it is performing properly.
 - 2) Run a preliminary test for the purpose of:
 - a) Determining whether the system is in a suitable condition to conduct the acceptance test.
 - b) Checking and adjusting equipment.
 - 3) Preparation: Notify the FBOP Project Representative at least 3 working days prior to the test so arrangements can be made to have a facility representative witness the acceptance test.
 - 4) Supply all equipment necessary for system adjustment and testing.
 - 5) Submit a written report of the test results signed by a Company Field Advisor and the Contractor's Representative.
- g. Operation and Maintenance Data: Deliver two (2) copies, covering the installed products, to the Contracting Officer. Include name, address, and telephone number of nearest fully equipped service organization.
- h. Installation: Install the equipment in accordance with the company's printed instructions unless otherwise shown.
25. Remote Controlled Sliding Door Locking Device — Folger Adam Type D (High Security Corridor Doors and Pedestrian gate to compound adjacent to visiting):
- a. Components and Housing:
 - 1) All motors shall be 1/4 HP, 208 VAC, 60 Hz, as manufactured by a nationally recognized manufacturer. This motor shall be protected by a thermal cutout.
 - 2) All roller chain drives shall be #41 size.
 - 3) Hanger guides shall be 6 mm thick steel plate and shall interlock with track support with a clearance of not more than 6 mm (0.24").
 - 4) Hanger support rollers shall be trimmed from solid steel 95 mm O.D. grooved 9 mm deep. Rollers shall have anti-friction ball bearings with double grease shields. Roller studs shall be high alloy treated steel with eccentric bushing for adjustment of the door.
 - 5) The horizontal mechanism housing shall be 5 mm mild steel plate. Housing covers shall be 3.5 mm thick sheet steel with openings baffled.

- 6) The vertical lock bar housing and cover shall be 4.5 mm thick sheet steel.
- 7) The vertical lock bar cover shall be removable only when the horizontal cover has been removed.
- 8) The emergency release cabinet shall be located at the point of the door.
- 9) Provide a limit switch that is electrically 'closed' when the sliding door is fully open. Division 27 shall monitor the switch and provide indication on the control panel. Coordinate with Division 27.

b. Functions:

- 1) The mechanism shall open or close a 600 mm (23.6") door in not more than five (5) seconds.
- 2) Normal force exerted by a door in travel is approximately 18 kg (40 lbs). This force shall be field-adjustable by the use of a clutch.
- 3) Device shall hold preset pressure on door at all times of operation regardless of voltage setting.
- 4) In the event the door is blocked, the door shall automatically continue to the open or closed position when the obstruction is removed.
- 5) The locking device shall be designed so that there will be no projecting lugs on the receiving column, or leading edge of door. Door shall automatically deadlock closed at two (2) points at the rear of the door. Door shall also automatically deadlock in the open position.
- 6) Manual emergency locking, unlocking, and operation shall be accomplished by crank located in locking pilaster at the point of door. Cover manual release shall be secured with a Folger Adam #82-6 series lock.
- 7) Maximum door weight, standard construction, is 225 kg (496 lbs). A door over 1500 mm (59") wide or heavier than 225 kg (496 lbs) can be accommodated with double roller assembly, 455 kg (1003 lbs) maximum weight.
- 8) Red and green indicator lights on the control panel will indicate if the door is closed and locked (green) or in the unsecured position (red).
- 9) Paint entire assembly, except track rollers and motor mechanism, with rust-inhibiting primer.

26. Remote Controlled Sliding Door Locking Device — Folger Adam #D5B (High Security Sallyport Doors and Corridors):

a. Components and Housing:

- 1) All motors shall be 1/10 HP, 115 VAC, as manufactured by a nationally recognized manufacturer. This motor shall be protected by a thermal cutout.
- 2) All roller chain drives shall be #41 size.
- 3) Hanger guides shall be 6mm thick steel plate and shall interlock with track support with a clearance of not more than 6 mm (0.24").
- 4) Hanger support rollers shall be trimmed from solid steel 95 mm O.D. grooved 9 mm deep. Rollers shall have anti-friction ball bearings with double grease shields. Roller studs shall be high alloy treated steel with eccentric bushing for adjustment of the door.
- 5) The horizontal mechanism housing shall be 9 mm mild steel plate. Housing covers shall be 3.5 mm thick sheet steel with all openings baffled.
- 6) The vertical lock bar housing and cover shall be 4.5 mm thick sheet steel.
- 7) The vertical lock bar cover shall be removable only when the horizontal cover has been removed.
- 8) The emergency release cabinet shall be located at the point of the door.
- 9) Provide a limit switch that monitors the position of the vertical lockbar. This switch is tied in series with the open and closed limit switches. Division 27 shall monitor and provide indication on the control panel. Coordinate with Division 27.

b. Functions:

- 1) The mechanism shall open or close a 600 mm (24") door in not more than five (5) seconds.
- 2) Normal force exerted by a door in travel is approximately 18 kg (40 lbs). This force shall be field-adjustable by the use of a clutch.
- 3) Device shall hold preset pressure on door at all times of operation regardless of voltage setting.
- 4) In the event the door is blocked, the door shall automatically continue to the open or closed position when the obstruction is removed.
- 5) The locking device shall be designed so that there will be no projecting lugs on the receiving column, or leading edge of door. Door shall automatically deadlock closed at two points at the rear of the door. Door shall also automatically deadlock in the open position.
- 6) In the event of power failure, each door shall have capabilities of being unlocked with a #82-6 series lock and paracentric key from either side of door (or as scheduled).

This shall enable the door to be moved to the open or closed position. This lock shall be jamb-mounted, and no projecting lugs shall be permitted on the door.

- 7) Red and green indicator lights on the control panel will indicate if the door is closed and locked (green) or in the unsecured position (red).
 - 8) Paint entire assembly, except track rollers and motor mechanism, with rust-inhibiting primer.
27. Remote Controlled Sliding Door Locking Device- Folger Adam #3B, or Southern Steel 3150LX (Special Housing Unit- inmate cells):

a. Components and Housing:

- 1) All motors shall be 1/20 HP, 115 VAC, minimum as manufactured by a nationally recognized manufacturer. This motor shall be protected by a thermal cutout.
- 2) Hanger guides shall be 6 mm thick steel plate and shall interlock with track support with a clearance of not more than 6 mm.
- 3) Hanger support rollers shall be trimmed from solid steel 95 mm O.D. grooved 9 mm deep. Rollers shall have anti-friction ball bearings with double grease shields. Roller studs shall be high alloy treated steel with eccentric bushing for adjustment of the door.
- 4) The horizontal mechanism housing shall be 9 mm mild steel plate. Housing covers shall be 3.5 mm thick sheet steel with all openings baffled.
- 5) The vertical lock bar housing and cover shall be 4.5 mm thick sheet steel.
- 6) The vertical lock bar cover shall be removable only when the horizontal cover has been removed.
- 7) Provide bottom-hinged housing cover boxes.
- 8) Provide a limit switch that monitors the position of the vertical lockbar. This switch is tied in series with the open and closed limit switches. Division 27 shall monitor and provide indication on the control panel. Coordinate with Division 27.

b. Functions:

- 1) The mechanism shall open or close a 915 mm door in not more than 5 seconds.
- 2) Normal force exerted by a door in travel is approximately 18 kg (40 lbs). This force shall be field-adjustable by the use of a clutch.

- 3) Device shall hold preset pressure on door at all times of operation regardless of voltage setting.
- 4) In the event the door is blocked, the door shall automatically continue to the open or closed position when the obstruction is removed.
- 5) The locking device shall be designed so that there will be no projecting lugs on the receiving column, or leading edge of door. Door shall automatically deadlock closed at two points at the rear of the door. Door shall also automatically deadlock in the open position.
- 6) Provide emergency release at each door by means of a special tool through a slot in the mechanism housing.
- 7) Indicator lights on the control panel will indicate if the door is closed and locked or in the unsecured position.
- 8) Paint entire assembly, except track rollers and motor mechanism, with rust-inhibiting primer.

F. The following items shall be scheduled in the security hardware sets as miscellaneous hardware requirements for Security Doors. Finishes throughout shall be US32D or US26D as scheduled.

1. Door Closers shall be LCN 4210 and 4510 series:

- a. All door closers shall be detention grade closers.
- b. Door closers shall be LCN SMOOTHIE Series, heavy duty, high security closers with special components to minimize tampering and vandalism.
- c. Standard handed high strength cast-iron cylinder assembly.
- d. Full rack and pinion hydraulic action.
- e. One piece forged steel piston.
- f. All weather fluid.
- g. Spring power shall be adjustable.
- h. Separate adjustments for closing speed and latch speed.
- i. Adjustable hydraulic backcheck cushions opening swing prior to 90 degrees.
- j. Advanced variable backcheck.
- k. Security covers shall be standard heavy gauge metal security cover with four point mounting. Closer adjustments not accessible with cover installed. Provide security fasteners.
- l. Extra duty arm shall be non-handed hinge-side arm or parallel arm with solid forged main arm and forearm for abusive environments. Provide double slab arm/pinion attachment.
- m. Closers shall be mounted to the door with through-bolts.
- n. All closers shall have a ten (10) year warranty.
- o. ANSI Standard A156.4 tested and certified.
- p. UL certified for 3 hour fire rating.

- q. ABA reduced opening force must provide enough power to close and latch the door.
- 2. Door stops shall be security grade, Ives FS18S, FS18L, or equal. Wall mounted bumpers shall mount to the wall in line with the door pull or knob. Floor mounted bumpers shall be maximum 89mm (3 ½") high; use shortest model that will be above the height of the door undercut. Mount wall and floor bumpers by drilling concrete or grouted masonry substrate and using grout or epoxy fill.
- 3. Silencers shall be Glynn-Johnson #64 or equal.
- 4. Thresholds shall be Pemko #170A or equal.
- 5. Weatherstripping shall be mounted on both sides of the jamb and header.
- 6. Door Pulls: In order to comply with ABA requirements, the centerline of door pulls shall be installed a maximum of 1219 mm off finish floor, and a minimum of 76.2 mm from the stop side of the door.
- 7. Flush Exterior Doors:
 - a. Threshold: Provide 6 mm (1/4") offset extruded aluminum threshold, set in mastic, fasten with security fasteners.
 - b. Raindrip: Provide 63 mm (2 ½") wide raindrip at door exterior, Pemko #346 or equal, fasten with security fasteners.
 - c. Door bottom: Provide extruded aluminum with neoprene door bottom at door exterior, Pemko #210 V or equal, fasten with security fasteners.
 - d. Weatherstripping: Provide jamb mounted extruded aluminum with neoprene weatherstripping, fasten with security fasteners.

G. Builder's Hardware:

- 1. Furnish builder's hardware and accessories for a complete security system to function properly as specified. Furnish templates of hardware if required by other contractors. Provide security fasteners as specified in Section 05 05 53 SECURITY METAL FASTENINGS.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Installation of Hardware and Door Lock Control Systems:

- 1. Install hardware in accordance with manufacturer's printed instructions and FBOP policy.

ATTACHMENTS:

DETENTION DOOR HARDWARE

08 71 63-25

08 71 63 - D1: (09-05-11) PNEUMATIC SIDE LOAD TESTER

08 71 63 - D2: (09-05-11) PART III: LOCK & DOOR MATRIX
GENERAL INSTRUCTIONS AND ABBREVIATIONS /
SECURITY HARDWARE MATRIX FOR SECURE
FACILITIES & NON-SECURE FACILITIES (Pages 1 - 24)

END OF SECTION 08 71 63

SECTION 08 88 53 – SECURITY GLAZING**PART 1 - GENERAL****1.1 SUMMARY**

- A. This Section includes Security Glazing requirements, and non-secure glazing in Security Doors and Security Window Frames.
- B. Glazing other than Security Glazing is also included in Section 08 80 00.
- C. For Security Window Frame requirements see TDG Section 08 56 63 - DETENTION WINDOWS.

1.2 QUALITY ASSURANCE**A. Qualifications:**

- 1. Manufacturer Qualifications: Firm experienced in manufacturing security glazing products that are similar to those indicated for this Project and that have a record of successful in-service performance.
- 2. Installer Qualifications: Engage an experienced installer who has specialized in installing security glazing similar to that required for this project.
- 3. Each type of glass shall be fabricated by a single manufacturer.

B. Regulatory Requirements:

- 1. Clear Tempered Glass shall comply with ASTM C 1048.
- 2. Ballistics-Resistant and Forced-Entry Resistant Performance: Provide products identical to those tested for compliance with requirements indicated per tests specified for specific glazing types.
 - a. References for testing agencies providing testing requirement standards:
 - 1) Testing Laboratories, Inc.
 - 2) P. White Laboratory, Inc.
 - 3) Underwriters Laboratories, Inc.
 - 4) Warnock-Hersey International, Inc.
 - 5) Wiss, Janney, Elstner Associates, Inc.
 - 6) ASTM - American Society of Testing Materials

- b. Tests may be performed by manufacturer, if witnessed and reported by independent testing agency, subject to compliance with requirements.
 - c. Tests may be performed by independent testing agencies accepted by FBOP, subject to compliance with requirements.
- 3. WMFL Test: Three-level test method originally developed by Walker, McGough, Foltz, Lyerla (WMFL), consisting of Level I (.44 Magnum ballistics and 60 minutes of physical attack), Level II (60 minutes of physical attack), and Level III (30 minutes of physical attack).
- 4. UL Test: Underwriters Laboratories, Inc., UL 752--Standard for Bullet Resisting Equipment. Provide UL-labeled products.
- 5. ASTM F 1915 - Glazing for Detention Facilities: Tests for Forced-Entry resistance, Grades 1, 2, 3, 4.
- 6. Provide certifications of all products and provide test reports ~~when~~ required by FBOP.

1.3 SUBMITTALS

- A. The following items shall be concurrently submitted to the Design and Construction Branch, Technical Support Section in addition to normal contractor channels:
 - 1. Submit 1 sample, 300 mm (12") x 300 mm (12") of each product specified.
 - 2. Product data for each security glazing type, including type of materials, thickness, method of test, and performance.
 - 3. Test reports showing compliance with specified requirements.
 - 4. Certification by manufacturer that products supplied comply with performance requirements specified.
 - 5. Certification by manufacturer that all materials used in glazing assembly are compatible.
 - 6. Shop drawings showing glazing products and installation procedures.
 - 7. Maintenance data covering cleaning and protection requirements.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. **SG-1:** Ballistics Resistance UL 752, Level 4. Forced-Entry Resistance: ASTM F 1915 Grade 1. Laminated float glass and polycarbonate (glass-clad polycarbonate), glass on front outer surface (#1) shall be 6 mm (1/4") monolithic PPG Solarcool Gray (1) or equal. Visible light transmittance shall not be less than 17%. Maximum thickness for glass clad units shall not exceed 38 mm (1-1/2"). Insulating unit may be used when climatic conditions warrant.

Maximum thickness for insulating units shall not exceed 50 mm (2"). Systems fabricated only of laminated float glass shall not be used.

- B. **SG-2:** Ballistics Resistance: WMFL Level I, .44 Magnum; or UL 752 Level 4. Forced-Entry Resistance: WMFL Level I, 60 minutes; or ASTM F 1915 Grade 1. Laminated float glass and polycarbonate sheet, with glass on both outer surfaces (glass-clad polycarbonate); minimum nominal thickness shall be 32 mm (1-1/4"). In exterior applications, the glass on front outer surface (#1) shall be 6 mm (1/4") monolithic PPG Solarcool Gray (1) or equal. Visible light transmittance shall not be less than 17%. Insulating unit may be used when climatic conditions warrant. Interior applications shall be clear glazing, no tint. Maximum thickness for insulating units shall not exceed 50 mm (2"). Systems fabricated only of laminated float glass shall not be used.
- C. **SG-3:** Forced-Entry Resistance: WMFL Level II, 60 minutes; or ASTM F 1915 Grade 1. Laminated float glass and polycarbonate sheet, with glass on both outer surfaces (glass-clad polycarbonate); minimum nominal thickness shall be 25 mm (1").
- D. **SG-4:** Forced-Entry Resistance: WMFL Level III, 40 minutes; or ASTM F 1915 Grade 2. Laminated float glass and polycarbonate sheet, with glass on both outer surfaces (glass-clad polycarbonate); minimum nominal thickness shall be 18 mm (3/4").
- E. **SG-5:** Forced-Entry Resistance: HPW Level II, 20 minutes; or ASTM F 1915 Grade 3. Mar and UV resistant, 2-ply laminated polycarbonate with a minimum thickness of 9.5 mm (3/8").
- F. **SG-6:** Forced-Entry Resistance: HPW Level-1, 10 minutes; or ASTM F1915 Grade 4. Laminated float glass and polycarbonate sheet, with glass on both outer surfaces (glass-clad polycarbonate); minimum nominal thickness shall be 14 mm (9/16"). Mar and UV resistant, 3-ply laminated polycarbonate with a minimum thickness of 19 mm (3/4").
- G. **SG-7:** Forced-Entry Resistance: HPW Level III, 60 minutes; or ASTM 1915 Grade 1. Mar and UV resistant, 3-ply laminated polycarbonate with a minimum thickness of 19 mm (3/4").
- H. **TGT:** Tempered Glass and Structural Steel Tubing - Clear Tempered Glass complying with ASTM C 1048, Condition A (uncoated surfaces), Class 1 (clear), Kind FT (fully tempered); product shall be installed with structural steel tubing per Section 08 34 63 (DETENTION HOLLOW METAL DOORS AND FRAMES).

2.2 SECURITY GLAZING REQUIREMENTS MATRIX

- A. Glazing systems are defined in Section 2.1 above.

SECURITY GLAZING

08 88 53-3

- B. The requirements in the matrix apply to all glazing openings (windows, doors, frames, etc.).
- C. Shaded boxes indicate that the program space does not exist at the listed security level.
- D. Where security bars or tubes are required on windows, glass stops located on inmate room side shall have Break-off Head security fasteners. This applies to but is not limited to Holding Cells and SHU Multipurpose Rooms.
- E. Other Matrix Abbreviations:
 - 1. FCI = Federal Correctional Institution.
 - 2. FDC = Federal Detention Center.
 - 3. FPC = Federal Prison Camp.
 - 4. USP = United States Penitentiary.
 - 5. NR = Security glazing not required.

Program Space	Medium Security	High Security	FDC	Notes
GENERAL REQUIREMENTS - Requirements for typical conditions or applicable to multiple spaces or areas. More stringent requirements for specific rooms or conditions will override these general requirements				
EXTERIOR WALLS for FDCs				
Exterior walls at secure portions of FDCs			SG-4	Window openings in these walls to be no more than 125 mm (5") wide
Exterior walls at non secure portions of FDCs			NR	
EXTERIOR WALLS for FCIs and USPs				
Exterior walls at General Inmate Housing Units	TGT ¹	TGT ¹		(1) Windows in these walls to have structural steel tubes located on the interior side of the window. Refer to Concept Drawings for areas requiring translucent glazing in USP's. (2) Windows in these walls to have structural steel tubes located on the corridor side of the window. (3) 125 mm x 125 mm vision panel of hatch door in the floor deck of guard towers shall be SG-4
Exterior walls at Special Housing Units (excluding cells)	SG-4 ¹	SG-4 ¹		
Exterior walls at Security Corridors at USPs		TGT ²		
Exterior walls at Guard Towers		SG-1 ³		
Exterior walls at other buildings inside the secure compound	TGT ¹	TGT ¹		
Exterior walls at other buildings outside the secure compound	NR	NR		
INTERIOR WALLS for FCIs and USPs				
Interior walls separating secure portions of FDCs from non-secure portions			TGT ¹	(1) Structural steel tubes located on corridor side of window.
Interior walls separating security corridor in USPs from other spaces		TGT ¹		(1) Structural steel tubes located on corridor side of window.
Interior walls separating security corridor in USPs from housing units		TGT ¹		(1) Structural steel tubes located on corridor side of window.
REQUIREMENTS FOR SPECIFIC AREAS AND SPACES				
ADMINISTRATIVE AND SUPPORT - OUTSIDE SECURE PERIMETER				
Central Control Spaces				
Control center	SG-2	SG-2	SG-2	See Section 08 34 63 for bar details. Bars located on threat side. Solar-cool Gray glazing on exterior of Control Room only.
Pedestrian sallyport	SG-2	SG-2	SG-2	Horizontal bars on "interior" side.
Pedestrian sallyport covered exterior entrance	SG-2	SG-2		Horizontal bars on exterior 'covered' side
Financial Management				
Cashier's office	SG-4	SG-4	SG-4	

Program Space	Medium Security	High Security	FDC	Notes
INSIDE SECURE PERIMETER				
Recreation				
Clerestory Windows Indoor Active Recreation	SG-5	SG-5 ¹	SG-5 ¹	Sill shall be a minimum of 3m AFF. (1) Windows to have structural steel tubes on interior side. Minimum clear window dimensions 760mm X 760mm (30" X 30")
Open Activity Room	SG-5	SG-5	SG-5	
Dining Room				
Clerestory Windows	TG			No bars or structural steel tubes required. Sill shall be a minimum of 3m AFF. Minimum clear window dimensions 760mm X 760mm (30" X 30")
UNICOR				
Clerestory Windows	TG ¹	TGT ²		TG ¹ - No bars or structural steel tubes required. TGT ² - Structural steel tubes on interior side. Minimum clear window dimensions 760mm X 760mm (30" X 30")
Commissary Suite				
Perimeter of suite	TGT	TGT	TGT	Excluding sales lobby
Sales area	SG-4	SG-4	SG-4	
Glazing between booths	Tempered glass only			
Sales lobby	TGT	TGT		
Correctional Services				
Inmate holding cell door	SG-6	SG-6	SG-6	125 mm (5") slit window on door
Enclosed security corridor at USPs - see general requirements				
Health Service				
Records Office	TGT	TGT	TGT	See 08 34 63 for pass thru details
Pharmacy	SG-6	SG-6	SG-6	See 08 34 63 for pass thru details, windows to have structural steel tubes
Observation suite perimeter	SG-3	SG-3	SG-3	Windows shall not have bars or structural steel tubes
Isolation vestibule	SG-3	SG-3	SG-3	Windows shall not have bars or structural steel tubes
Observation/isolation rooms	SG-3	SG-3	SG-3	Windows shall not have bars or structural steel tubes
General Housing				
Counselor's Room	TGT	TGT	TGT	
Inmate cell doors	6 mm (1/4") tempered glass			125 mm (5") slit windows on doors
Sallyport entrance into unit		TGT		
Unit management suite	TGT	TGT	TGT	
Unit secretary	TGT	TGT	TGT	

Program Space	Medium Security	High Security	FDC	Notes
Special Housing				
Hearing room	TG	TG	TG	125 mm (5") slit windows
Inmate cell doors	SG-6	SG-6	SG-6	125 mm (5") slit windows
Exterior cell windows	SG-7	SG-7	SG-7	
Law library	TGT	TGT	TGT	
Multi purpose rec rooms	SG-6	SG-6	SG-6	Windows shall have structural steel tubes on outside
Range Smoke Doors	TG	TG		TG- Tempered glass, no bars or structural steel tubes.
Inmate Systems Management				
Inmate records				
Records Suite perimeter	TGT	TGT	TGT	
Receiving and Discharge				
Holding cells	SG-6	SG-6	SG-6	Windows shall have structural steel tubes on outside
Visiting Rooms				
Visiting suite perimeter	TGT	TGT	TGT	Exterior windows only
Non-contact visiting	SG-3	SG-3	SG-3	Windows shall not have bars or structural steel tubes
Education / Religious Services				
Chaplain's offices	TGT	TGT	NA	

SECURE CONSTRUCTION REQUIREMENTS FOR FEDERAL PRISON CAMPS

Program Space	FPC		Notes
	WORK CAMP	Mens / Womens CAMP	
ADMINISTRATIVE AND SUPPORT			
Commissary Suite			
Perimeter of suite	TGT	TGT	Excluding sales lobby
Sales area with booths	SG-4	SG-4	
Sales lobby		NR	
Health Service			
Medical Records		TGT	
Dispensing room		SG-4	See 08 34 63 for pass thru details Windows to have structural steel tubes
Observation suite perimeter		SG-3	Windows shall not have bars or structural steel tubes
Isolation vestibule		SG-3	
Observation/isolation rooms		SG-3	
Inmate Housing			
General Housing			
Dormitory entrances	TG	TG	Inside Vestibule doors with P-80 locks
Unit Secretary		TGT	
Inmate Systems Management			
Records office		TGT	
Receiving and Discharge			
Holding cells		TGT	
Dining Room			
Clerestory Windows	TG	TG	No bars or structural steel tubes required. Sill shall be a minimum of 3m AFF Mini- mum window dimensions 760mm X 760mm (30" X 30")
Law Library			
Exterior entrance	SG-4	SG-4	Door with P-80 lock

PART 3 - EXECUTION (Not used)

END OF SECTION 08 88 53