SECTION 08 56 53
SECURITY WINDOWS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Security / Detention windows, with glazing.
B. Security transaction windows with pass-through device.

1.2 RELATED REQUIREMENTS

A. Section 04 20 00 - Unit Masonry: Installation of anchorage items embedded in masonry.
B. Section 07 92 00 - Joint Sealants: Sealing joints between frames and adjacent construction.
C. Section 08 11 13 - Hollow Metal Doors and Frames: Interior, non-ballistic- and non-forced-entry-rated steel windows.
D. Section 09 90 00 - Painting.

1.3 REFERENCE STANDARDS

A. ASTM A36/A36M - Standard Specification for Carbon Structural Steel 2019.
B. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Required Hardness, Solution Hardened, and Bake Hardenable 2021a.
C. ASTM F1915 - Standard Test Methods for Glazing for Detention Facilities 2005 (Reapproved 2019).
D. HPW-TP-0500.03 - Test Procedure-Transparent Materials for Use in Forced Entry or Containment Barriers 2003.
E. SSPC-Paint 33 - Coal Tar Mastic Coating, Cold-Applied 2006, with Editorial Revision (2015).
F. SSPC-SP 5 - White Metal Blast Cleaning 2007.
G. UL 752 - Standard for Bullet-Resisting Equipment Current Edition, Including All Revisions.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordination: Furnish anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, to be embedded into concrete or masonry, with setting diagrams and installation, to applicable installer in time for installation.
B. Preinstallation Meeting: Prior to start of installation arrange a meeting on site to familiarize installer and installers of related work with requirements relating to this work.

1.5 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
B. Product Data: Manufacturer's published data showing materials, construction details, dimensions of components, and finishes.
C. Shop Drawings: Drawings prepared specifically for this project, showing plans, elevations, sections, details of construction, anchorage to other work, hardware, and glazing.
    1. For new work show required opening dimensions and allowance for field deviation.
    2. For field glazed windows, include detailed instructions for glazing installation.
D. Coordination Drawings: For each window opening, show locations and details of items necessary to anchor windows that must be installed by others, in sufficient detail that installer of those items can do so correctly without reference to the actual window itself.

1.6 QUALITY ASSURANCE

A. Testing Agency Qualifications: Independent testing agency able to show experience in conducting tests of the type specified and:
B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience.
C. Welder Qualifications: Qualified in accordance with AWS procedures for type of welding required.

1.7 WARRANTY

A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.
B. Provide manufacturer's warranty agreeing to repair or replace windows and window components that fail within three years after Date of Substantial Completion due to, but not limited to, the following:
    1. Structural failure, failure of welds, and deterioration of metals and finishes beyond that expected under detention use and normal weathering.
    2. Failure of glazing due to excessive deflection of supporting members under wind load.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Detention Windows:
    1. CM Security Group Inc: www.cmsecurity.com.
    2. Habersham Metal Products Co.; www.habershammetal.com.
    3. Hope's Windows, Inc: www.hopeswindows.com.
    4. Southern Steel Detention Equipment: www.southernsteel.com.
B. Security Fasteners:
    1. Acument Global Technologies: www.acument.com/#sle.
    2. Safety Socket Screw Corporation: www.safetysocket.com/#sle.
    3. Tamperproof Screw Co, Inc: www.tamperproof.com/#sle.
    4. Tamper-Pruf Screws, Inc: www.tamper-pruf-screws.com/#sle.

2.2 ASSEMBLIES

A. Security / Detention Windows:
    1. Dimensions, profiles, features, and performance specified and indicated on drawings are required; do not deviate unless specifically approved by Architect under substitution procedures; see Section 01 60 00.
    2. Design to fit openings indicated on drawings; design to accommodate deviation of actual construction from dimensions indicated on drawings.
    3. Fabricate frames and sash with corners mitered or coped full depth with concealed welded joints.
    4. Design anchorages to provide performance equivalent to that required for window unit; provide anchorages at least equivalent to those by which the tested units were anchored to the test frame.
    5. Separate dissimilar metals to prevent corrosion by galvanic action by painting contact surfaces with primer or with sealant or tape recommended by manufacturer for the purpose.
    6. Weld components before finishing and in concealed locations, to greatest extent possible; minimize distortion and discoloration of finish; remove residue of welding; grind exposed welds smooth and finish to match.

7. Label units to indicate which side is which, such as inside/outside or secure/non-secure; use labels that are removable after installation but durable enough not to be lost during delivery, storage, handling, and installation.

2.3 DETENTION WINDOWS

A. Security / Detention Windows: Factory-assembled fixed glazing frames reglazable from exterior without disassembly of ventilator frame; attach removable components with security fasteners that are not removable without the use of appropriate tools.
   1. Detention Bars: Where indicated on drawings.
   2. Detention Bars: Vertical 7/8 inch diameter round steel bars at 6 inches on center, with 1/4 inch by 2 inches flat bar perimeter frame.
      a. Windows of More Than 36 inches (915 mm) in Direction of Main Bars: Flat steel bars, 1/4 by 2 inches, at 12 inches perpendicular to main bars.
      b. Conceal bars in muntins attached with concealed welds.
      c. Make bars penetrate perimeter frame with anchors to prevent removal but allow rotation.
   3. Glazing: See Section 08 85 30 - Security Glazing<>.
   4. Framing and Sash: Formed steel sheet perimeter framing and muntins, and extruded aluminum glazing stops; primed for field finish.
   5. Framing and Glazing Stops: Formed steel sheet; with muntins of same material; primed for field finish.
   6. Forced Entry Resistance: ASTM F1915, Grade II, tested from both sides.
   7. Forced Entry Resistance: HPW-TP-0500.03, Level IV, tested from both sides.

2.4 SECURITY TRANSACTION WINDOWS WITH PASS-THROUGH DEVICE

A. Security Transaction Windows:
   1. Location: Built within interior wall, as indicated on drawings.
   2. Type of Use: As indicated on drawings.
   3. Ballistic Resistance: Tested to meet UL 752, Level 1.
   4. Window Type: Fixed.
      a. Mounting: As indicated on drawings, between jambs.
      b. Window Size: As indicated on drawings.
      c. Size of Counter Space: As indicated on drawings.
      d. Material: Formed steel sheet.
         1) Finish: Factory primed for field finish.
   5. Glazing: Single (monolithic), clear, and ballistic resistant. See Section 08 85

B. Security Transaction Windows with Pass-Though Device:
   1. Location: Built within exterior wall, as indicated on drawings.
   2. Glazing: Single (monolithic), clear. See Section 08 85 30 - Security Glazing.
   3. Pass-Through Device: Hinged formed steel sheet panel, same material as frame. Factory primed for field finish.
      a. Operation: Manual.
      b. Hinges: Sothern Folger Model 203FS Full Surface Hinge with solid leaves. Quantity as required for application.
      c. Lock: Sothern Folger Model 1010A-1 with applicable mounting plate as required.

4. Communication: Standard talk-through portal, Level 3 bullet resistant. See Section 08 85 30 - Security Glazing.

2.5 ASSEMBLY COMPONENTS

A. Formed Steel Framing: ASTM A1008/A1008M, Designation CS (commercial steel), cold-rolled steel sheet; 12 gauge, 0.1046 inch minimum thickness.
B. Rolled Steel Framing: ASTM A36/A36M steel shapes, plates, and bars.
C. Detention Bars: Homogeneous tool-resisting steel bars, ASTM A627 round or flat as applicable.
D. Frame Anchors: Mild steel plates, shapes, or bars, concealed in completed construction; provide anchorage devices as necessary to securely fasten windows to adjacent construction; use security fasteners for exposed anchors.
   1. For Setting in Masonry: Minimum 3/16 inch thick angles or plates, minimum 4 inches long with hooked ends, welded to back of window frame.
   2. Provide minimum of two anchors per side of window plus one additional anchor for each 18 inches or fraction thereof more than 36 inches in height or width.
E. Muntins: Same materials and construction as sash and frame members.
F. Glazing Seals: Factory installed; molded EPDM or neoprene compressible gaskets and compression strips.
G. Security Fasteners: Operable only by tools produced by fastener manufacturer or manufacturer's licensee; head style appropriate to installation conditions, strength, and finish of materials being fastened; use countersunk heads wherever possible.
   1. On Steel: Heat-treated alloy steel, with zinc chromate coating at exterior locations and interior wet locations.
H. Bituminous Paint: Cold-applied asbestos-free asphalt mastic, complying with SSPC-Paint 33; 30 mils, 0.030 inch minimum thickness per coat.
I. Sealant for Setting Sills and Sill Flashing: Non-curing butyl type.

2.6 FINISHES

A. Primed Finish on Steel:
   1. Cleaned using white metal blast cleaning as specified in SSPC-SP 5.
   2. Zinc phosphate pretreatment; lead- and chromate-free corrosion resistant primer compatible with top coats specified in Section 09 90 00.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that window openings are ready for installation of windows.
B. Verify that correct embedded anchors are in place and in proper location; repair or replace anchors as required to achieve satisfactory installation.
C. Notify Architect if conditions are not suitable for installation of windows; do not proceed until conditions are satisfactory.

3.2 INSTALLATION

A. Install in accordance with manufacturer's instructions and drawing details.
B. Install windows in correct orientation (inside/outside or secure/non-secure).
C. Anchor windows securely in manner so as to achieve performance specified.

D. Separate metal members from concrete and masonry using bituminous paint.
E. Set sill members and sill flashing in continuous bead of sealant.

3.3 ADJUSTING

A. Adjust operating components for smooth operation while also providing tight fit at contact points and a secure enclosure; lubricate operating hardware.

3.4 CLEANING

A. Clean exposed surfaces promptly after installation without damaging finishes.
B. Remove and replace defective work.

END OF SECTION 08 56 53