ADDENDUM NO. 2 TO PROJECT NO. 44352

CONSTRUCTION WORK, HVAC WORK, PLUMBING WORK, ELECTRICAL WORK

PROVIDE RENOVATIONS, RECEPTION BUILDING NO. 5
DOWNSSTATE CORRECTIONAL FACILITY
122 RED SCHOOLHOUSE ROAD
FISHLICK, NEW YORK 12524-0445

October 19, 2012

NOTE: This Addendum forms a part of the Contract Documents. Insert it in the Project Manual. Acknowledge receipt of this Addendum in the space provided on the Bid Form.

CONSTRUCTION SPECIFICATIONS

1. Page 083113-1, Subparagraph 1.01 A: Change “Part 3” in the first line to “Part 2”.

2. Page 083113-1, Subparagraph 1.01 B: Change “Part 3” in entire paragraph to “Part 2”.

3. Section 081102: Delete Section 081102 in its entirety. Add the attached Revised Section 081102 dated 10/19/12.

4. Section 083463: Add the attached Section, Detention Security Hollow Metal Doors and Frames, dated 10/19/12.

5. Section 111901 2.03 C. Detention Hardware Groups: Delete Group A and Group C. Add revised Group A and Group C below:

   Group A:
   1. Barrell Continuous Hinge Guard: 1 ea Markar HG3505HT x door thickness x adjusta-
      screw x torx x 630.
   2. Mortise Lockset: 1 ea Folger Adam No. KR D9314 x Maxi-Mogul cylinders x 918LD x
      900-Box x 630 x torx.
   3. Surface Overhead Stop: 1 ea GJ81S-HD x SOC x TMS x US32D @ Dr No. 101A only.
   4. Security Door Closer: 1 ea LCN 4210 x ST3456 x TB(2-1/4")/TMS x AL.
   5. Floor Stop: 1 ea Rockwood 463 x torx x US32D @ Dr NO. 101B only.
Group C:
1. Barrell Continuous Hinge Guard: 1 ea Markar HG3505HT x door thickness x adjusta-
screw x torx x 630
2. Mortise Lockset: 1 ea Folger Adam No. KR D9318 x Maxi-Mogul cylinder x 918-DNL
   x 900-Box x 630 x torx.
3. Surface Overhead Stop: 1 ea GJ81S-HD x SOC x TMS x US32D.

6. Section 111901 1.04 C.3 Equipment Installer’s Qualifications: Add paragraph d:
   d. Welder’s Certification: Submit each welder’s welding certification for each type weld
      and position.

7. Appendix: Replace the DOOR SCHEDULE, DS-1 with the attached DOOR SCHEDULE dated
      10/19/12.

ELECTRIC SPECIFICATIONS

8. SECTION: 000110 - TABLE OF CONTENTS
   Add SECTION 260529 - FASTENERS, ATTACHMENTS, AND SUPPORTING DEVICES to
   DIVISION 26 – ELECTRICAL, to the Table of Contents.

   SUPPORTING DEVICES (Pages 260529-1 thru 260529-7) to the Project Manual.

CONSTRUCTION DRAWINGS

10. Drawing A-101:
    Removal General Notes 5: Delete “TRENCHING AND BACKFILL” for the first line.

11. Drawing A-101:
    Revise Removal Key Note D9 to read as follows:
    “SAW CUT AND REMOVE PORTIONS OF EXISTING CONCRETE SLAB ON GRADE FOR
    UNDERSLAB WORK.
    ** DIMENSIONS ARE APPROXIMATE AND ARE REQUIRED TO BE VERIFIED IN THE
    FIELD AND COORDINATED WITH P-CONTRACT AND E-CONTRACT DWGS FOR
    UNDER GROUND UTLITLY WORK.”

12. Drawing A-601:
    At details 5 & 9, delete note reference to 1/A3.01 and replace with the reference 1/A-601.

13. Drawing A-701:
    Add Note 3 to Lintel Notes and Schedule
    “ALL WORK ASSOCIATED WITH INSTALLATION OF (L-1) AND (L-2) LOUVERS ARE
    BY H-CONTRACT. LINTEL SCHEDULE IS FOR REFERENCE FOR LINTEL SIZES PER
    OPENING SIZE.”
HVAC DRAWINGS

14. Drawing M-300:
   Detail 7, add the following note: "Work associated with louvers L1 and L2 shall be by the H contract. Lintel work for louvers L1 and L2 shall be by the H contract. Refer to Lintel Schedule on drawing A-701.

PLUMBING DRAWINGS

15. Drawing P-101:
   Revise General Note C to read "P contract shall excavate and backfill for underslab plumbing piping work. C contract shall patch slab for underslab plumbing piping." Remove "saw cutting and" from Removal Note 2.

16. Drawing P-102:
   Revise General Note F to read "P contract shall excavate and backfill for underslab plumbing piping work. C contract shall patch slab for underslab plumbing piping."

ELECTRIC DRAWINGS

17. Drawing E-101:
   Detail 1/E101, Note E, revise note to read "C contract shall cut and patch slab for underslab utility work. E contract shall excavate and backfill for underslab utility work."

END OF ADDENDUM

James Dirolf, P.E.
Director of Design
SECTION 081102

STEEL DOORS AND FRAMES

PART 1   GENERAL

1.01 SECTION INCLUDES

A. Steel doors and frames, including borrowed lites; sidelights; vision lites; glass moldings and stops; louvers; panels; hardware reinforcements; and accessories as shown in the contract documents.

1.02 REFERENCES

A. ANSI- American National Standard Institute
   2. A250.4-2001 Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors and Hardware Reinforcings.

B. NAAMM National Association of Architectural Metal Manufacturers
   1. HMMA 830-1997 Hardware Preparations and Locations for Hollow Metal Doors and Frames.
   2. HMMA 831-1997 Recommended Hardware Locations for Hollow Metal Doors and Frames.

C. NFPA National Fire Protection Association

1.03 DEFINITIONS

A. Steel Door and Frame Manufacturer: Manufacturer of steel doors and frames regularly engaged in the manufacturing of such products for use in commercial, institutional, educational and other similar applications.

B. Company Field Advisor(s): An employee of the steel door and frame manufacturer who is certified in writing by the manufacturer to be technically qualified in design, installation, and servicing of products.

C. Steel Door and Frame Distributor: Distribution Company who regularly engages in the distribution of steel doors and frames of the manufacturer whose doors and frames are submitted for this project.

D. Certified Installation Supervisor: Designated supervisor/installer, who has a minimum three years experience in steel frame and door installation, and is certified in writing by the steel door and frame manufacturer as qualified and responsible to ensure approved steel frames and doors are installed, adjusted, and operate properly.
1.04 SUBMITTALS

A. Waiver of Submittals: "Waiver of Certain Submittal Requirements" in Section 01330 does not apply to this Section.

B. Submittals Packages

1. Door and Frame Schedule and Shop Drawings Package: Submit as a complete package. Incomplete packages will be returned unreviewed.
   a. Quality Assurance Submittal
      1) Certification of Compliance as described in the Quality Assurance Article.
      2) Company Field Advisor’s Qualification Data
         a) Name of Company Field Advisor and Employer’s name, business address and telephone number and e-mail address.
         b) Names and addresses of 3 similar projects Company Field Advisor has worked on during the past three years.
         c) Written certification on steel door and frame manufacturer’s letterhead that Company Field Advisor is technically qualified in design, installation, and servicing of the products furnished for this Project.
      3) Certified Supervisor’s and Installer’s Qualification Data
         a) Name of Supervisor and each Installer performing Work, and Employer’s name, business address and telephone number.
         b) Names and addresses of 3 similar projects Supervisor and each Installer has worked on during the past three years.
         c) Written certification on steel door and frame manufacturer’s letterhead that Supervisor/Installer is technically qualified to ensure approved steel frames and doors are installed, adjusted, and operate properly.

b. Door and Frame Schedule:
   1) Include a Cover Sheet that lists:
      a) OGS project name, project number, and project address.
      b) Manufacturer’s name, address, and telephone number.
      c) Distributor’s name, address, and telephone number.
      d) Shop drawing preparer’s name, and telephone number and e-mail address.
      e) Submission date.
   2) List by opening
      a) Door and Frame number and location by building and room name. Use same reference numbers for openings and as those shown on Contract Drawings.
      b) Door width, height, thickness, type, gage, and options
      c) Frame type, width, height, jamb depth, gage, anchor type and options.
      d) Door and frame elevations; head and jamb
profiles and details; welding requirements; and reinforcements.

e) Fire Rating.
f) Glass type.
g) Undercut.
h) Electric preparations, if any.
i) Hardware Set.
j) Show dimensioned elevations; construction details of each door including vertical and horizontal edge details; and frame details for each type, including dimensions profiles; locations for finish hardware, including cutouts and reinforcements; gage of reinforcements; details of connections; anchors and accessories; and details of conduit and preparations for electrified door hardware and controls.

3) Product Data: Manufacturer's catalog sheets, specifications, and detailed installation instructions. Highlight products and options pertaining to this Project. Cross out information irrelevant to this Project.

4) Manufacturer’s Written Certification of Compliance that their products conform to the requirements of the references named in the References Article of this specification section, and as modified by this specification.

5) Samples:
a) Frames: Corner sample of each type, 18 x 18 inches, with mortises and reinforcements, factory primed or factory finished, as required.
b) Doors: Corner sample of each type construction, 18 x 18 inches, with mortises and reinforcements, factory primed or factory finished, as required.

2. LEED Submittals: Include information on each product submitted.
a. Local/Regional Materials:
   1) Sourcing Location(s): Indicate location of extraction, harvesting, and recovery of raw materials used in product manufacturing; indicate distance between extraction, harvesting, and recovery and the project site.
   2) Manufacturing location(s): Indicate location of manufacturing facility and the project site.

b. Recycled content: Provide manufacturer’s certification of recycled content indicating percentage by weight of both pre-consumer and post-consumer recycled content. Include information describing production of steel used for doors and frames, identifying production process by either basic oxygen furnace (BOF) process or electric arc furnace (EAF) process.

3. Closeout Submittals: Submit as a complete package.
a. Operation and Maintenance Manuals: Furnish 2 (two) hard cover three ring binders with project name and number prominently displayed on the front cover and the spine.

b. Listing of Manufacturer, address and contact information

c. Approved Door and Frame Submittal including shop drawings and product data sheets

d. Manufacturer’s dated warranty for this specific project
identified by Facility, OGS project number, and manufacturer’s order number.

e. Certification: Written certification from the Company Field Advisor that their products are installed according to manufacturer’s printed installation instructions, and are operating properly.

1.05 QUALITY ASSURANCE

A. Uniformity and single source responsibility:
   1. Provide steel doors and frames from a single source manufacturer who specializes in this type of work.

B. Certification of Compliance: A statement, written on steel door and frame manufacturer’s letterhead, that certifies their products, submitted for this Project, have been tested and comply with references named in the References Article of this specification section, and as modified by other requirements this specification.

C. Construction Verification: In order to determine if the products furnished comply with the specifications, the Director may choose one or more doors and frames for examination. The examination may involve cutting doors to expose the internal construction to inspect reinforcements, cores, welds and other construction details.

D. Field Measurements: Verify existing openings by field measurements before fabrication and indicate measurements on shop drawings.

E. Pre-Submittal Conference: Before the steel door and frame submittals are written, the contractor, the steel door and frame distributor, the steel door and frame shop drawing preparer, and the steel door and frame designer shall attend a conference to discuss the contract requirements for the steel door and frame submittal package, including but not limited to, quality assurance items to be submitted, the cover sheet, index, page numbering, schedule formatting, product nomenclature, installation notes, preparations for electric hardware, LEED documentation, and product data sheets.

F. Pre-installation Conference: When steel frames are on site, and before steel frame installation begins, the Director’s Representative shall call a conference at the site to review the approved Steel Door and Frame Submittal, approved Finish Hardware Submittals, and proper installation procedures for the Work as well as:
   1. Pre-installation inspection of Doors and Frames
      a. Use and coordination of approved Steel Door and Frame submittals with approved Finish Hardware Submittals in the pre-installation inspection process
      b. Reading and understanding manufacturer’s Door and Frame tags
      c. Inspection and verification of labeling and label placement
         1) Specified fire labels (attached metal labels) on doors and frames,
         2) Label locations
         3) Label legibility
      d. Inspection and verification of proper welding of frames
      e. Inspection and verification of hardware reinforcement and preparations in frame head and jambs.
f. Inspection and verification of required anchors and fasteners.
g. Inspection and verification of glass kit preparations in doors
h. Inspection and verification of Electric hardware preparation in frames and doors

2. Review of maximum allowable clearances between frames and doors; doors and floor; and meeting stiles of doors, and verification methods.
3. Verification of plumb, square and level frame installation with jamb rabbets parallel to one another.
4. Review of proper frame installation tools.
5. The contractor, frame installers, certified Company Field Advisor, OGS designer; and OGS inspector shall attend the conference. Facility personnel may attend. The OGS designer will present installation information.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver doors and frames in heavy paper cartons or other protective packaging. Remove any plastic protective wrap from the package.

B. Store doors and frames under cover, in a dry area, on raised platforms in vertical position with minimum 4 inch blocking between units to allow air circulation.

C. Clearly label packaging, and doors and frames, for identification and installation location.

PART 2 PRODUCTS

2.01 MATERIALS


C. Galvannealed Steel Sheets: Zinc Iron Alloy-Coated carbon steel sheets of commercial quality complying with ASTM A 653/653M, with A 60 zinc coating.

D. Anchors and Supports: Fabricate of not less than 16 gage sheet steel unless otherwise indicated.
1. Galvanized Units: Galvanize anchors and supports to be used with galvanized frames, complying with ASTM A 153, Class B.

E. Anchorage Devices, Bolts, and Other Fasteners: Manufacturer's standard units unless otherwise indicated.
1. Galvanized Units: Galvanize items and comply with ASTM A 153, Class C or D as applicable.

F. Solid Block polyurethane core with minimum .07 U Factor.

G. Extruded polystyrene rigid insulation.
2.02 DOORS

A. General:
1. Design and Thickness: 2 outer stretcher-leveled steel sheets not less than 14 gage, seamless, hollow construction, 1-3/4 inches thick.
2. Construct doors with smooth flush surfaces without visible joints or seams on exposed faces or stile edges, except around glass and louver panels. Continuously MIG, ARC or laser weld vertical edges full height of door, grind smooth, and dress to achieve seamless edge. Tack welded, putty filled edges are not acceptable.
3. Reinforce vertical edges by a continuous steel channel not less than 14ga extending the full height of door.
4. Close top and bottom of horizontal edges with 14 gage steel channel spot welded to the inside of the face sheets a maximum of 4 inches on center.
5. Continuously weld the closing end channels to the vertical edge reinforcing channel at all four corners producing a fully welded exterior.
6. Provide minimum 16 gage flush steel top and bottoms caps, notched at both ends to fit hinge and lock channels, installed with a minimum of 6 welds per cap. Grind welds, body fill and finish smooth.
8. Door Edges: Bevel lock stile edge of single acting hinged doors 1/8 inch in 2 inches. “V” bevel meeting stiles of pairs of doors, except at double egress locations where meeting stiles are parallel.
9. Glazing Stops and Beads: Fixed steel stops, formed integral with door on non-threat side of doors. Removable steel beads, of not less than 14 gage formed steel sheet or solid bar stock, on other side of doors secured with torx head machine screws. Form corners with butted hairline joints. Coordinate width of rabbet between fixed stop and removable bead, and depth of rabbet, with type of glass and glazing required.

B. Fire Rated Assemblies: Wherever a fire resistance classification is shown or scheduled for steel doors and frames; provide fire rated units that have been tested as fire door assemblies, and comply with National Fire Protection Association (NFPA) Standard No. 80 and these specifications.
1. Identify each door and frame with a factory applied metal UL, FM, or WHI label.
2. Label shall remain legible, and shall not be obscured by prime painting or finish painting.
3. Indicate the applicable fire rating on the door label.
4. Locate labels on the hinge edge of door and jamb rabbet of frame.
5. Where continuous hinges are specified, apply labels on the header rabbet of frame and on top exposed edge of door. Locate labels as close to hinge edge as possible.
6. At the manufacturer’s and/or contractor’s expense, retain a third party inspector to recertify fire rated doors and frames, and to replace primed and finish painted labels.

C. Oversize Assemblies Requiring Fire Rating: Whenever fire rated assemblies are larger than size limitations established by NFPA and testing laboratories, provide the manufacturer’s certification, by affixing a metal label construction label, that the assemblies have been constructed with materials and methods equivalent to requirements for fire rated construction.
D. Interior Doors:
   1. Fabricate doors with 2 outer stretcher-leveled, A60 galvanized steel sheets.
   2. Reinforce inside of doors with polystyrene slab with a minimum .24 U factor, permanently bonded to inside of each face sheet.

2.03 FRAMES

A. General:
   1. Furnish steel frames for doors, transoms, sidelites, borrowed lites, and other openings, as shown, of size and profile as indicated.
   2. Construction: Full welded unit construction, with corners mitered and continuously welded full depth and width of frame, unless otherwise specified or shown. Knock-down type frames will not be accepted.
      a. Fixed Stops: Integral 5/8 inch stop unless otherwise shown.
      b. Removable Beads: Removable steel beads secured with machine screws. Form corners with butted hairline joints.
   3. Do not drill frames for silencers.
   4. Weld steel shipping spreaders to the underside of the jamb legs, requiring removal of the spreaders prior to frame installation.

B. Interior Frames: Form of hot-rolled steel sheets, not less than 14 gage, zinc alloy iron coated A60 galvannealed.

C. Mullions and Transom Bars:
   1. Furnish closed or tubular mullions and transom bars where shown.
      Fasten mullions and transom bars at crossings and to jambs by butt welding. Reinforce joints between frame members with concealed clip angles or sleeves of same metal and thickness as frame.

D. Wall Anchors: Unless otherwise specified or shown, formed of not less than 16 gage galvannealed steel.
   1. Masonry Construction: Adjustable, corrugated or perforated T-shaped to suit frame size with leg not less than 2 inches wide by 10 inches long. Furnish at least 3 anchors per jamb up to 7’6” jamb height; 4 anchors per jamb up to 8 foot jamb height; one additional anchor per jamb for each 24 inches or fraction thereof over 8 feet high.
   2. Anchors for Completed Openings: Anchorage devices designed to secure frame to in-place concrete or in-place masonry construction, as applicable. Furnish at least 5 anchors per jamb up to 7’-6” jamb height; 6 anchors per jamb to 8 foot jamb height; one additional anchor per jamb for each 12 inches or fraction thereof over 8 feet high.

E. Floor Anchors: Furnish floor anchor for each jamb and mullion which extends to floor, formed of not less than 16 gage steel, with 2 holes to receive fasteners, welded to bottom of jamb or mullion, and galvanized if used with galvanized frames

2.04 FABRICATION

A. Fabricate steel door and frame units to be rigid, neat in appearance, and free from warp, buckle and defects. Accurately form metal to required sizes and
profiles, with minimum radius for thickness of metal. Where practical, fit and assemble units in manufacturer's plant. To assure proper assembly at Project site, clearly identify items that cannot be permanently factory-assembled before shipment.

B. Exposed Fasteners: Countersunk flat, or oval head torx center pin screws and bolts. Unless otherwise indicated, locate fasteners 2 inches from ends of members and not more than 12 inches apart.

C. Finish Hardware Reinforcements:
1. Minimum 10 gage continuous reinforcement for continuous hinges.
2. Install 7 gage reinforcement for butt hinges, or hinge reinforcement in door edge may be one piece 12 gage channel full door height with extruded hinge screw holes having an average minimum thread pull-out strength of 1600 pounds per hole.
3. Minimum 12 gage reinforcement for other hardware.
4. Weld 14 gage steel tongues, 1-1/2 inches high, inside lock mortise to keep lock body centered in door.
5. Closer reinforce doors and provide full profile closer reinforcement in frames for full width of opening, whether or not closers are specified.

D. Finish Hardware Preparation:
1. Factory prepare doors and frames to receive mortised and concealed hardware, including cutouts; reinforcing; drilling and tapping, in accordance with approved Finish Hardware Schedule and templates furnished by hardware manufacturers.
2. Factory reinforced doors and frames to receive surface applied hardware. Drill and tap for surface applied hardware at project site.

E. Finish Hardware Locations: Locate hardware reinforcements and mortises so hardware locations comply with requirements of HMMA 831, “Recommended Hardware Locations for Custom Hollow Metal Doors and Frames”, and as follows:
1. Knobs: Centerline 3’2” from finished floor.
2. Mortise Deadlocks: Centerline not to exceed 48” above finished floor.

F. Clearances: Fabricate doors for their respective frames within the following clearances:
1. Jambs and Head: 3/32 to 1/8 inch.
4. Bottom (at threshold): 3/8 inch, maximum to top of threshold or carpet.
5. Fire Rated Doors: Comply with clearances specified in NFPA Standard No.80.
6. Measure door clearances from stile edge to jamb.

G. Factory Prime Painting:
1. Chemically wash, rinse, and dry exposed and concealed surfaces of fabricated units.
2. Apply one coat of primer with vinyl binder to surfaces and oven-bake units.
3. Units shall be capable of passing the following tests:
   a. Salt Spray Test complying with ASTM B 117-97 for 120 continuous hours.
b. Water Fog Test complying with ASTM D 1735-97 for 240 continuous hours.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verification of Conditions: Examine substrates, areas and conditions, with installer present under which frames are to be installed for defects that will adversely affect execution and quality of Work. Do not proceed until unsatisfactory conditions are corrected.

3.02 PREPARATION

A. Prior to installation adjust and securely brace door frames for squareness, alignment, twist, and plumb to the following tolerances:
1. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
2. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
3. Twist: Plus or minus 1/16”, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
4. Plumbness: Plus or minus 1/16 inch, measured at jamb face on a perpendicular line from head to floor.

B. Drill and tap doors and frames to receive non-templated mortised and surface mounted hardware.

3.03 INSTALLATION

A. General: Install steel doors and frames plumb, rigid, properly aligned, and securely fastened in place; comply with Drawings and manufacturer's written instructions.
1. Frames: Install frame of size and profile indicated. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set.
   a) Remove temporary braces necessary for installation only after frames have been properly set and secured.
   b) Check plumb, squareness, and twist of frames as walls are constructed. Adjust as necessary to comply with installation tolerances.
2. Installation Tolerances: Adjust door frames for squareness, alignment, twist, and plumb to the following tolerances:
   a) Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
   b) Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
   c) Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
   d) Plumbness: Plus or minus 1/16 inch, measured at jambs at floor.

B. Doors: Fit non-fire-rated doors accurately in frames with the following clearances:
1. Jambs and Head: 1/8 inch plus or minus 1/16 inch.
2. Between Bottom of Door and Top of Threshold: Maximum 3/8 inch.

3.04 ADJUSTING AND CLEANING

A. Final Adjustments:
   1. Check and readjust operating hardware items immediately before final inspection.
   2. Leave work in complete and proper operating condition.
   3. Remove and replace defective work including doors or frames that are warped, bowed, or otherwise unacceptable.

B. Clean foreign materials off steel doors and frames immediately after installation.

3.05 FINAL INSPECTION

A. Upon completion of the project, the Director’s representative will schedule a final inspection to verify doors and frames are properly installed and adjusted. The contractor, door and frame installer, and design representative will attend.

B. Upon verification, the design representative will certify in writing components are properly installed and adjusted within referenced tolerances in accordance with this specification. Include this certification in the Close-out Submittals.

END OF SECTION

CEH
SECTION 083463

DETENTION SECURITY HOLLOW METAL DOORS AND FRAMES

PART 1  GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

A. Detention Equipment: Section 111901
   1. Detention Hardware

1.02 SECTION INCLUDES

A. Detention Security Hollow Metal Doors and Frames; vision lites; glass moldings and stops; hardware reinforcements; floor anchors, jamb anchors, plaster guards, and accessories as shown in the contract documents.

1.03 REFERENCES

A. ASTM A 653 / A 653M-06a, Standard Specification for Steel Sheet, Zinc-coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvanneal) by the Hot Dip Process.

B. ASTM A 666-03 Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate and Flat Bar.

C. ASTM A 1008 / A 1008M-07, Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability

D. ASTM A 1011 / A 1011M-06b, Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability

E. ASTM B 117-03, Standard Practice for Operating Salt Spray (Fog) Apparatus

F. ASTM C 143 / C 143M-05a, Standard Test Method for Slump of Hydraulic Cement Concrete


H. ASTM D 714-02-e1, Standard Test Method for Evaluating Degree of Blistering of Paints


J. ASTM F 1450-05, Standard Test Methods for Hollow Metal Swinging Door Assemblies for Detention Facilities


M. ASTM F 1643-05, Standard Test Methods for Detention Sliding Door Locking Device Assembly


O. ANSI/NAAMM/HMMA 840-99, Guide Specifications for Installation and Storage of Hollow Metal Doors and Frames

P. ANSI/NAAMM/HMMA 801-05, Glossary of Terms for Hollow Metal Doors and Frames

Q. ANSI/NAAMM/HMMA 850-00, Fire-Rated Hollow Metal Doors and Frames, Third Edition

R. ANSI/NAAMM/HMMA 866-01, Guide Specifications for Stainless Steel Hollow Metal Doors and Frames

S. ANSI/NFPA 80-07, Fire Doors and Windows

T. ANSI/NFPA 252-03, Standard Methods of Fire Tests of Door Assemblies

U. ANSI/NFPA 257-07, Methods for Fire Test Window Assemblies

V. ANSI/UL 10 (B) 2001, Fire tests of door assemblies, 9th edition, 1997

W. ANSI/UL 10 (C) 2001, Positive pressure fire tests of door assemblies, first edition, 1998

X. ANSI/UL 752-00, Bullet - Resisting Equipment 10th Edition

ANSI American National Standards Institute, Inc.
11 West 42nd Street
13th Floor
New York, NY 10036
Telephone: 212/642-4900 www.ansi.org

ASTM American Society for Testing and Materials
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959
Telephone: 610/832-9585 www.astm.org
1.04 TESTING AND PERFORMANCE

A. Provide Detention Security Hollow Metal openings which meet the Grade 1 test load requirements as outlined in HMMA 863-04, ASTM F1450 Table 1: Security Grades and Test Load Requirements.

B. Provide Detention Security Hollow Metal openings of design and construction tested according to, and meeting, the acceptance criteria of the following procedures:
      a) Section 6 Specimen Preparation
      b) Section 7.2 Door Assembly Impact Test
      c) Section 7.3 Door Static Load Test
      d) Section 7.4 Door Rack Test
      e) Section 7.7 Door Edge Crush Test

1.05 DEFINITIONS

A. Company Field Advisor(s): Full time employee of the manufacturer who is certified in writing by the manufacturer to be technically qualified in the design, installation, operation, and servicing of the following products:
   1. Detention Security Hollow Metal Doors and Frames
1.06 SUBMITTALS

A. Waiver of Submittals: The Waiver of Certain Submittal Requirements in Section 01330 does not apply to this Section.

B. Submittal Packages: Submit Quality Assurance Package prior to other submittal packages. After Quality Assurance Package is approved, submit Detention Equipment Package, Detention Hardware Package, Security Door and Frame Package; and Security Hardware Package specified below, at the same time.

C. Quality Assurance Package:
1. Detention Security Hollow Metal Door and Frame Manufacturer’s Qualifications:
   a. Comprehensive history of the company.
   b. Current documentation of the number of employees, a listing of the production equipment, and a description of the manufacturing facility. This documentation shall be evidence of personnel and plant equipment capable of fabricating hollow metal door and frame assemblies of the type specified here in., and shall subject to the Director’s approval.
   c. Certificate of Registration documenting manufacturer’s current ISO 9001 certification. The manufacturer’s registrar shall be nationally recognized and shall provide the manufacturer with periodic factory follow audits reaffirming the manufacturer’s continuing compliance with their written quality program. This shall be provided as evidence of having a written quality control system in place.
   d. Welders’ Certifications in accordance with AWS D1.3. This shall be evidence manufacturer’s production welder’s are qualified under AWS D1.3.
   e. Names, addresses and facility contacts of 5 similar projects manufacturer has completed in past 3 years.
2. Uniformity and single source responsibility:
   a. Provide Detention Security Hollow Metal Doors and Frames from a single source manufacturer who specializes in this type of work.
3. Certification of Compliance: A statement, written on Detention Security Hollow Metal Door and Frame manufacturer’s letterhead, that certifies their products, submitted for this Project, have been tested and comply with Testing and Performance Criteria listed in this specification section.
4. Test Reports and Documentation by an independent testing laboratory in accordance with the reporting requirements of ASTM F1450 and ASTM F1592 certifying compliance with ANSI/NAAMM/HMMA 863, Section 1.05.
5. Detention Security Hollow Metal Door and Frame Manufacturer’s Company Field Advisor’s Qualification Data
   a. Name, business address, telephone number and e-mail address of Company Field Advisor.
b. Written certification from Security Steel Door and Frame Manufacturer that advisor is technically qualified in design, installation and servicing of products.

6. Detention Security Hollow Metal Door and Frame Installer’s Qualifications:
   a. Name of person supervising installation and completion of Work of this sub section.
   b. Names, addresses and facility contacts of 5 similar projects this person has supervised in the past 3 years.
   c. Written certification from the security steel door and frame manufacturer the person supervising the Work is trained and qualified in the installation of the accepted products.

D. Detention Security Hollow Metal Door and Frame Package:
1. Door and Frame Schedule:
   a. Include a Cover Sheet that lists:
      1) OGS project name, project number, and project address.
      2) Manufacturer’s name, address, and telephone number.
      3) Distributor’s name, address, and telephone number.
      4) Shop drawing preparer’s name, and telephone number.
      5) Submission date.
   b. List by opening
      1) Door and Frame number and location by building and room name. Use same reference numbers for openings and as those shown on Contract Drawings.
      2) Door width, height, thickness, type, gage, and options
      3) Frame type, width, height, jamb depth, gage, anchor type and options.
      4) Door and frame elevations; head and jamb profiles and details; welding requirements; and reinforcements.
      5) Fire Rating.
      6) Glass type.
      7) Undercut.
      8) Electric preparations, if any.
      9) Hardware Set.

   a. Furnish details of major components and show accessories.
   b. Include parts list showing manufacturers’ names and parts numbers for complete installation.
   c. Indicate shop and field welds by standard AWS welding symbols.
   d. Show dimensioned elevations; construction details of each door including vertical and horizontal edge details; and frame details for each type, including dimensions profiles; locations for finish hardware, including cutouts and reinforcements; gage of reinforcements; details of connections; anchors and accessories; and details of conduit and preparations for electrified door hardware and controls.
3. **Product Data:** Manufacturer's catalog sheets, specifications, and detailed installation instructions. Highlight products and options pertaining to this Project. Cross out information irrelevant to this Project.

4. Manufacturer’s Written Certification of Compliance in accordance with Testing and Performance paragraph of this specification section.

5. **Samples:**
   a. Frames: Corner sample of each type, 18 x 18 inches, with mortises and reinforcements, factory primed.
   b. Doors: Corner sample of each type construction, 18 x 18 inches, with mortises and reinforcements, factory primed.

E. **LEED Submittals:** Submit the following as a separate submittal package. Include information on each product submitted.
   1. **Local/Regional Materials:**
      a. Sourcing location(s): Indicate location of extraction, harvesting, and recovery of raw materials used in the products manufacturing; indicate distance between extraction, harvesting, and recovery and the project site.
      b. Manufacturing location(s): Indicate location of manufacturing facility. Indicate distance between manufacturing facility and the project site.
   2. **Recycled content:** Provide manufacturers certification of recycled content indicating percentage by weight of both pre-consumer and post-consumer recycled content. Include information describing production of steel used for doors and frames, identifying production process by either basic oxygen furnace (BOF) process or electric arc furnace (EAF) process.

F. **Contract Closeout Submittals:**
   1. **Operation and Maintenance Data:** Deliver 3 copies of instructions for operation, maintenance, recommendations, and parts manuals covering the following installed products to the Director’s Representative.
      a. Detention Security Hollow Metal Doors and Frames
   2. **Certification:** Deliver to the Director’s Representative written certification from the detention equipment manufacturer(s) that the Detention Security Hollow Metal Doors and Frames and the accessories are installed correctly and operating properly.

**1.07 TEMPLATES**

A. After receipt of approved submittals, furnish updated, required templates to the affected trades to enable the fabricators to make proper provision for hardware without delaying job progress.

**1.08 QUALITY ASSURANCE**

A. Detention Security Hollow Metal Door and Frame Manufacturer’s Qualifications:
   1. The manufacturer of detention security steel doors and frames shall be regularly engaged in the production of such products for a minimum of
10 years; and shall have furnished such products for 5 similar projects that have been in operation for a minimum of 3 years.

2. The manufacturer of detention security steel doors and frames shall have personnel and plant equipment capable of fabricating hollow metal door and frame assemblies of the type specified here in.

3. The manufacturer of detention security steel doors and frames shall have a written quality control system in place.

4. Uniformity and single source responsibility:
   a. Provide Detention Security Hollow Metal Doors and Frames from a single source manufacturer who specializes in this type of work.

5. Construction Verification: In order to determine if the products furnished comply with the specifications, the Director may randomly choose one Detention Security Hollow Metal Door for examination. The examination may involve cutting doors to expose the internal construction to inspect reinforcements, cores, welds and other construction details. Include one additional door in the project for possible examination.

B. Field Measurements: Verify openings by field measurements before fabrication and indicate measurements on shop drawings.

C. Pre-installation Conference: When Security Steel Frames are on site, and before steel frame installation begins, the Director’s Representative shall call a conference at the site to review Security Steel Door and Frame Specifications, approved Detention Hardware Submittals, and proper installation procedures for the Work as well as:
   1. Inspect and verify correct reinforcements and preparations in frame head and jambs.
   2. Inspect and verify proper welding of frames.
   3. Verification of labels, label locations and legibility.
   4. Verification of correct anchors and fasteners.
   5. Review of proper frame installation methods.
   6. Review of maximum allowable clearances between frames and doors; doors and floor; and meeting stiles of doors, and verification methods.
   7. Verification of plumb, square and level frame installation with jambs rabbets parallel to one another, and installation aids.
   8. Preparation in frames and doors for electric hardware.

The Contractor, frame installers, certified Company Field Advisor, and OGS designers shall attend conference. Facility personnel may attend.

D. Installation Company Qualifications: The Company installing the Work of this Section shall be experienced in detention equipment work and security steel doors and frames, and shall have been engaged in the assembly and installation of this equipment for a minimum of 3 years.

E. Installer’s Qualifications: The person supervising the Work of this Section shall be experienced in detention equipment work, and shall have been engaged in the assembly and supervision of installation of detention equipment for a minimum of 3 years.
F. Company Field Advisor: Secure the services of a Company Field Advisor for the following:
1. Render technical assistance as needed to the Detention Security Hollow Metal Door and Frame Installer regarding installation procedures for the Detention Security Hollow Metal Door and Frames.
2. Answer questions which might arise.

G. Uniformity of Security Steel Door and Frame Systems: Provide Security Steel Doors and Frames specified in this Section from the same manufacturer.

1.09 DELIVERY

A. Coordinate delivery of anchors and other accessories to be built into other Work, to avoid delay. Furnish instructions and templates to the affected trades as required for accurate location.

PART 2 PRODUCTS

2.01 DETENTION SECURITY HOLLOW METAL DOOR AND FRAME COMPANIES

A. Current members of HMMA whose products successfully meet the testing and performance requirements in the Testing and Performance paragraph of this specification and whose products meet the specification requirements.

2.02 MATERIALS

A. Steel Plate: Open-hearth mild steel produced especially for detention use; ASTM A 36.

B. Steel Tubing: Hot-formed, welded or seamless, structural tubing; ASTM A 501.

C. Miscellaneous Steel Shapes and Bars: ASTM A 36, unless otherwise specified or indicated.

D. Cold-Finished Steel Bars: ASTM A 108, grade as selected by the fabricator.

E. Steel Sheet for Detention Equipment:

F. Steel Sheet for Detention Security Hollow Metal Doors and Frames
   1. Cold-Rolled Steel: Commercial quality, level, conforming to ASTM A 1008/ A 1008M CS type B
   2. Hot Rolled Steel: Commercial quality, level, pickled and oiled conforming to ASTM A 1011/ A 1-11M CS type B.
   3. Steel shall be free of scale, pitting, coil breaks, buckles, waves or other surface blemishes or defects.
G. Stainless Steel: Type 304; ASTM A 666 for plate, sheet and strip; ASTM A 276 for bars and shapes; US32D (630), unless otherwise specified or indicated.

H. Fasteners:
      a. Concealed Bolts: Standard common bolts with lock washers and nuts. For items requiring servicing or replacement, drill the bolts and equip them with cotter pins and flat washers.
      b. Exposed Bolts: Countersunk flathead Torx center pin security head bolts, with lock washers and nuts, unless otherwise specified.
      a. Concealed Machine Screws: Torx center pin security head screws, unless otherwise specified.
      b. Exposed Machine Screws: ASTM F835 (Alloy steel), ASTM F879 (Stainless Steel) Countersunk flat head Torx center pin security head screws.
      c. Alloy Steel fasteners: Zinc plated per ASTM B633.

I. Paint:
   1. Cold Galvanizing Compound: Single component compound giving 93 percent pure zinc in dried film, and meeting requirements of DOD-P-21035A (NAVY).
   2. Ferrous and Galvanized Shop Primer: Zinc rich primer as manufactured by or recommended by the finish paint manufacturer.

2.03 DETENTION ACCESSORIES

A. Manufactured Items:
   1. Collapsible Safety Hooks (CH): 10 gage stainless steel with hemmed front edge, side gussets, and mounting plate appropriate for substrate. Supplied with 3/8-16 x 1-1/4” round head security screws for mounting (with 10 gage stainless steel weld-on safety hooks, 1/4” thick)

2.04 FABRICATION AND MANUFACTURE

A. General:
   1. Fabrication: Fabricate members straight, true, and free from dents, buckle, twist or rough edges. Where exposed in finished spaces, fit joints to provide tight metal-to-metal fit. Make connections by welding, or by equally secured and approved method that will rigidly hold the members in position so that their full strength will be utilized; use the approved detention equipment manufacturer’s standard shapes and methods, unless otherwise specified or indicated. Reinforce, cut, drill and tap members as required to receive hardware and accessories.
2. **Welding:** Welds shall show uniform section and deep penetration. Grind welds smooth and clean spatter off so that surfaces are easily cleaned.
   a. Each hinge leaf, requiring a welded application, shall have continuous welds three sides.
   b. Hinge leafs: Full sized, or one leaf is full size and the other one is 1-3/4 inches maximum centerline of barrel sized to fit frame.

3. **Bolting:** Use only where indicated or approved, and only where nuts are not accessible to inmates or exposed to public view. Draw nuts up tight and batter threads, unless otherwise indicated.

**B. Shop Painting:**
1. Thoroughly clean all surfaces of ferrous metal, removing rust, scale, and other deleterious material.
   a. Galvanized Metal: Rinse in hot alkali or in an acid solution, and

2. Apply one coat of shop paint to all surfaces of ferrous metal, except as otherwise required for moving parts and except for surfaces to be embedded in concrete or masonry or to be field welded after fabrication in accordance with the paint manufacturer’s instructions and at a rate to provide a uniform minimum wet film thickness of 3.0 mils.

**C. Detention Security Hollow Metal Doors**
1. **General Construction**
   a. Provide a 2” maximum nominal door thickness to accommodate and operate properly when installed in steel frames fabricated for 2” thick doors, and with specified hardware.
   b. Provide door face sheets of minimum 0.093 thickness with a zinc coating applied by the hot-dip process conforming to ASTM A653/A 653M Commercial Steel, coating designation A60 or G60.
   c. Join door face sheets at their vertical edges by a continuous weld extending the full height of the door.
   d. Reinforce vertical edges by a continuous steel channel, not less than 0.123 inch minimum thickness extending the full height of the door. Close top and bottom edges with a continuous steel channel, not less than 0.123 inches thick, spot welded to face sheets a maximum of 4 inches on center. Continuously weld the closing end channel to the vertical edge reinforcing channel at all four corners producing a fully welded perimeter reinforcing channel.
   e. Stiffen door by continuous vertically formed 0.042 inch minimum thickness steel sections, spaced not more than 4 inches apart, that span the full thickness of the interior space between door faces. Space stiffeners so that interior vertical webs shall be no more than 4 inches apart. Securely fasten stiffeners to both face sheets by spot welds spaced a maximum of 3 inches on center vertically. Fill spaces between stiffeners with fiberglass or mineral rock wool batt-type material.
f. Fit and seal the top and bottom end channels with an additional flush closing channel of not less than 0.053 inch thickness welded in place at the corners and center.

g. Provide 1/8 inch in 2 inches beveled edge profiles both vertical edges of single acting doors.

h. Provide true and straight edge bends and of minimum radius for the thickness of metal used.

i. Provide doors neat in appearance and free from warpage or buckle.

2. Hardware Preparations

a. Factory reinforce for templated and non-templated hardware.

b. Factory mortise, drill and tap, for templated hardware in accordance with the approved hardware submittal and templates provided by the hardware supplier.

c. Field drill, tap and weld for non-templated hardware.

3. Hardware Reinforcements

a. Provide material thicknesses for hardware reinforcements not less than listed below:
   1) Full mortise hinges and pivots: 0.167 inches
   2) Surface applied continuous hinges: 0.214 inches
   3) Strikes: 0.167 inches
   4) Surface mounted closers: 0.093 inches
   5) Other surface applied hardware: 0.093 inches
   6) Provide full profile closer reinforcement full width of head jamb. Closer reinforce doors and frames whether or not closers are specified.

4. Vision Lite in Detention Security Hollow Metal Door

a. Provide a vision lite frame of the size and configuration shown. Fabricate using a formed channel shape welded to a cover plate. Miter channel to be tight fitting at the corner joints and weld tubular members at the corners, and notch to accommodate the rod mesh.

b. Spot weld vision lite frame to both face sheets 1 inch on center maximum.

PART 3 EXECUTION

3.01 INSTALLATION

A. Installation Equipment

1. Install the Work of this Section in its designed position in accordance with the manufacturer’s approved shop drawings.

2. Brace assembled fabrications until permanently secured in place to prevent displacement or distortion of the members.

3. Comply with requirements of FABRICATION AND MANUFACTURE Article. Touch-up abraded areas as required, with compatible primer and finish paint, or cold galvanizing compound.

4. Use only rotary power drills where masonry or concrete is required to be drilled. Drill holes to exact size required.
5. Neatly install and securely fasten hardware. Keep polished hardware and handles free from scratches and defacement with temporary protective covers.
   a. Installation Sequence: Use proper installation sequence e.g., install overhead stops and coordinators before surface mounted door closers.
   b. Template door closers for maximum door swing allowed by wall placement and jamb conditions. Where overhead stop prevents door from swinging to wall, template closer to exceed degree of opening allowed by overhead stop.
   c. Attach closers and overhead stops to doors with through-bolts unless otherwise specified.

B. Security Detention Hollow Metal Door and Frame Installation.
1. Verification of Conditions: Examine substrates, areas and conditions, with installer present under which frames are to be installed for defects that will adversely affect execution and quality of Work. Do not proceed until unsatisfactory conditions are corrected.
2. Preparation:
   a. Prior to installation adjust and securely brace door frame for squareness, alignment, twist, and plumb to the following tolerances:
      1) Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
      2) Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
      3) Twist: Plus or minus 1/16”, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
      4) Plumbness: Plus or minus 1/16 inch, measured at jamb face on a perpendicular line from head to floor.
   b. Drill and tap doors and frames to receive non-templated mortised and surface mounted hardware.
3. Installation
   a. General: Install steel doors and frames plumb, rigid, properly aligned and securely fastened in place; comply with Drawings and manufacturer's written instructions.
      1) Frames: Install frame of size and profile indicated. Set frames accurately in position plumbed, aligned, and braced securely until permanent anchors are set.
      2) Remove temporary braces necessary for installation only after frames have been properly set and secured.
      3) Check plumb, squareness, and twist of frames as walls are constructed. Adjust as necessary to comply with installation tolerances.
   b. Installation Tolerances: Adjust door frames for squareness, alignment, twist, and plumb to the following tolerances:
c. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
d. Alignment: Plus or minus 1/16 inch, measured at jamb on a horizontal line parallel to plane of wall.
e. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jamb on parallel lines, and perpendicular to plane of wall.
f. Plumbness: Plus or minus 1/16 inch, measured at jambs at floor.

C. Doors: Fit non-fire-rated doors accurately in frames with the following clearances:
1. Jambs and Head: 1/8 inch plus or minus 1/16 inch.
2. Between Bottom of Door and Top of Threshold: Maximum 3/8 inch.

3.02 FIELD QUALITY CONTROL

A. Testing Of Detention Equipment:
1. Preparation: Remove protective covering from view windows, mirrors, hardware, etc.
2. Testing: Individually test each door or gate system, covering all functions and features one at a time.
3. Test each manual lock for ease of operation.
4. Supply all equipment necessary for system adjustment and testing.

B. Post installation Inspection for Detention Equipment: The Director’s Representative will call for an inspection tour at the site. Attending will be the Contractor and the Detention Equipment Installer. Other participants may be invited at the discretion of the Director. The Detention systems, hardware, and accessories will be inspected for proper installation and operation.
1. Perform any corrections or adjustments found during the post installation inspection immediately following the tour.
2. Adjust equipment when the temperature is approximately 70 degrees F.

C. Adjusting and Cleaning of Detention Security Hollow Metal Doors and Frames
1. Final Adjustments:
   a. Check and readjust operating hardware items immediately before final inspection.
   b. Leave work in complete and proper operating condition.
   c. Remove and replace defective work including doors or frames that are warped, bowed, or otherwise unacceptable.

D. Clean foreign materials off steel doors and frames immediately after installation.
E. Prime Coat Touch-up: Immediately after installation, sand smooth and clean rusted and damaged areas of shop prime coat and apply touch-up of compatible air-drying primer.

3.03 FINAL INSPECTION OF DETENTION SECURITY HOLLOW METAL DOORS, FRAMES, AND HARDWARE.

A. Upon completion of the project, the Director’s representative will schedule a final inspection to verify doors and frames are properly installed and adjusted. The contractor, door and frame installer, and design representative will attend.

B. Upon verification, the design representative will certify in writing components are properly installed and adjusted within referenced tolerances in accordance with this specification. Include this certification in the Close-out Submittals.

END OF SECTION

CEH
SECTION 260529

FASTENERS, ATTACHMENTS, AND SUPPORTING DEVICES

PART 1 GENERAL

1.01 SUBMITTALS

A. Shop Drawings: Show support details if different from methods specified or shown on the drawings.

B. Product Data: Catalog sheets, specifications and installation instructions.

PART 2 PRODUCTS

2.01 ANCHORING DEVICES

A. Sleeve Anchors: Molly/Emhart’s Parasleeve Series, Phillips’ Red Head AN, HN, FS Series, or Ramset’s Dynabolt Series.


E. Stud Anchors: Phillips’ Red Head JS Series.

2.02 CAST-IN-PLACE CONCRETE INSERTS

A. Continuous Slotted Type Concrete Insert, Galvanized:
   1. Load Rating 1300 lbs./ft.: Kindorf’s D-986.
   2. Load Rating 2400 lbs./ft.: Kindorf’s D-980.
   3. Load Rating 3000 lbs./ft.: Hohmann & Barnard Inc.’s Type CS-H.
   4. Load Rating 4500 lbs./ft.: Hohmann & Barnard Inc.’s Type CS-HD.

B. Threaded Type Concrete Insert: Galvanized ferrous castings, internally threaded.

C. Wedge Type Concrete Insert: Galvanized box-type ferrous castings, designed to accept bolts having special wedge shaped heads.

2.03 MISCELLANEOUS FASTENERS

A. Except where shown otherwise on the Drawings, furnish type, size, and grade required for proper installation of the Work, selected from the following:
   Furnish galvanized fasteners for exterior use, or for items anchored to exterior walls, except where stainless steel is indicated.
1. **Standard Bolts and Nuts:** ASTM A 307, Grade A, regular hexagon head.
2. **Lag Screws:** ASME B18.2.1.
3. **Machine Bolts:** ASME B18.5 or ASME B18.9, Type, Class, and Form as required.
4. **Wood Screws:** Flat head, ASME B18.6.1.
5. **Plain Washers:** Round, ASME B18.22.1.
6. **Lock Washers:** Helical, spring type, ASME B18.21.1.
7. **Toggle Bolts:** Spring Wing Type; Wing AISI 1010, Trunion Nut AISI1010 or Zamac Alloy, Bolt Carbon Steel ANSI B18.6.3.

B. **Stainless Steel Fasteners:** Type 302 for interior Work; Type 316 for exterior Work; Phillips head screws and bolts for exposed Work unless otherwise specified.

### 2.04 TPR (THE PEEL RIVET) FASTENERS

A. 1/4 inch diameter, threadless fasteners distributed by Subcon Products, 315 Fairfield Road, Fairfield, NJ 07004 (800) 634-5979.

### 2.05 HANGER RODS

A. Mild low carbon steel, unless otherwise specified; fully threaded or threaded each end, with nuts as required to position and lock rod in place. Unless galvanized or cadmium plated, provide a shop coat of red lead or zinc chromate primer paint.

### 2.06 “C” BEAM CLAMPS

A. **With Conduit Hangers:**
   1. For 1 Inch Conduit Maximum: B-Line Systems Inc.’s BG-8, BP-8 Series, Caddy/Erico Products Inc.’s BC-8P and BC-8PSM Series, or GB Electrical Inc.’s HIT 110-412 Series.
   2. For 3 Inch Conduit Maximum: Appleton Electric Co.’s BH-500 Series beam clamp with H50W/B Series hangers, Kindorf’s 500 Series beam clamp with 6HO-B Series hanger, or OZ/Gedney Co.’s IS-500 Series beam clamp with H-OWB Series hanger.

B. **For Hanger Rods:**
2.07 CHANNEL SUPPORT SYSTEM

A. Channel Material: 12 gage steel.

B. Finishes:
   1. Phosphate and baked green enamel/epoxy.
   2. Pre-galvanized.
   4. Hot dipped galvanized.
   5. Polyvinyl chloride (PVC), minimum 15 mils thick.

C. Fittings: Same material and finish as channel.

D. UL Listed Systems:
   1. B-Line Systems Inc.’s B-22 (1-5/8 x 1-5/8 inches), B-12 (1-5/8 x 2-7/16 inches), B-11 (1-5/8 x 3-1/4 inches).
   2. Grinell Corp.’s Allied Power-Strut PS 200 (1-5/8 x 1-5/8 inches), PS 150 (1-5/8 x 2-7/16 inches), PS 100 (1-5/8 x 3-1/4 inches).
   3. Kindorf’s B-900 (1-1/2 x 1-1/2 inches), B-901 (1-1/2 x 1-7/8 inches), B-902 (1-1/2 x 3 inches).
   4. Unistrut Corp.’s P-3000 (1-3/8 x 1-5/8 inches), P-5500 (1-5/8 x 2-7/16 inches), P-5000 (1-5/8 x 3-1/4 inches).
   5. Versabar Corp.’s VA-1 (1-5/8 x 1-5/8 inches), VA-3 (1-5/8 x 2-1/2 inches).

2.08 MISCELLANEOUS FITTINGS

A. Side Beam Brackets: B-Line Systems Inc.’s B102, B103, B371-2, Kindorf’s B-915, or Versabar Corp.’s VF-2305, VF-2507.

B. Pipe Straps:
   1. Two Hole Steel Conduit Straps: B-Line Systems Inc.’s B-2100 Series, Kindorf’s C-144 Series, or Unistrut Corp.’s P-2558 Series.
   2. One Hole Malleable Iron Clamps: Kindorf’s HS-400 Series, or OZ/Gedney Co.’s 14-G Series, 15-G Series (EMT).

C. Deck Clamps: Caddy/Erico Products Inc.’s DH-4-T1 Series.

D. Fixture Stud and Strap: OZ/Gedney Co.’s SL-134, or Steel City’s FE-431.

E. Supporting Fasteners (Metal Stud Construction): Metal stud supports, clips and accessories as produced by Caddy/Erico Products Inc.
PART 3 EXECUTION

3.01 INSTALLATION

A. Where specific fasteners are not specified or indicated for securing items to in-place construction, provide appropriate type, size, and number of fasteners for a secure, rigid installation.

B. Install anchoring devices and other fasteners in accordance with manufacturer’s printed instructions.

C. Make attachments to structural steel wherever possible.

3.02 FASTENER SCHEDULE

A. Material:
   1. Use cadmium or zinc coated anchors and fasteners in dry locations.
   2. Use hot dipped galvanized or stainless steel anchors and fasteners in damp and wet locations.
   3. For corrosive atmospheres or other extreme environmental conditions, use fasteners made of materials suitable for the conditions.

B. Types and Use: Unless otherwise specified or indicated use:
   1. Cast-in-place concrete inserts in fresh concrete construction for direct pull-out loads such as shelf angles or fabricated metal items and supports attached to concrete slab ceilings.
   2. Anchoring devices to fasten items to solid masonry and concrete when the anchor is not subjected to pull out loads, or vibration in shear loads.
   3. Toggle bolts to fasten items to hollow masonry and stud partitions.
   4. TPR fasteners to fasten items to plywood backed gypsum board ceilings.
   5. Metallic fasteners installed with electrically operated or powder driven tools for approved applications, except:
      a. Do not use powder driven drive pins or expansion nails.
      b. Do not attach powder driven or welded studs to structural steel less than 3/16 inch thick.
      c. Do not support a load, in excess of 250 lbs from any single welded or powder driven stud.
      d. Do not use powder driven fasteners in precast concrete.

3.03 ATTACHMENT SCHEDULE

A. General: Make attachments to structural steel or steel bar joists wherever possible. Provide intermediate structural steel members where required by support spacing. Select steel members for use as intermediate supports based on a minimum safety factor of 5.
   1. Make attachments to steel bar joists at panel points of joists.
   2. Do not drill holes in main structural steel members.
   3. Use “C” beam clamps for attachment to steel beams.
B. Where it is not possible to make attachments to structural steel or steel bar joists, use the following methods of attachment to suit type of construction unless otherwise specified or indicated on the drawings:

1. Attachment to Concrete Filled Steel Decks (Total thickness, 2-1/2 inches or more):
   a. Before Fill Has Been Placed:
      1) Use thru-bolts and fish plates.
      2) Use welded studs. Do not support a load in excess of 250 pounds from a single welded stud.
   b. After Fill Has Been Placed: Use welded studs. Do not support a load in excess of 250 lbs from a single welded stud.

2. Attachment to Cast-In-Place Concrete:
   a. Existing Concrete: Use anchoring devices.

3. Attachment to Precast Concrete Planks: Use anchoring devices, except do not make attachments to precast concrete planks less than 2-3/4 inches thick.

4. Attachment to Precast Concrete Tee Construction:
   a. New Construction:
      1) Use tee hanger inserts between adjacent flanges.
      2) Use thru-bolts and fish plates, except at roof deck without concrete fill.
   b. Existing Construction:
      1) Use anchoring devices installed in webs of tees. Install anchoring devices as high as possible in the webs.
   c. Do not use powder driven fasteners.
   d. Exercise extreme care in drilling holes to avoid damage to reinforcement.

5. Attachment to Metal Stud Construction: Use supporting fasteners manufactured specifically for the attachment of raceways and boxes to metal stud construction.
   a. Support and attach outlet boxes so that they cannot torque/twist. Either:
      1) Use bar hanger assembly, or:
      2) In addition to attachment to the stud, also provide far side box support.

3.04 CONDUIT SUPPORT SCHEDULE

A. Provide number of supports as required by National Electrical Code. Exception: Maximum support spacing allowed is 4’-0” for conduit sizes 3 inches and larger supported from wood trusses.

B. Use pipe straps and specified method of attachment where conduit is installed proximate to surface of wood or masonry construction.
1. Use hangers secured to surface with specified method of attachment where conduit is suspended from the surface.

C. Use “C” beam clamps and hangers where conduit is supported from steel beams.
D. Use deck clamps and hangers where conduit is supported from steel decking having hanger tabs.
   1. Where conduit is supported from steel decking that does not have hanger tabs, use clamps and hangers secured to decking, utilizing specified method of attachment.

E. Use channel support system supported from structural steel for multiple parallel conduit runs.

F. Where conduits are installed above ceiling, do not rest conduit directly on runner bars, T-Bars, etc.
   1. Conduit Sizes 2-1/2 Inches and Smaller: Support conduit from ceiling supports or from construction above ceiling.
   2. Conduit Sizes Over 2-1/2 Inches: Support conduit from beams, joists, or trusses above ceiling.

3.05 LIGHTING FIXTURE SUPPORT SCHEDULE

A. General: Do not support fixtures from ceilings or ceiling supports unless it is specified or indicated on the drawings to do so.
   1. Support fixtures with hanger rods attached to beams, joists, or trusses. Hanger rod diameter, largest standard size that will fit in mounting holes of fixture.
      a. Where approved, channel supports may span and rest upon the lower chord of trusses and be utilized for the support of lighting fixtures.
      b. Where approved, channel supports may span and be attached to the underside of beams, joists, or trusses and be utilized for the support of lighting fixtures.
   2. Use 2 nuts and 2 washers on lower end of each hanger rod to hold and adjust fixture (one nut and washer above top of fixture housing, one nut and washer below top of fixture housing).
      a. Where specified that an adequately supported outlet box is to support a fixture or be utilized as one point of support, support the box so that it may be adjusted to bring the face of the outlet box even with surface of ceiling.

B. Number of Supports For Ceiling Mounted Lighting Fixtures: Provide at least the following number of supports. Provide additional supports when recommended by fixture manufacturer, or shown on the drawings.
   1. Commercial and Industrial Fluorescent Fixtures:
      a. Support individual fluorescent fixtures less than 2 feet wide at 2 points.
      b. Support continuous row fluorescent fixtures less than 2 feet wide at points equal to the number of fixtures plus one. Uniformly distribute the points of support over the row of fixtures.
      c. Support individual fluorescent fixtures 2 feet or wider at 4 corners.
      d. Support continuous row fluorescent fixtures 2 feet or wider at points equal to twice the number of fixtures plus 2. Uniformly distribute the points of support over the row of fixtures.
e. An adequately supported outlet box may be utilized as one point of support for fixtures weighing less than 50 pounds.

2. Maximum Security Fluorescent Fixtures: Support each fixture at minimum of 8 points (each corner, and 2 supports spaced equally along each side of longest axis). Outlet box shall not be counted as a point of support.

3. Commercial and Industrial Incandescent Fixtures: Support fixture from adequately supported outlet box, to suit fixture design (fixture weight less than 50 pounds).

4. Vandal Resistant Incandescent Fixtures: Support fixture from adequately supported outlet box to suit fixture design, plus 2 fasteners through back of fixture into suitable construction behind fixture.

3.06 CHANNEL SUPPORT SYSTEM SCHEDULE

A. Use channel support system where specified or indicated on the drawings.

B. Channel supports may be used, as approved, to accommodate mounting of equipment.

C. Material and Finish:
   1. Dry Locations: Use 12 gage steel channel support system having any one of the specified finishes.
   2. Damp Locations: Use 12 gage steel channel support system having any one of the specified finishes except green epoxy/enamel.
   3. Wet Locations: Use 12 gage steel channel support system having hot dipped galvanized, or PVC finish.

END OF SECTION
## Door Schedule

### Provide Renovations, Reception Building No. 5, Downstate Correctional Facility

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<th>Material</th>
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<th>Frame Type</th>
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<th>Finish</th>
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<th>Jamb</th>
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<th>Coverplate Side</th>
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### Door Schedule General Notes

1. For secure openings, the **KEY SIDE** and **COVERPLATE SIDE** column designations are:
   - BS - Both Sides; SS - Stop Side; HS - Hinge Side; and 101 (RM NO).
2. Dimensions for vision lites in doors are clear opening sizes for the glass.
3. Coordinate glass sizes with required fire rating noted on the Door Schedule.
4. For door and frame types, see Drawing A-701
5. For floor threshold details for undercuts, see drawing A-701
6. Paint interior doors and frames with IAE paint system.
7. Woven rod doors and partitions. Refer to interior elevations and frame details as referenced on Drawings.