SECTION 102113.19 PLASTIC TOILET COMPARTMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Solid-plastic toilet compartments configured as toilet enclosures entrance screens, and urinal screens.

B. Related Requirements:

1. Section 061000 "Rough Carpentry" for blocking.
2. Section 102800 "Toilet, Bath, and Laundry Accessories" for accessories mounted on toilet compartments.

1.3 COORDINATION

A. Coordinate requirements for blocking, reinforcing, and other supports concealed within wall.

1.4 ACTION SUBMITTALS

A. Product Data:

1. Solid-plastic toilet compartments:

a. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for toilet compartments.

B. Shop Drawings: For solid-plastic toilet compartments.

1. Include plans, elevations, sections, details, and attachment details.
2. Show locations of cutouts for compartment-mounted toilet accessories.
3. Show locations of centerlines of toilet fixtures.
4. Show locations of floor drains.

C. Samples for Initial Selection: Manufacturer's standard color sheets, showing full range of available colors for each type of toilet compartment material indicated.

1. Include Samples of hardware and accessories involving material and color selection.

D. Samples for Verification: Actual sample of finished products for each type of toilet compartment indicated.

1. Size: 6-inch-square, of same thickness indicated for Work.
2. Include each type of hardware and accessory.

1.5 INFORMATIONAL SUBMITTALS

A. Certificates:

1. Product Certificates: For each type of toilet compartment by manufacturer.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: For toilet compartments.

1.7 MAINTENANCE MATERIAL SUBMITTALS

A. Extra Stock Material: Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Door Hinges: One hinge(s) with associated fasteners.
2. Latch and Keeper: One latch(es) and keeper(s) with associated fasteners.
3. Door Bumper: One bumper(s) with associated fasteners.
4. Door Pull: One door pull(s) with associated fasteners.
5. Fasteners: 10 fasteners of each size and type.

1.8 FIELD CONDITIONS

A. Field Measurements: Verify actual locations of toilet fixtures, walls, columns, ceilings, and other construction contiguous with toilet compartments by field measurements, and coordinate before fabrication.

PART 2 - PRODUCTS

2.1 LEED PERFORMANCE REQUIREMENTS

A. For interior, wet-applied, field installed adhesives, sealants, paints, and coatings, provide products that meet both Volatile Organic Compound (VOC) content limits and emissions testing requirements (General Emissions Evaluation), as outlined in Section 018113.14 - SUSTAINABLE DESIGN REQUIREMENTS.

B. Provide interior products that meet emissions testing requirements (General Emissions Evaluation), as outlined in Section 018113.14 - "SUSTAINABLE DESIGN REQUIREMENTS".

C. Provide products that meet Composite Wood Evaluation requirements, as outlined in Section 018113.14 - "SUSTAINABLE DESIGN REQUIREMENTS".

D. Provide products with third party certified Type III industry-wide (generic) or product-specific Environmental Product Declarations (EPDs).

E. Provide products with Manufacturer's product specific Health Product Declarations (HPDs) with full disclosure of known health hazards.

2.2 PERFORMANCE REQUIREMENTS

A. Fire Performance: Tested in accordance with, and pass the acceptance criteria of, NFPA 286.

B. Regulatory Requirements: Comply with applicable provisions in the U.S. Department of Justice "2010 ADA Standards for Accessible Design" and ICC A117.1 for toilet compartments designated as accessible.

2.3 SOLID-PLASTIC TOILET COMPARTMENTS

A. Manufacturers: Subject to compliance with requirements, provide products **Scranton Products – Hiney Hiders**, or equivalent products by one of the following:

1. Accurate Partitions Corp., an ASI Group Company.
2. General Partitions Mfg. Corp.

B. Toilet-Enclosure Style: Overhead braced.

C. Entrance-Screen Style: Overhead braced.

D. Urinal-Screen: Manufacturer's standard floor supported, wall mounted one piece HDPE panel with shoe and sleeve (cap) matching that on the urinal screen panel.

E. Door, Panel, Screen, and Pilaster Construction: Solid, high-density polyethylene (HDPE) panel material, not less than 1 inch thick, seamless, with eased edges, and with homogenous color and pattern throughout thickness of material.

1. Color and Pattern: As selected by Architect from manufactures standard colors, orange peel texture.

F. Pilaster Shoes and Sleeves (Caps): Pilaster Shoes: 3 inches (76 mm) high one-piece molded HDPE. Secured to pilasters with a stainless steel tamper resistant Torx head sex bolt.

1. Color: As selected by Architect from manufactures standard colors.

G. PVC Brackets (Fittings): Full height (continuous). Extruded PVC plastic.

I. Overhead Bracing: Manufacturer's standard continuous, extruded-aluminum head rail with antigrip profile and in manufacturer's standard finish.

2.4 HARDWARE AND ACCESSORIES

A. Hardware and Accessories, Heavy Duty: Manufacturer's heavy-duty operating hardware and accessories.

1. Hinges: Manufacturer's minimum 0.062-inch-thick stainless steel paired, self-closing type that can be adjusted to hold doors open at any angle up to 90 degrees, allowing emergency access by lifting door. Mount with through bolts.
2. Latch and Keeper: Manufacturer's heavy-duty, surface-mounted, cast-stainless steel latch unit, designed to resist damage due to slamming, with combination rubber-faced door strike and keeper, and with provision for emergency access. Provide units that comply with regulatory requirements for accessibility at compartments designated as accessible. Mount with through bolts.
3. Coat Hook: Manufacturer's heavy-duty combination cast-stainless steel hook and rubber-tipped bumper, sized to prevent inswinging door from hitting compartment-mounted accessories. Mount with through bolts.

    a. Provide coat hook without bumper on Handicap stalls.

4. Door Bumper: Manufacturer's heavy-duty, rubber-tipped, cast-stainless steel bumper at outswinging doors and entrance-screen doors. Mount with through bolts.

    a. At doors swinging more than 90 degrees, provide 3 pilaster mounted doorstops.

5. Door Pull: Manufacturer's heavy-duty, cast-stainless steel pull at outswinging doors that complies with regulatory requirements for accessibility. Provide units on both sides of doors at compartments designated as accessible. Mount with through bolts.

    a. Where accessible water closet compartments or single occupancy toilet rooms are provided, the compartment or room doors shall have a pull handle mounted 6 inches from the hinge side on the compartment or room side of the door. This handle shall be between 26 inches and 36 inches from the floor and shall meet the requirements of Section 404.2.6 of ICC/ANSI A117.1.

B. Anchorages and Fasteners: Manufacturer's standard exposed fasteners of stainless steel, finished to match the items they are securing, with theft-resistant-type heads. Provide sex-type bolts for through-bolt applications. For concealed anchors, use stainless steel, hot-dip galvanized steel, or other rust-resistant, protective-coated steel compatible with related materials.

2.5 MATERIALS

A. Stainless Steel Sheet: ASTM A240/A240M or ASTM A666, Type 304, stretcher-leveled standard of flatness.

2.6 FABRICATION

A. Fabrication, General: Fabricate toilet compartment components to sizes indicated. Coordinate requirements and provide cutouts for through-partition toilet accessories where required for attachment of toilet accessories.

B. Overhead-Braced Units: Provide manufacturer's standard corrosion-resistant supports, leveling mechanism, and anchors at pilasters to suit floor conditions. Provide shoes at pilasters to conceal supports and leveling mechanism.

C. Door Size and Swings: Unless otherwise indicated, provide 24-inch-wide, inswinging doors for standard toilet compartments and 36-inch-wide, outswinging doors with a minimum 32-inch-wide, clear opening for compartments designated as accessible.

D. Urinal-Screen Panels: Provide manufacturer's standard corrosion-resistant anchoring assemblies with leveling adjustment at bottoms of panels. Provide shoes and sleeves (caps) at panels to conceal anchorage.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for fastening, support, alignment, operating clearances, and other conditions affecting performance of the Work.

1. Confirm location and adequacy of blocking and supports required for installation.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION OF PLASTIC TOILET COMPARTMENTS

A. General: Comply with manufacturer's written installation instructions. Install units rigid, straight, level, and plumb. Secure units in position with manufacturer's recommended anchoring devices.

1. Maximum Clearances:

a. Pilasters and Panels: 1/2 inch.
b. Panels and Walls: 1 inch.

2. Stirrup Brackets: Secure panels to walls and to pilasters with no fewer than two brackets attached near top and bottom of panel.

a. Locate wall brackets, so holes for wall anchors occur in masonry or tile joints.
b. Align brackets at pilasters with brackets at walls.

B. Overhead-Braced Units: Secure pilasters to floor and level, plumb, and tighten. Set pilasters with anchors penetrating not less than 1-3/4 inches into structural floor unless otherwise indicated in manufacturer's written instructions. Secure continuous head rail to each pilaster with no fewer than two fasteners. Hang doors to align tops of doors with tops of panels and adjust, so tops of doors are parallel with overhead brace when doors are in closed position.

C. Urinal Screens: Attach with anchoring devices to suit supporting structure. Set units level and plumb, rigid, and secured to resist lateral impact.

3.3 ADJUSTING

A. Hardware Adjustment: Adjust and lubricate hardware according to hardware manufacturer's written instructions for proper operation. Set hinges on inswinging doors to hold doors open approximately 30 degrees from closed position when unlatched. Set hinges on outswinging doors and doors in entrance screens to return doors to fully closed position.

END OF SECTION 102113.19

SECTION 102213 WIRE MESH PARTITIONS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Standard-duty wire mesh partitions.

1.2 DEFINITIONS

A. Lock Crimp: Deep crimps at points of the intersection that lock wires securely in place.

1.3 ACTION SUBMITTALS

A. Product Data:

1. Wire mesh partitions.

B. Shop Drawings:

1. Include plans, elevations, sections, and attachment details.
2. Indicate clearances required for operation of doors.

C. Samples for Verification: Panel constructed of specified frame members and wire mesh. Show method of finishing members at intersections.

1. Size: 12 by 12 inches (300 by 300 mm).

D. Delegated Design Submittals: For wire mesh partitions indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.4 INFORMATIONAL SUBMITTALS

A. Certificates:

1. Welding certificates.

B. Qualification Statements: For Installer.

C. Delegated design engineer qualifications.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For wire mesh partition hardware.

1.6 QUALITY ASSURANCE

A. Qualifications:

1. Installers: Entity that employs installers and supervisors who are trained and approved by manufacturer.
2. Welding Qualifications: Qualify procedures and personnel in accordance with the following welding codes:

   a. AWS D1.1/D1.1M.
   b. AWS D1.3/D1.3M.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver wire mesh items with cardboard protectors on perimeters of panels and doors and with posts wrapped to provide protection during transit and Project-site storage. Use vented plastic.

B. Inventory wire mesh partition door hardware on receipt, and provide secure lockup for wire mesh partition door hardware delivered to Project site.

1. Tag each item or package separately with identification, and include basic installation instructions with each item or package.

C. Deliver keys to Owner by registered mail or overnight package service.

1.8 FIELD CONDITIONS

A. Field Measurements: Verify actual dimensions of construction contiguous with wire mesh units by field measurements before fabrication.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Acorn Wire & Iron Works.
2. American Woven Wire Corporation.
3. California Wire Products Corporation.
4. Central Wire and Iron.

5. Folding Guard Corporation.
6. G-S Company (The).
7. Indiana Wire Products, Inc.
8. Jesco Industries, Inc.
9. Kenco Wire & Iron Products Inc.
10. King Wire Partitions, Inc.
11. Miller Wire Works, Inc.
12. Newark Wire Works Inc.
13. R. J. Donaldson, Inc.
14. SpaceGuard Products.
15. Standard Wire & Steel Works.
16. WireCrafters, LLC.

2.2 SOURCE LIMITATIONS

A. For wire mesh products, obtain each color, grade, finish, type, and variety from single source with resources to provide products of consistent quality in appearance and physical properties.

2.3 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design wire mesh units.

B. Structural Performance: Wire mesh units to withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated.

1. Concentrated load of 50 lbf (0.22 kN) applied horizontally on an area of 1 sq. ft. (0.093 sq. m) at any location on a panel.
2. Total load of 200 lbf (0.89 kN) applied uniformly over each panel.
3. Concentrated load and total load need not be assumed to act concurrently.

C. Seismic Performance: Wire mesh units to withstand the effects of earthquake motions determined in accordance with ASCE/SEI 7.

D. Regulatory Requirements: Comply with applicable provisions in 2010 ADA Standards for Accessible Design and ICC A117.1 for doors and gates designated as accessible.

2.4 STANDARD-DUTY WIRE MESH PARTITIONS

A. Mesh: 0.135-inch- (3.5-mm-) diameter, intermediate-crimp steel wire woven into 1-1/2-inch (38-mm) diamond mesh.

B. Vertical Panel Framing: 1-1/4-by-5/8-by-0.080-inch (32-by-16-by-2.0-mm) cold-rolled, C-shaped steel channels with holes for 1/4-inch- (6-mm-) diameter bolts not more than 12 inches (300 mm) o.c.

C. Horizontal Panel Framing: 1-by-1/2-by-1/8-inch (25-by-13-by-3.2-mm) cold-rolled steel channels.

D. Horizontal Panel Stiffeners: Two cold-rolled steel channels, 3/4 by 3/8 by 1/8 inch (19 by 9.5 by 3.2 mm), bolted or riveted toe to toe through mesh; or one 1-by-1/2-by-1/8-inch (25-by-13-by-3.2-mm) cold-rolled steel channel with wire mesh woven through channel.

E. Top Capping Bars: 2-1/4-by-1-inch (57-by-25-mm) cold-rolled steel channels.

F. Posts for 90-Degree Corners: 1-1/4-by-1-1/4-by-1/8-inch (32-by-32-by-3.2-mm) steel angles or square tubes with holes for 1/4-inch- (6-mm-) diameter bolts aligning with bolt holes in vertical framing; with floor anchor clips.

G. Posts for Other-Than-90-Degree Corners: Steel pipe or tubing with holes for 1/4-inch- (6-mm-) diameter bolts aligning with bolt holes in vertical framing; with floor anchor clips.

1. Partitions up to 12 Ft. (3.7 m) High: 1-1/4-inch (32-mm) OD by 1/8 inch (3.2 mm).

H. Line Posts: 3-inch-by-4.1-lb (76-mm-by-1.9-kg) or 3-1/2-by-1-1/4-by-0.127-inch (89-by-32-by-3.2-mm) steel channels; with 1/4-inch (6.4-mm) steel base plates.

I. Three-Way Intersection Posts: 1-1/4-by-1-1/4-by-1/8-inch (32-by-32-by-3.2-mm) steel tubes or channels, with holes for 1/4-inch- (6-mm-) diameter bolts aligned for bolting to adjacent panels.

J. Four-Way Intersection Posts: 1-1/4-by-1-1/4-by-1/8-inch (32-by-32-by-3.2-mm) steel tubes, with holes for 1/4-inch- (6-mm-) diameter bolts aligned for bolting to adjacent panels.

K. Floor Shoes: Metal, not less than 2 inches (50 mm) high; sized to suit vertical framing, drilled for attachment to floor, and with setscrews for leveling adjustment.

L. Swinging Doors: Fabricated from same mesh as partitions, with framing fabricated from 1-1/4-by-1/2-by-1/8-inch (32-by-13-by-3.2-mm) steel channels or 1-1/4-by-5/8-by-0.080-inch (32-by-16-by-2.0-mm) cold-rolled, C-shaped steel channels, banded with 1-1/4-by-1/8-inch (32-by-3.2-mm) flat steel bar cover plates on four sides, and with 1/8-inch- (3.2-mm-) thick angle strike bar and cover on strike jamb.

1. Hinges: Full-surface type, 3-by-3-inch (76-by-76-mm) steel, three per door; bolted, riveted, or welded to door and jamb framing.
2. Cylinder Lock: Mortise type with manufacturer's standard cylinder; operated by key outside and lever inside.
    a. Front Trim: WireCrafters “SF-4” Cylinder less Interchange Core or equivalent approved by Architect.
    b. Rear Trim: WireCrafters “SB-4” Lever Handle or equivalent approved by Architect.

Inactive Leaf Hardware: Cane bolt at bottom and chain bolt at top.

M. Accessories:

1. Sheet Metal Base: 0.035-inch- (0.9-mm-) thick, steel sheet.
2. Adjustable Filler Panels: 0.060-inch- (1.5-mm-) thick, steel sheet; capable of filling openings from 2 to 12 inches (50 to 300 mm).

3. Wall Clips: Manufacturer's standard, steel sheet; allowing up to 1 inch (25 mm) of adjustment.

N. Finish: Powder-coated finish unless otherwise indicated.

1. Color: As selected by Architect from manufacturer's full range.

2.5 MATERIALS

A. Steel Wire: ASTM A510/A510M.

B. Steel Plates, Channels, Angles, and Bars: ASTM A36/A36M.

C. Steel Sheet: Cold-rolled steel sheet, ASTM A1008/A1008M, Commercial Steel (CS), Type B.

D. Steel Tubing: ASTM A500/A500M, cold-formed structural-steel tubing or ASTM A513/A513M, Type 5, mandrel-drawn mechanical tubing.

E. Panel-to-Panel Fasteners: Manufacturer's standard steel bolts, nuts, and washers.

F. Post-Installed Anchors: Capable of sustaining, without failure, a load equal to 6 times the load imposed when installed in unit masonry and 4 times the load imposed when installed in concrete, as determined by testing in accordance with ASTM E488/E488M, conducted by a qualified independent testing agency.

1. Material for Interior Locations: Carbon-steel components are zinc plated to comply with ASTM B633 or ASTM F1941/F1941M, Class Fe/Zn 5, unless otherwise indicated.

G. Power-Driven Fasteners: ICC-ES AC70.

H. Seismic Bracing: Angles with legs not less than 1-1/4 inches (32 mm) wide, formed from 0.040-inch- (1.0-mm-) thick, metallic-coated steel sheet; with bolted connections and 1/4-inch- (6-mm-) diameter bolts.

2.6 FABRICATION

A. General: Fabricate wire mesh items from components of sizes not less than those indicated. Use larger-sized components as recommended by wire mesh item manufacturer. Furnish bolts, hardware, and accessories required for complete installation with manufacturer's standard finishes.

1. Fabricate wire mesh items to be readily disassembled.
2. Welding: Weld corner joints of framing and grind smooth, leaving no evidence of joint.

B. Standard-Duty Wire Mesh Partitions: Fabricate wire mesh partitions with cutouts for pipes, ducts, beams, and other items indicated. Finish edges of cutouts to provide a neat, protective edge.

1. Mesh: Securely clinch mesh to framing.
2. Framing: Fabricate framing with mortise-and-tenon corner construction.

    a. Provide horizontal stiffeners as indicated or, if not indicated, as required by panel height and as recommended by wire mesh partition manufacturer. Weld horizontal stiffeners to vertical framing.
    b. Fabricate three- and four-way intersections using manufacturer's standard connecting clips and fasteners.
    c. Fabricate partition and door framing with slotted holes for connecting adjacent panels.

3. Fabricate wire mesh partitions with 3 to 4 inches (75 to 100 mm) of clear space between finished floor and bottom horizontal framing.
4. Doors: Align bottom of door with bottom of adjacent panels.

    a. For doors that do not extend full height of partition, provide transom over door, fabricated from same mesh and framing as partition panels.

5. Hardware Preparation: Mortise, reinforce, drill, and tap doors and framing as required to install hardware.

2.7 STEEL AND IRON FINISHES

A. Preparation for Shop Priming: Prepare surfaces to comply with SSPC-SP 3, "Power Tool Cleaning."

B. Shop Priming: Apply shop primer to uncoated surfaces of wire mesh units unless otherwise indicated. Comply with SSPC-PA 1, "Paint Application Specification No. 1: Shop, Field, and Maintenance Painting of Steel," for shop painting.

C. Powder-Coat Finish: Immediately after cleaning and pretreating, apply manufacturer's standard baked-on powder-coat finish, suitable for use indicated, with a minimum dry film thickness of 2 mils (0.05 mm).

1. Color and Gloss: As selected by Architect from manufacturer's full range.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine floors for suitable conditions where wire mesh items will be installed.

C. Examine walls to which wire mesh items will be attached for properly located blocking, grounds, and other solid backing for attachment of support fasteners.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION OF WIRE MESH PARTITIONS

A. Anchor wire mesh partitions to floor with 3/8-inch- (9.5-mm-) diameter, postinstalled expansion anchors at 12 inches (305 mm) o.c. through floor shoes located at each post and corner. Adjust wire mesh partition posts in floor shoes to achieve level and plumb installation.

1. Anchors may be set with power-actuated fasteners instead of postinstalled expansion anchors if indicated on Shop Drawings.

B. Anchor wire mesh partitions to walls at 12 inches (305 mm) o.c. through back corner panel framing and as follows:

1. For concrete and solid masonry anchorage, use expansion anchors.
2. For steel-framed gypsum board assemblies, use lag bolts set into wood backing between studs. Coordinate with stud installation to locate backing members.

C. Secure top capping bars to top framing channels with 1/4-inch- (6-mm-) diameter, "U" bolts spaced not more than 28 inches (700 mm) o.c.

D. Provide line posts at locations indicated or, if not indicated, as follows:

1. For partitions that are 7 to 9 ft. (2.1 to 2.7 m) high, spaced at 15 to 20 ft. (4.6 to 6.1 m) o.c.
2. For partitions that are 10 to 12 ft. (3.0 to 3.7 m) high, located between every other panel.
3. For partitions that are more than 12 ft. (3.7 m) high, located between each panel.

E. Provide seismic supports and bracing as indicated or, if not indicated, as recommended by manufacturer and as required for stability, extending and fastening members to supporting structure.

F. Where standard-width wire mesh partition panels do not fill entire length of run, provide adjustable filler panels to fill openings.

G. Install doors complete with door hardware.

H. Weld or bolt sheet metal bases to wire mesh partitions and doors.

I. Bolt accessories to wire mesh partition framing.

3.3 REPAIR

A. Repair Painting:

1. Wire brush and clean rust spots, welds, and abraded areas immediately after installation, and apply repair paint with same material as used for shop painting to comply with SSPC-PA 1 requirements for touching up shop-painted surfaces.

    a. Apply by brush or spray to provide a minimum 2.0-mil (0.05-mm) dry film thickness.

3.4 ADJUSTING

A. Adjust doors to operate smoothly and easily, without binding or warping. Adjust hardware to function smoothly. Verify that latches and locks engage accurately and securely without forcing or binding.

3.5 PROTECTION

A. Remove and replace defective work, including doors and framing that are warped, bowed, or otherwise unacceptable.

END OF SECTION 102213

SECTION 102800 TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Toilet, bath and laundry accessories.

1.3 COORDINATION

A. Coordinate accessory locations with other work to prevent interference with clearances required for access by people with disabilities, and for proper installation, adjustment, operation, cleaning, and servicing of accessories.

B. Deliver inserts and anchoring devices set into concrete or masonry as required to prevent delaying the Work.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
2. Include anchoring and mounting requirements, including requirements for cutouts in other work and substrate preparation.
3. Include electrical characteristics.

B. Product Schedule: Indicating types, quantities, sizes, and installation locations by room of each accessory required.

1. Identify locations using room designations indicated.
2. Identify accessories using designations indicated.

1.5 INFORMATIONAL SUBMITTALS

A. Sample Warranty: For manufacturer's special warranties.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: For accessories to include in maintenance manuals.

1.7 WARRANTY

A. Manufacturer's Special Warranty for Mirrors: Manufacturer agrees to repair or replace mirrors that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, visible silver spoilage defects.
2. Warranty Period: 15 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. Structural Performance: Design accessories and fasteners to comply with the following requirements:

1. Grab Bars: Installed units are able to resist 250 lbf concentrated load applied in any direction and at any point.
2. Shower Seats: Installed units are able to resist 250 lbf applied in any direction and at any point.

2.2 MATERIALS

A. Stainless Steel: ASTM A240/A240M or ASTM A666, Type 304, 0.031-inch-minimum nominal thickness unless otherwise indicated.

B. Galvanized-Steel Sheet: ASTM A653/A653M, with G60 hot-dip zinc coating.

C. Galvanized-Steel Mounting Devices: ASTM A153/A153M, hot-dip galvanized after fabrication.

D. Fasteners: Screws, bolts, and other devices of same material as accessory unit, unless otherwise recommended by manufacturer or specified in this Section, and tamper and theft resistant where exposed, and of stainless or galvanized steel where concealed.

2.3 FABRICATION

A. General: Fabricate units with tight seams and joints, and exposed edges rolled. Hang doors and access panels with full-length, continuous hinges. Equip units for concealed anchorage and with corrosion-resistant backing plates.

B. Keys: Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of six keys to Owner's representative.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.

1. Remove temporary labels and protective coatings.

B. Grab Bars: Install to comply with specified structural-performance requirements.

C. Shower Seats: Install to comply with specified structural-performance requirements.

3.2 ADJUSTING AND CLEANING

A. Adjust accessories for unencumbered, smooth operation. Replace damaged or defective items.

B. Clean and polish exposed surfaces according to manufacturer's written instructions.

3.3 TOILET AND BATH ACCESSORY SCHEDULE

A. Grab Bars: Where this designation is indicated, provide stainless-steel grab bars complying with the following:

1. Stainless-Steel Nominal Thickness: Minimum 0.05 inch.
2. Mounting: Concealed with manufacturer's standard flanges and anchors
3. Gripping Surfaces: Manufacturer's standard slip-resistant texture.
4. Outside Diameter: 1-1/2 inches for heavy-duty applications.
5. Products: Provide grab bars which comply with the following special configurations:

a. Straight (**TA-1a**): Model No. **B6806.99 x 18**, 18-inches.
b. Straight (**TA-1c**): Model No. **B6806.99 x 36**, 36-inches.
c. Straight (**TA-1d**): Model No. **B6806.99 x 42**, 42-inches.

B. Double Toilet Tissue Dispenser (**TA-2b**): Where this designation is indicated, provide toilet tissue dispenser complying with the following:

1. Double-roll toilet tissue dispenser shall be type-304 stainless steel with polished finish. Unit shall accommodate two standard-core toilet paper rolls up to 5-1/2" (140 mm) diameter (1800 sheets). Flanges and support arms shall be 22-gauge (0.8 mm) and equipped with concealed, 18-gauge (1.2 mm) mounting brackets that are secured to concealed, 19-gauge (1.0 mm) wall plates with stainless steel setscrews. Spindles shall be equipped with heavy-duty internal springs and be theft resistant.

    a. Bobrick Model No. **B-7686.**

C. Recessed Auto Delivery Paper Towel Dispenser and Waste Receptacle (**TA-4b**): Where this designation is indicated, provide surface mounted roll paper towel dispenser complying with the following:

1. Recessed convertible automatic universal roll paper towel dispenser and waste receptacle shall be type-304 stainless steel with all welded construction; exposed surfaces shall have satin finish. Flange shall be drawn and beveled, one-piece, seamless construction. Door shall be secured to cabinet with a full-length stainless-steel piano-hinge and equipped with a concealed tumbler lock keyed like other washroom accessories. No-touch dispenser dispenses universal, 1-1/2" to 2" (38 to 51mm) diameter core, up to 8" (205mm) diameter, 8" (205mm) wide, non-perforated, non-proprietary paper towel rolls. 800 ft (244 m) long. Dispenser automatically dispenses towel when hands are placed under the towel opening. Dispenser can be powered by 4 “D” size alkaline batteries or an optional 6-volt DC power supply. Equip with switches that allow paper length to be set at 9" (230mm), 12" (305mm) or 15" (380mm), delay that can be set at 1, 2 or 3 seconds, and “Paper Saver” feature that provides a shorter second sheet with options of 25% shorter and 12.5% shorter. Blinking LED indicates if batteries need to be replaced. Automatic transfer shall dispense stub roll up to 3-1/2" (90mm) diameter before new main roll is automatically dispensed. Removable waste receptacle shall be secured to cabinet with a tumbler lock, edges hemmed for safe handling, and shall have a minimum capacity of 12-gal. (45.5-L).

    a. Bobrick Model No. **B-3974.**

D. Recessed Sanitary Napkin Vendor (**TA-5**): Where this designation is indicated, provide sanitary napkin vendor complying with the following:

1. Recessed napkin/tampon vendor shall combine two dispensing mechanisms in one cabinet to provide sanitary napkins and tampons at user’s option. Mechanical operations; no batteries or electricity required. Dispensing mechanisms shall be pre-set at factory for 50¢ operation but shall be convertible in the field to allow the change of coin denomination without removing unit from wall. Door shall be furnished with graphics indicating specified coin denomination. Unit shall be type-304 stainless steel with all-welded construction; exposed surfaces shall have #4 satin finish. Door shall be 18 gauge (1.2mm); have flat door design with 90° return edges; concealed flange; be secured to cabinet with a concealed, full-length stainless-steel piano hinge; and equipped with two

tumbler locks keyed like other washroom accessories. Vendor product selection and coin return pushbutton-operation shall be certified 2010 ADA Standard Design for Accessibility complaint by third party for operation with one hand with less than 5 pounds of force (22.2 N) without tight grasping, pinching or twisting of the wrist. Push-Button coin return shall cancel selection and return coin into product tray. Wrong coins (penny, nickel, dime) shall by-pass mechanisms and drop into product tray. Product tray shall be impact-resistant PC-ABS plastic and provide easy access to dispensed product. Coin Box shall be equipped with a tumbler lock that is keyed differently than door locks. Unit shall not carry brand-name advertising.

a. Bobrick Model No. **B-37063.**

E. Surface Mounted Sanitary Napkin Disposal (**TA-8a**): Where this designation is indicated, provide stainless-steel combination unit complying with the following:

1. Surface-mounted sanitary napkin disposal shall be type-304 stainless steel with all-welded construction; exposed surfaces shall have satin finish. Door shall be secured to cabinet with a full-length stainless-steel piano-hinge and equipped with a tumbler lock keyed like other washroom accessories. Unit shall have a self-closing panel covering disposal opening. Panel shall have bottom edge hemmed for safety, be secured to door with a spring-loaded, full-length stainless-steel piano-hinge, and equipped with an international graphic symbol identifying sanitary napkin disposal. Unit shall be furnished with a removable, leak-proof, rigid molded polyethylene receptacle. Receptacle shall have a capacity of 1.2-gal. (4.6-L).

a. Bobrick Model No. **B-254**.

F. Soap Dispenser (**TA-9c**): Where this designation is indicated, provide soap dispenser complying with the following:

1. Surface-mounted soap dispenser shall be type-304 stainless steel with satin-finish. Corrosion-resistant valve shall dispense commercially marketed all-purpose hand soaps. To prevent corrosion, use only chloride-free pH-neutral liquid soap. Valve shall be operable with one hand and with less than 5 pounds of force (22.2 N) to comply with barrier-free accessibility guidelines. Container shall be equipped with an unbreakable, clear acrylic refill-indicator window; a locked, hinged stainless steel lid for top filling; and shall have a capacity of 40-fl oz (1.2-L). Unit shall have concealed, vandal resistant mounting.

a. Bobrick Model No. **B-2111**.

G. Mirror Units: Where this designation is indicated, provide mirror unit complying with the following:

1. Stainless Steel Framed Mirror Units: Fabricate frame with angle shapes not less than 0.05 inch (18 gage), with square corners mitered, welded, and ground smooth. Provide in No. 4 satin polished finish.
   a. Product (**TA-11b**): Model No. **B-165** - 24 (wide) x 36 (high).

H. Fixed Tilt Mirror (**TA-12**): Where this designation is indicated, provide fixed tilt mirror complying with the following:

1. Tilt mirror frame shall be type 304 stainless steel with beveled front to hold frame tightly against mirror; corners shall be welded, ground, and polished smooth; all exposed surfaces shall have satin finish with vertical grain. Select float glass mirror shall be guaranteed for 15 years against silver spoilage. All edges shall be protected by plastic filler strips. Back shall be protected by full-size, shock-absorbing, water-resistant, nonabrasive, 1/8" (3 mm) thick polystyrene padding. Back and inner stiffener frame shall be galvanized steel, one-piece welded construction with slots for mounting screws and integral screw-head lock.

    a. Bobrick Model No. **B-293.1836**.

I. Utility Shelf with Mop/Broom Holders and Rag Hooks (**TA-14**): Where this designation is indicated, provide mop and broom holder complying with the following:

1. Surface-mounted utility shelf with mop/broom holders and rag hooks shall be type-304 stainless steel with satin finish. Shelf shall be 18-gauge (1.2 mm) with 1.1/2" (38 mm) return edge. Mounting brackets, welded to shelf, shall be 18 gauge (1.2 mm).

    a. Product: Model No. **B-224** x 36.

J. Folding Shower Seat (**TA-15**): Where this designation is indicated, provide heavy-duty hinged seat designed to fold up against wall when not in use with stainless-steel support braces, hinges, frame, and fasteners; of all-welded construction; and complying with the following:

1. Reversible folding shower seat shall have a frame constructed of type-304, satin-finish stainless steel that consists of 16-gauge (1.6 mm), 1-1/4" (30 mm) square tubing and 18-gauge (1.2 mm), 1" (25 mm) diameter seamless tubing. Seat shall be one-piece, 1/2" (13 mm) thick, solid phenolic with matte-finish, ivory-colored, melamine surfaces, and black phenolic-resin core; secured to frame with stainless steel carriage bolts and acorn nuts. Seat shall be reversible for left- or right-hand installation in the field. Shower seat shall be equipped with two 3" (75 mm) diameter mounting flanges constructed of type-304, 3/16" (5 mm) thick, satin-finish stainless steel; a guide bracket constructed of type-304, 16-gauge (1.6 mm), satin-finish stainless steel; and a spring constructed of type 301, 24-gauge (0.6 mm) stainless steel that is spot-welded to a baseplate of type-304, heavy-gauge stainless steel. Seat shall remain in upright position when not in use. Shower seat shall comply with barrier-free accessibility guidelines.

    a. Product: Model **B-5181**.

K. Toilet Accessory (**TA-25**): Toilet partitions. Refer to Specification Section 102113 - Toilet Compartments.

L. Toilet Accessory (**TA-26**): Urinal Screens. Refer to Specification Section 102113 - Toilet Compartments.

M. Toilet Seat Cover Dispenser (**TA-35**): Where this designation is indicated, provide surface mounted toilet seat cover dispenser complying with the following:

1. Surface-mounted toilet-seat-cover dispenser shall be type-304, 22-gauge (0.8mm) stainless steel with all-welded construction; exposed surfaces shall have satin finish. Dispenser shall have a concealed opening in bottom for filling. Capacity shall be 500 paper toilet seat covers.

    a. Bobrick Model No. **B-221**.

N. Recessed Sharps Disposal (**TA-37**): Where this designation is indicated, provide recessed sharps disposal complying with the following:

1. Sharps disposal shall be fabricated of stainless steel with exposed surfaces in satin finish. Door secured by piano-hinge. Removable needle disposal with tumbler lock.

    a. Bobrick Model No. **B-35016**.

O. Surface Mounted Door Bumper (**TA-38**): Where this designation is indicated, provide stainless-steel door bumper complying with the following:

1. Surface-mounted door bumper shall have base constructed of type-304 stainless steel with bright polished finish. Unit shall be equipped with black neoprene bumper. Provide manufacturer's service and parts manual.

    a. Bobrick Model No. **B-687.**

END OF SECTION 102800

SECTION 104413 FIRE PROTECTION CABINETS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Fire-protection cabinets for the following:

a. Portable fire extinguishers.

B. Related Requirements:

1. Section 104416 "Fire Extinguishers" for portable, hand-carried fire extinguishers accommodated by fire-protection cabinets.

1.3 PREINSTALLATION CONFERENCE

A. Preinstallation Conference: Conduct conference at Project site.

1. Review methods and procedures related to fire-protection cabinets, including, but not limited to, the following:

a. Schedules and coordination requirements.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Show door hardware, cabinet type, trim style, and panel style. Include roughing-in dimensions and details showing recessed-, semi-recessed-, or surface-mounting method and relationships of box and trim to surrounding construction.
2. Show location of knockouts for hose valves.

B. Shop Drawings: For fire-protection cabinets.

1. Include plans, elevations, sections, details, and attachments to other work.

C. Samples: For each type of exposed finish required.

D. Samples for Initial Selection: For each type of exposed finish required.

E. Samples for Verification: For each type of exposed finish required, prepared on samples 6 by 6 inches (150 by 150 mm) square.

F. Product Schedule: For fire-protection cabinets. Indicate whether recessed, semirecessed, or surface mounted. Coordinate final fire-protection cabinet schedule with fire-extinguisher schedule to ensure proper fit and function. Use same designations indicated on Drawings.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For fire-protection cabinets to include in maintenance manuals.

1.6 COORDINATION

A. Coordinate size of fire-protection cabinets to ensure that type and capacity of fire extinguishers indicated are accommodated.

B. Coordinate sizes and locations of fire-protection cabinets with wall depths.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain fire-protection cabinets, accessories, and fire extinguishers from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

A. Fire-Rated Fire-Protection Cabinets: Listed and labeled to comply with requirements in ASTM E814 for fire-resistance rating of walls where they are installed.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.3 FIRE-PROTECTION CABINET (**FEC-1**)

A. Cabinet Type: Suitable for fire extinguisher.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. Guardian Fire Equipment, Inc.
    b. Larsens Manufacturing Company.
    c. Potter Roemer LLC; a Division of Morris Group International.

B. Cabinet Construction: Nonrated.

C. Cabinet Material: Cold-rolled steel sheet.

1. Shelf: Same metal and finish as cabinet.

D. Surface-Mounted Cabinet: Cabinet box fully exposed and mounted directly on wall with no trim.

1. Product: **Larsens Manufacturing Company; 2409-SM.**

E. Cabinet Material: Painted steel sheet.

F. Door Material: Painted steel sheet.

G. Door Style: Flush.

H. Door Hardware: Manufacturer's standard door-operating hardware of proper type for cabinet type, trim style, and door material and style indicated.

1. Provide manufacturer's standard.
2. Provide manufacturer's standard hinge, permitting door to open 180 degrees.

I. Accessories:

1. Mounting Bracket: Manufacturer's standard steel, designed to secure fire extinguisher to fire-protection cabinet, of sizes required for types and capacities of fire extinguishers indicated, with plated or baked-enamel finish.
2. Lettered Door Handle: One-piece, cast-iron door handle with the word "FIRE" embossed into face.
3. Identification: Lettering complying with authorities having jurisdiction for letter style, size, spacing, and location. Locate as indicated.

a. Identify fire extinguisher in fire-protection cabinet with the words "FIRE EXTINGUISHER."

1) Location: Applied to cabinet glazing.
2) Application Process: Silk-screened.
3) Lettering Color: Black.
4) Orientation: Vertical.

J. Materials:

1. Cold-Rolled Steel: ASTM A1008/A1008M, Commercial Steel (CS), Type B.

a. Finish: Baked enamel, TGIC polyester powder coat, HAA polyester powder coat, epoxy powder coat, or polyester/epoxy hybrid powder coat, complying with AAMA 2603.
b. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

c. Color:

1) Interior: White.
2) Exterior: Red.

2.4 FABRICATION

A. Fire-Protection Cabinets: Provide manufacturer's standard box (tub) with trim, frame, door, and hardware to suit cabinet type, trim style, and door style indicated.

1. Weld joints and grind smooth.
2. Miter corners and grind smooth.
3. Provide factory-drilled mounting holes.
4. Prepare doors and frames to receive locks.
5. Install door locks at factory.

B. Cabinet Doors: Fabricate doors according to manufacturer's standards, from materials indicated and coordinated with cabinet types and trim styles.

1. Fabricate door frames with tubular stiles and rails and hollow-metal design, minimum 1/2 inch (13 mm) thick.
2. Fabricate door frames of one-piece construction with edges flanged.
3. Miter and weld perimeter door frames and grind smooth.

C. Cabinet Trim: Fabricate cabinet trim in one piece with corners mitered, welded, and ground smooth.

2.5 GENERAL FINISH REQUIREMENTS

A. Comply with NAAMM's AMP 500, "Metal Finishes Manual for Architectural and Metal Products," for recommendations for applying and designating finishes.

B. Protect mechanical finishes on exposed surfaces of fire-protection cabinets from damage by applying a strippable, temporary protective covering before shipping.

C. Finish fire-protection cabinets after assembly.

D. Appearance of Finished Work: Noticeable variations in same piece are unacceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine walls and partitions for suitable framing depth and blocking where semirecessed cabinets will be installed.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General: Install fire-protection cabinets in locations and at mounting heights indicated or, if not indicated, at height indicated below:

1. Fire-Protection Cabinets: 42 inches (1067 mm) above finished floor to top of fire extinguisher.

B. Fire-Protection Cabinets: Fasten cabinets to structure, square and plumb.

1. Unless otherwise indicated, provide recessed fire-protection cabinets. If wall thickness is inadequate for recessed cabinets, provide semirecessed fire-protection cabinets.
2. Provide inside latch and lock for break-glass panels.
3. Fasten mounting brackets to inside surface of fire-protection cabinets, square and plumb.

C. Identification:

1. Apply decals at locations indicated.

3.3 ADJUSTING AND CLEANING

A. Remove temporary protective coverings and strippable films, if any, as fire-protection cabinets are installed unless otherwise indicated in manufacturer's written installation instructions.

B. Adjust fire-protection cabinet doors to operate easily without binding. Verify that integral locking devices operate properly.

C. On completion of fire-protection cabinet installation, clean interior and exterior surfaces as recommended by manufacturer.

D. Touch up marred finishes, or replace fire-protection cabinets that cannot be restored to factory-finished appearance. Use only materials and procedures recommended or furnished by fire-protection cabinet and mounting bracket manufacturers.

E. Replace fire-protection cabinets that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 104413

SECTION 104416 FIRE EXTINGUISHERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes portable, hand-carried fire extinguishers and mounting brackets for fire extinguishers.

B. Owner-Furnished Material: Hand-carried fire extinguishers.

C. Related Requirements:

1. Section 104413 "Fire Protection Cabinets."

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Review methods and procedures related to fire extinguishers including, but not limited to, the following:

a. Schedules and coordination requirements.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product. Include rating and classification, material descriptions, dimensions of individual components and profiles, and finishes for fire extinguisher and mounting brackets.

B. Product Schedule: For fire extinguishers. Coordinate final fire-extinguisher schedule with fire-protection cabinet schedule to ensure proper fit and function. Use same designations indicated on Drawings.

1.5 INFORMATIONAL SUBMITTALS

A. Warranty: Sample of special warranty.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For fire extinguishers to include in maintenance manuals.

1.7 COORDINATION

A. Coordinate type and capacity of fire extinguishers with fire-protection cabinets to ensure fit and function.

1.8 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace fire extinguishers that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Failure of hydrostatic test according to NFPA 10 when testing interval required by NFPA 10 is within the warranty period.
b. Faulty operation of valves or release levers.

2. Warranty Period: Six years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. NFPA Compliance: Fabricate and label fire extinguishers to comply with NFPA 10, "Portable Fire Extinguishers."

B. Fire Extinguishers: Listed and labeled for type, rating, and classification by an independent testing agency acceptable to authorities having jurisdiction.

1. Provide fire extinguishers approved, listed, and labeled by FM Global.

2.2 PORTABLE, HAND-CARRIED FIRE EXTINGUISHERS

A. Fire Extinguishers: Type, size, and capacity for each fire-protection cabinet and mounting bracket indicated.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Guardian Fire Equipment, Inc.

b. Larsens Manufacturing Company.
c. Potter Roemer Fire Pro

2. Source Limitations: Obtain fire extinguishers, fire-protection cabinets, and accessories, from single source from single manufacturer.
3. Valves: Manufacturer's standard.
4. Handles and Levers: Manufacturer's standard.
5. Instruction Labels: Include pictorial marking system complying with NFPA 10, Appendix B, and bar coding for documenting fire-extinguisher location, inspections, maintenance, and recharging.

B. Multipurpose Dry-Chemical Type in Steel Container (FE-1): UL-rated 4-A:80-B:C, 10-lb (4.5-kg) nominal capacity, with monoammonium phosphate-based dry chemical in enameled-steel container.

1. Product: **Larsens Manufacturing Company; MP10.**

2.3 MOUNTING BRACKETS

A. Mounting Brackets: Manufacturer's standard steel, designed to secure fire extinguisher to wall or structure, of sizes required for types and capacities of fire extinguishers indicated, with plated or black baked-enamel finish.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Guardian Fire Equipment, Inc.
b. Larsens Manufacturing Company.
c. Potter Roemer LLC; a Division of Morris Group International.

2. Source Limitations: Obtain mounting brackets and fire extinguishers from single source from single manufacturer.

B. Identification: Lettering complying with authorities having jurisdiction for letter style, size, spacing, and location. Locate as indicated by Architect.

1. Identify bracket-mounted fire extinguishers with the words "FIRE EXTINGUISHER" in red letter decals applied to mounting surface.

a. Orientation: Vertical.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine fire extinguishers for proper charging and tagging.

1. Remove and replace damaged, defective, or undercharged fire extinguishers.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General: Install fire extinguishers and mounting brackets in locations indicated and in compliance with requirements of authorities having jurisdiction.

1. Mounting Brackets: Top of fire extinguisher to be at 42 inches (1067 mm) above finished floor.

B. Mounting Brackets: Fasten mounting brackets to surfaces, square and plumb, at locations indicated.

END OF SECTION 104416

SECTION 105113 METAL LOCKERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Knocked-down corridor lockers.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of metal locker and bench.

B. Shop Drawings: For metal lockers.

1. Include plans, elevations, sections, and attachment details.
2. Show locker trim and accessories.
3. Include locker identification system and numbering sequence.

C. Samples: For each color specified, in manufacturer's standard size.

D. Samples for Initial Selection: Manufacturer's color charts showing the full range of colors available.

E. Samples for Verification: For the following products, in manufacturer's standard size:

1. Lockers and equipment.
2. Locker benches.

F. Product Schedule: For lockers. Use same designations indicated on Drawings.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Sample Warranty: For special warranty.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: For adjusting, repairing, and replacing locker doors and latching mechanisms to include in maintenance manuals.

1.7 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. The following metal locker hardware items equal to 10 percent of amount installed for each type and finish installed, but no fewer than five units:

a. Locks.
b. Blank identification plates.
c. Hooks.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Do not deliver metal lockers until spaces to receive them are clean, dry, and ready for their installation.

1.9 FIELD CONDITIONS

A. Field Measurements: Verify actual dimensions of recessed openings by field measurements before fabrication.

1.10 COORDINATION

A. Coordinate sizes and locations of concrete and wood bases for metal lockers.

B. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of work specified in other Sections to ensure that metal lockers can be supported and installed as indicated.

1.11 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of metal lockers that fail in materials or workmanship, excluding finish, within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Structural failures.
b. Faulty operation of latches and other door hardware.

2. Damage from deliberate destruction and vandalism is excluded.
3. Warranty Period for Knocked-Down Metal Lockers: One year from date of Substantial Completion.
4. Warranty Period for Welded Metal Lockers: One year from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain metal lockers, locker benches and accessories from single source from single locker manufacturer.

2.2 PERFORMANCE REQUIREMENTS

A. Accessibility Standard: For lockers indicated to be accessible, comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design" the ABA standards of the Federal agency having jurisdiction and ICC A117.1.

2.3 KNOCKED-DOWN CORRIDOR LOCKERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. ASI Storage Solutions; ASI Group.
2. Lyon Workspace Products, LLC.
3. Penco Products, Inc.
4. Republic Storage Systems, LLC.

B. Basis of Design: Penco Products, Inc. “Vanguard.”

C. Doors: One piece; fabricated from 16 gauge or 18 gauge nominal-thickness steel sheet; formed into channel shape with double bend at vertical edges and with right-angle single bend at horizontal edges.

1. Doors less than 12 inches wide may be fabricated from 0.048-inch nominal-thickness steel sheet.
2. Doors for box lockers less than 15 inches wide may be fabricated from 0.048-inch nominal-thickness steel sheet.
3. Reinforcement: Manufacturer's standard reinforcing angles, channels, or stiffeners for doors more than 15 inches wide; welded to inner face of doors.
4. Stiffeners: Manufacturer's standard full-height stiffener fabricated from 0.048-inch nominal-thickness steel sheet; welded to inner face of doors.
5. Sound-Dampening Panels: Manufacturer's standard, designed to stiffen doors and reduce sound levels when doors are closed, of die-formed metal with full perimeter flange and sound-dampening material; welded to inner face of doors.
6. Door Style: Vented panel as follows:

    a. Concealed Vents: Slotted perforations in top and bottom horizontal door return flanges.

D. Body: Assembled by riveting or bolting body components together. Fabricate from unperforated steel sheet with thicknesses as follows:

1. Tops, Bottoms, and Intermediate Dividers: 0.024-inch nominal thickness, with single bend at sides.
2. Backs and Sides: 0.024-inch nominal thickness, with full-height, double-flanged connections.
3. Shelves: 0.024-inch nominal thickness, with double bend at front and single bend at sides and back.

E. Frames: Channel formed; fabricated from 0.060-inch nominal-thickness steel sheet; lapped and factory welded at corners; with top and bottom main frames factory welded into vertical main frames. Form continuous, integral, full-height door strikes on vertical main frames.

1. Cross Frames between Tiers: Channel formed and fabricated from same material as main frames; welded to vertical main frames.
2. Frame Vents: Fabricate face frames with vents.

F. Hinges: Welded to door and attached to door frame with no fewer than two factory-installed rivets per hinge that are completely concealed and tamper resistant when door is closed; fabricated to swing 180 degrees.

1. Knuckle Hinges: Steel, full loop, five or seven knuckles, tight pin; minimum 2 inches high. Provide no fewer than three hinges for each door more than 42 inches high.
2. Continuous Hinges: Manufacturer's standard, steel, full height.
3. Hinges: Manufacturer's standard, steel, continuous or knuckle type.

G. Projecting Door Handle and Latch: Finger-lift latch control designed for use with either built-in combination locks or padlocks; positive automatic latching, chromium plated; pry and vandal resistant.

1. Latch Hooks: Equip doors 48 inches and higher with three latch hooks and doors less than 48 inches high with two latch hooks; fabricated from 0.105-inch nominal-thickness steel sheet; welded or riveted to full-height door strikes; with resilient silencer on each latch hook.
2. Latching Mechanism: Manufacturer's standard, rattle-free latching mechanism and moving components isolated to prevent metal-to-metal contact, and incorporating a prelocking device that allows locker door to be locked while door is open and then closed without unlocking or damaging lock or latching mechanism.

H. Recessed Door Handle and Latch: Stainless steel cup with integral door pull, recessed so locking device does not protrude beyond door face; pry and vandal resistant.

1. Multipoint Latching: Finger-lift latch control designed for use with built-in combination locks, built-in key locks, or padlocks; positive automatic latching and prelocking.

    a. Latch Hooks: Equip doors 48 inches and higher with three latch hooks and doors less than 48 inches high with two latch hooks; fabricated from 0.105-inch nominal-thickness steel sheet; welded or riveted to full-height door strikes; with resilient silencer on each latch hook.
    b. Latching Mechanism: Manufacturer's standard, rattle-free latching mechanism and moving components isolated to prevent metal-to-metal contact, and incorporating a prelocking device that allows locker door to be locked while door is open and then closed without unlocking or damaging lock or latching mechanism.

2. Single-Point Latching: Nonmoving latch hook with steel padlock loop that projects through recessed cup and is finished to match metal locker body.

    a. Latch Hook: Equip each door with one latch hook, fabricated from 0.105-inch nominal-thickness steel sheet; welded midway up full-height door strike; with resilient silencer.

I. Identification Plates: Manufacturer's standard, etched, embossed, or stamped aluminum plates, with numbers and letters at least 3/8 inch high.

J. Coat Hooks: Manufacturer's standard ball-pointed hooks, aluminum or steel; zinc plated.

K. Legs: 6 inches high; formed by extending vertical frame members, or fabricated from 0.075-inch nominal-thickness steel sheet; welded to bottom of locker.

1. Closed Front and End Bases: Fabricated from 0.036-inch nominal-thickness steel sheet.

L. Recess Trim: Fabricated from 0.048-inch nominal-thickness steel sheet.

M. Filler Panels: Fabricated from manufacturer's standard thickness, but not less than 0.036-inch nominal-thickness steel sheet.

N. Boxed End Panels: Fabricated from 0.060-inch nominal-thickness steel sheet.

O. Finished End Panels: Fabricated from 0.024-inch nominal-thickness steel sheet to cover unused penetrations and fasteners, except for perimeter fasteners, at exposed ends of nonrecessed metal lockers; finished to match lockers.

P. Center Dividers: Fabricated from 0.024-inch nominal-thickness steel sheet.

Q. Materials:

1. Cold-Rolled Steel Sheet: ASTM A1008/A1008M, Commercial Steel (CS), Type B, suitable for exposed applications.
2. Metallic-Coated Steel Sheet: ASTM A653/A653M, Commercial Steel (CS), Type B; with A60 zinc-iron, alloy (galvannealed) coating designation.

R. Finish: Baked enamel or powder coat.

1. Color:
   a. **L-1**: #054 “Canvas.”

2.4 LOCKS

A. Combination Padlock: Provided by Owner.

2.5 FABRICATION

A. Fabricate metal lockers square, rigid, without warp, and with metal faces flat and free of dents or distortion. Make exposed metal edges safe to touch and free of sharp edges and burrs.

1. Form body panels, doors, shelves, and accessories from one-piece steel sheet unless otherwise indicated.
2. Provide fasteners, filler plates, supports, clips, and closures as required for complete installation.

B. Fabricate each metal locker with an individual door and frame; individual top, bottom, and back; and common intermediate uprights separating compartments.

C. Equipment: Provide each locker with an identification plate and the following equipment:

1. Single-Tier Units: Shelf, one double-prong ceiling hook, and two single-prong wall hooks.

D. Knocked-Down Construction: Fabricate metal lockers by assembling at Project site or preassembling at plant prior to shipping, using manufacturer's nuts, bolts, screws, or rivets.

E. Welded Construction: Factory preassemble metal lockers by welding all joints, seams, and connections; with no bolts, nuts, screws, or rivets used in assembly of main locker groups. Factory weld main locker groups into one-piece structures. Grind exposed welds smooth and flush.

F. Accessible Lockers (ADA): Fabricate as follows:

1. Locate bottom shelf no lower than 15 inches above the floor.
2. Where hooks, coat rods, or additional shelves are provided, locate no higher than 48 inches above the floor.
3. Sloping-top corner fillers, mitered.
4. Provide a minimum of 5percent of quantity for each locker type per room, minimum of one to meet ADA.

G. Recess Trim: Fabricated with minimum 2-1/2-inch face width and in lengths as long as practical; finished to match lockers.

H. Filler Panels: Fabricated in an unequal leg angle shape; finished to match lockers. Provide slip-joint filler angle formed to receive filler panel.

I. Boxed End Panels: Fabricated with 1-inch-wide edge dimension, and designed for concealing fasteners and holes at exposed ends of nonrecessed metal lockers; finished to match lockers.

1. Provide one-piece panels for double-row (back-to-back) locker ends.

J. Finished End Panels: Fabricated to conceal unused penetrations and fasteners, except for perimeter fasteners, at exposed ends of nonrecessed metal lockers; finished to match lockers.

1. Provide one-piece panels for double-row (back-to-back) locker ends.

K. Center Dividers: Full-depth, vertical partitions between bottom and shelf; finished to match lockers.

2.6 ACCESSORIES

A. Fasteners: Zinc- or nickel-plated steel, slotless-type, exposed bolt heads; with self-locking nuts or lock washers for nuts on moving parts.

B. Anchors: Material, type, and size required for secure anchorage to each substrate.

1. Provide nonferrous-metal or hot-dip galvanized anchors and inserts on inside face of exterior walls, and elsewhere as indicated, for corrosion resistance.
2. Provide toothed-steel or lead expansion sleeves for drilled-in-place anchors.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine walls and floors or support bases, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install lockers level, plumb, and true; shim as required, using concealed shims.

1. Anchor locker runs at ends and at intervals recommended by manufacturer, but not more than 36 inches o.c. Using concealed fasteners, install anchors through backup reinforcing plates, channels, or blocking as required to prevent metal distortion.
2. Anchor single rows of metal lockers to walls near top and bottom of lockers of lockers and to floor.
3. Anchor back-to-back metal lockers to floor.

B. Knocked-Down Lockers: Assemble with manufacturer's standard fasteners, with no exposed fasteners on door faces or face frames.

C. Welded Lockers: Connect groups together with manufacturer's standard fasteners, with no exposed fasteners on face frames.

D. Equipment:

1. Attach hooks with at least two fasteners.
2. Attach door locks on doors using security-type fasteners.
3. Identification Plates: Identify metal lockers with identification indicated on Drawings.

    a. Attach plates to each locker door, near top, centered, with at least two aluminum rivets.
    b. Attach plates to upper shelf of each open-front metal locker, centered, with a least two aluminum rivets.

E. Trim: Fit exposed connections of trim, fillers, and closures accurately together to form tight, hairline joints, with concealed fasteners and splice plates.

1. Attach recess trim to recessed metal lockers with concealed clips.
2. Attach filler panels with concealed fasteners. Locate filler panels where indicated on Drawings.
3. Attach sloping-top units to metal lockers, with closures at exposed ends.

4. Attach boxed end panels using concealed fasteners to conceal exposed ends of nonrecessed metal lockers.
5. Attach finished end panels using fasteners only at perimeter to conceal exposed ends of nonrecessed metal lockers.

3.3 ADJUSTING

A. Clean, lubricate, and adjust hardware. Adjust doors and latches to operate easily without binding. Verify that integral locking devices operate properly.

3.4 PROTECTION

A. Protect metal lockers from damage, abuse, dust, dirt, stain, or paint. Do not permit use during construction.

B. Touch up marred finishes, or replace metal lockers that cannot be restored to factory-finished appearance. Use only materials and procedures recommended or furnished by locker manufacturer.

3.5 LOCKER SCHEDULE

No.	**Manuf.**	**Product**	**Color**	**Size**
L-1	Pemco Products, Inc.	“Vanguard: 6” Zee Base Sloping top.	#054 Canvas	12"W x 18"D x 60”H

END OF SECTION 105113