SECTION 10 11 00
VISUAL DISPLAY SURFACES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:

1. Markerboards.

2. Tackboards.

1.02 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Samples: For each exposed product and for each color and texture specified.

1.03 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified Installer.

B. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for surface-burning characteristics of fabrics.

C. Warranties: Sample of special warranties.

1.04 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For visual display surfaces to include in maintenance manuals.

1.05 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of motor-operated, sliding visual display units required for this Project.

B. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: 25 or less.

2. Smoke-Developed Index: 50 or less.

PART 2 PRODUCTS

2.01 PRODUCTS

A. Porcelain-Enamel Face Sheet: Porcelain-enamel-clad, ASTM A 463/A 463M, Type 1, stretcher-leveled aluminized steel, with 0.024-inch (0.60-mm) uncoated thickness; with porcelain-enamel coating fused to steel at approximately 1000 deg F (538 deg C).

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
   a. Claridge Products and Equipment, Inc.; LCS Markerboard.

2.02 MARKERBOARD ASSEMBLIES

A. Porcelain-Enamel Markerboards: Balanced, high-pressure, factory-laminated markerboard assembly of three-ply construction consisting of backing sheet, core material, and 0.021-inch- (0.53-mm-) thick, porcelain-enamel face sheet with high -gloss finish.

1. 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:
   a. AARCO Products, Inc.
   b. ADP Lemco, Inc.
   c. Aywon.
   d. Bangor Cork Company, Inc.
   e. Best-Rite Manufacturing.
   f. Claridge Products and Equipment, Inc.
   g. Egan Visual Inc.
   h. Ghent Manufacturing, Inc.

2. Manufacturer's Standard Core: Minimum 1/4 inch (6 mm) thick, with manufacturer's standard moisture-barrier backing.

3. Laminating Adhesive: Manufacturer's standard, moisture-resistant thermoplastic type.

2.03 TACKBOARD ASSEMBLIES

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. A-1 Visual Systems.
2. AARCO Products, Inc.
3. ADP Lemco, Inc.
4. Aywon.
5. Bangor Cork Company, Inc.
6. Best-Rite Manufacturing.
7. Claridge Products and Equipment, Inc.
8. Egan Visual Inc.
9. EverProducts by Glenroy Inc.
10. Ghent Manufacturing, Inc.

B. Natural-Cork Tackboard : 1/4-inch- (6-mm-) thick, natural cork sheet factory laminated to 1/4-inch- (6-mm-) thick particleboard backing.

2.04 MARKERBOARD AND TACKBOARD ACCESSORIES

A. Aluminum Frames and Trim: Fabricated from not less than 0.062-inch- (1.57-mm-) thick, extruded aluminum; standard size and shape .

1. Field-Applied Trim: Manufacturer's standard, snap-on trim with no visible screws or exposed joints .
2. Factory-Applied Trim: Manufacturer's standard.

B. Chalktray: Manufacturer's standard, continuous.

1. Box Type: Extruded aluminum with slanted front, grooved tray, and cast-aluminum end closures.

2.05 ALUMINUM FINISHES

A. Clear Anodic Finish: AAMA 611, AA-M12C22A31, Class II, 0.010 mm or thicker.

2.06 SURFACE SCHEDULE

A. Tackboard : Factory assembled.

1. Tack Surface: Natural-cork tackboard assembly.

2. Corners: Square .

3. Width: As indicated on Drawings.

4. Height: As indicated on Drawings.

5. Mounting: Wall .

6. Mounting Height: As indicated on Drawings .

7. Edges: Concealed by trim.
   a. Factory -Applied Aluminum Trim: Manufacturer's standard style, with clear anodic finish.

PART 3 EXECUTION

3.01 INSTALLATION

A. Prepare surfaces to achieve a smooth, dry, clean surface free of flaking, unsound coatings, cracks, defects, projections, depressions, and substances that will impair bond between visual display surfaces and wall surfaces.

B. General: Install visual display surfaces in locations and at mounting heights indicated on Drawings. Keep perimeter lines straight, level, and plumb. Provide grounds, clips, backing materials, adhesives, brackets, anchors, trim, and accessories necessary for complete installation.

END OF SECTION

SECTION 10 14 00
SIGNAGE

PART 1 GENERAL

1.01 REFERENCES

A. The following is a list of standards that may be referenced in this section:

1. American National Standards Institute (ANSI): All7.1, American Standard for Building and Facilities Providing Accessibility and Usability for Physically Handicapped People.

2. American Society of Mechanical Engineers (ASME): Al3.1, Scheme for the Identification of Piping Systems.

3. ASTM International (ASTM):
   a. A53, Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless.
   b. D709, Standard Specification for Laminated Thermosetting Materials.

4. The Chlorine Institute, Inc.: WC-1, Wall Chart: Handling Chlorine Cylinders and Ton Containers.

5. National Fire Protection Association (NFPA):
   a. 704, Standard System for the Identification of the Hazards of Materials for Emergency Response.
   b. HAZ-01, Fire Protection Guide to Hazardous Materials.

6. Occupational Safety and Health Act (OSHA).

7. U.S. Department of Transportation, Federal Highway Administration: Manual on Uniform Traffic Control Devices for Streets and Highways.

1.02 SUBMITTALS

A. Action Submittals:

1. Shop Drawings:
   a. Drawings showing layouts, actual letter sizes and styles, and Project-specific mounting details.
   b. Manufacturer's literature showing letter sizes and styles, sign materials, and standard mounting details.

2. Samples: One full size for each type of nameplate, sign, and label specified.

B. Informational Submittals: Manufacturer's installation instructions.

PART 2 PRODUCTS

2.01 SIGNS

A. Plastic Signs (Type A):

1. Exterior: Laminated plastic subsurface image type, 3116 inch thick with high gloss finish.

2. Interior: Plastic, 118 inch thick with nondirectional matte finish and engraved letters.

3. Rounded comers.

B. Metal Signs (Type B):

1. Material: Baked enamel finished 20-gauge (minimum) steel or 18-gauge (minimum) aluminum signs.

2. Manufacturers:
   a. Seton Identification Products.
   b. Nutheme Illustrated Safety Co.

C. Fiberglass Signs (Type C):

1. Material: Three-ply laminated fiberglass, minimum 118 inch thick, with contrasting color core message layer between two clear weather-resistant surface layers.

2. Manufacturers:
   a. Best Manufacturing Co.
   b. Brady Signmark.

D. Painted Signs (Type F):

1. Stenciled.

2. Paint System and Surface Preparation: As specified in Section 09 90 00, Painting and Coating, as appropriate for material and sign location.

E. Hazardous Material Signals (Type H):

1. Conform to NFPA 704 and NFPA HAZ-01.

2. Material: Fiberglass 1/8 inch thick.

3. Background, Letters, and Numbers: Die-cut vinyl with pressure sensitive adhesive.

4. Manufacturers:
   a. Brady Signmark.
   b. Emed Co., Inc.

2.02 IDENTIFICATION LABELS

A. Pipe Labels:

1. Labels:
   a. Snap-on, reversible type with lettering and directional arrows, sized for outside diameter of pipe and insulation.
   b. Provided with ties or straps for pipes of 6 inches and over diameter.
   c. Designed to firmly grip pipe so labels remain fixed in vertical pipe runs.

2. Material: Heavy-duty vinyl or polyester, suitable for exterior use, long lasting, and resistance to moisture, grease, and oils.

3. Letters and Arrows: Black on OSHA safety yellow background.

4. Color Field and Letter Height: Meet ASME Al3.1.

5. Message: Piping system name as indicated on Piping Schedule.

6. Manufacturers and Products:
   a. Brady Signmark; B-915 BradySnap-On and Strap-On Pipe Markers.
   b. Seton Identification Products; Ultra-mark Pipe Markers.

B. Pipe Labels:

1. Labels: Self-adhesive tape, with separate directional flow arrows.

2. Material: Pressure sensitive vinyl.

3. Letters and Arrows: Black on OSHA safety yellow background.

4. Color Field and Letter Height: ASME Al3.1.

5. Message: Piping system name as indicated on Piping Schedule.

6. Manufacturers and Products:
   a. Brady Signmark; B-946 Self-Sticking Vinyl Pipe Markers and Vinyl Arrows.
   b. Seton Identification Products; Opti-Code Markers and Directional Arrows.

C. Equipment Labels:

1. Applies to equipment with assigned tag numbers, where specified.

2. Letters: Black bold face, 3/4 inch minimum high.

3. Background: OSHA safety yellow.

4. Materials:
   a. Aluminum or stainless steel with a baked-on finish suitable for use on wet, oily, exposed, abrasive, and corrosive areas.

5. Furnish l-inch margin with holes at each end of label, for mounting. On fiberglass labels, furnish grommets at each hole.

6. Size:
   a. 2 inches minimum and 3 inches maximum high, by 14 inches minimum and 18 inches maximum long.
   b. Furnish same size base dimensions for all labels.

7. Message: Equipment names and tag numbers as used in sections where equipment is specified.

8. Manufacturers:
   a. Brady Signmark.
   b. Seton Identification Products.

2.03 ANCILLARY MATERIALS

A. Fasteners: Stainless steel screws or bolts of appropriate sizes.

B. Wood Posts: Preservative treated 4 by 4 wood as specified in Section 06 10 00, Rough Carpentry.

C. Pipe Posts: 2-112-inch galvanized steel pipe meeting ASTM A53, TypeS, Grade B.

D. Chain: Type 304 stainless steel, No. 16 single jack chain or No.2 double loop coil chain.

E. Manufacturer's standard brackets for wall mounting of two-sided exit signs.

PART3 EXECUTION

3.01 INSTALLATION-GENERAL

A. In accordance with manufacturer's recommendations.

B. Mount securely, plumb, and level.

3.02 SIGNS

A. Fasten to walls or posts or hang as scheduled. Anchor in place for easy removal and reinstallation with ordinary hand tools.

B. Information and Safety Signs:

1. Install facing traffic. Locate for high visibility with minimum restriction of working area around walkways and equipment.

2. Install as scheduled.

3. Removable with ordinary hand tools without leaving scars on structure or equipment.

C. Hazardous Material Signs:

1. Install where required by NFPA No. 704 and UFC, Chapter 79.

2. Install at entrances to spaces where hazardous materials are stored, dispensed, used, or handled and on sides of stationary tanks.

3. Specific Materials:

3.03 IDENTIFICATION LABELS

A. Pipe Labels:

1. Locate at connections to equipment, valves, or branching fittings at wall boundaries.

2. At intervals along piping not greater than 18 feet on center with at least one label applied to each exposed horizontal and vertical run of pipe.

3. At exposed piping not normally in view, such as above suspended ceilings and in closets and cabinets.

4. Supplementary Labels: Provide to Owner those listed on Piping Schedule that do not receive arrows.

5. Application: To pipe only after painting in vicinity is complete or as approved by Engineer.

6. Installation: In accordance with manufacturer's instructions.

B. Equipment Labels:

1. Locate and install on equipment or concrete equipment base.

2. Anchor to equipment or base for easy removal and replacement with ordinary hand tools.

3.04 SUPPLEMENTS

A. The supplement listed below, following "End of Section," is a part of this Specification.

l. Sign Schedule: A tabulation of characteristics and mounting information for each sign on the Project numbered on Drawings. Provide items as scheduled. Meet requirements of Occupational Safety and Health Act (OSHA).

SECTION 10 14 00
SUPPLEMENT

SIGN SCHEDULE

Sign									Lettering					
			Size			Mounting								
No.[1]	**Type [2]**	**Format [3]**	**Width**	**Height**	**Color**	**Location**	**Method**	**Height to Top**	**Height**	**Style**	**Color**	**Message**	**Faces**	**Other Requirements**
C-1	C	1014-002	20"	14"	Yellow	Hanging	Chain	5'- 6"	1" min.	Helvetica	Black	CAUTION Equipment Starts Automatically	1	Locate adjacent to each piece of equipment which can start remotely.
H-4	H	1014-006	10" Min.	10" min.	4	Wall or Tank	Adhesive	5'- 6"	4"	4"	Block	Black	4	* See format detail and Spec Article, Signs
W-1	C	1014-003	20"	14"	Orange	Wall	Bolts	5'- 6"	1"min.	Helvetica	Black	WARNING Wear Required Protection	1	Locate adjacent to Powder Activated Carbon Feed
W-2	C	1014-003	20"	14"	Orange	Slab	Bolts	NA	1" min	Helvetica	Black	WARNING Confined Space Permit Required	1	On slab at Raw Water Vault at Raw Water Pump Station

[1] Numbers refer to a particular sign type with a particular message.
[2] Letters refer to sign types specified in this section.
[3] Numbers refer to Design Details that show sign layout.
[4] Verify requirements for this sign with Laws and Regulations in state where Project is located.

END OF SECTION

SECTION 10 20 00
ALUMINUM LOUVERS AND VENTS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:

1. Fixed metal wall louvers.

2. Blank-off panels for wall louvers.

3. Wall vents.

B. Related Documents: Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to Work of this Section.

1.02 DEFINITIONS

A. Louver Terminology: Refer to AMCA Publication 501-85 for definitions of terms for metal louvers not otherwise defined in this Section, or referenced standards.

1.03 PERFORMANCE REQUIREMENTS

A. Structural Performance: Design, engineer, fabricate, and install exterior metal wall louvers to withstand the effects of loads and stresses from wind and normal thermal movement without evidencing permanent deformation of louver components including blades, frames, and supports; noise or metal fatigue caused by louver blade rattle or flutter, and permanent damage to fasteners and anchors:

1. Wind Load: Uniform pressure (velocity pressure) of 20 pounds per square foot acting inwards or outwards.

2. Normal thermal movement is defined as that resulting from the following maximum change (range) in ambient temperature. Base design calculations on actual surface temperatures of metals due to both solar heat gain and nighttime sky heat loss.

a. Temperature Change (Range): 100 degrees F (55.5 degrees C).

B. Air Performance, Water Penetration, and Air Leakage Ratings: Provide louvers complying with performance requirements indicated as demonstrated by testing manufacturers' stock units, of height and width indicated, according to Air Movement and Control Association (AMCA) Standard 500.

1.04 SUBMITTALS

A. Shop Drawings: Submit in accordance with Section 01 30 00, Submittals covering the items included under this Section. Shop Drawing submittals shall include:

1. Drawings of louver units and accessories. Include plans, elevations, sections, and details showing profiles, angles, spacing of louver blades, unit dimensions related to wall openings and construction, free areas for each size indicated, and profiles of frames at jambs, heads, and sills.

2. Product data for each product indicated.

3. Samples for initial selection purposes in form of manufacturer's color charts showing full range of colors available for those units with factory-applied color finishes.

4. Samples for verification purposes of each type of metal finish required, prepared on 6-inch square metal samples of same thickness and alloy indicated for final unit of Work. Where finishes involve normal color and texture variations, include sample sets showing full range of variations expected.

1.05 QUALITY ASSURANCE

A. Single Source Responsibility: Obtain louvers and vents from a single source where alike in one or more respects with regard to type, design, and factory-applied color finish.

B. Codes and Standards:

1. Qualify welding processes and welding operators in accordance with D1.2, "Structural Welding Code - Aluminum," and D1.3, "Structural Welding Code - Sheet Steel."

a. Certify that each welder employed in unit of Work of this Section has satisfactorily passed AWS qualification tests for welding processes involved and, if pertinent, has undergone recertification.
b. Testing for recertification is CONTRACTOR's responsibility.

c. Comply with SMACNA "Architectural Sheet Metal Manual" recommendations for fabrication, construction details, and installation procedures.

1.06 PROJECT CONDITIONS

A. Field Measurements: Check actual louver openings by accurate field measurements before fabrication; show recorded measurements on final Shop Drawings. Coordinate Fabrication schedule with construction progress to avoid delay of Work.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Subject to compliance with specified requirements, manufacturers offering products which may be incorporated in Work include:

1. Louvers:

a. Airolite Co.
b. American Warming and Ventilating, Inc.
c. Construction Specialties, Inc.
d. Industrial Louvers, Inc.
e. Greenheck Fan Corporation (BASIS OF DESIGN).
f. Ruskin Manufacturing Division, Phillips Industries, Inc.

2. Metal Wall Vents (Brick Vents):

a. Airolite Co.
b. Construction Specialties, Inc.
c. Industrial Louvers, Inc.
d. Riesner Vent Brick Corp.
e. Ruskin Manufacturing Division, Phillips Industries, Inc.
f. Sunvent Industries, Sylro Sales Corp.

2.02 MATERIALS

A. Aluminum Sheet: ASTM B 209, Alloy 3003 or 5005, with temper as required for forming or as otherwise recommended by metal producer to produce required finish.

B. Aluminum Extrusions: ASTM B 221, Alloy 6063-T5 or T-52.

C. Fasteners: Of same basic metal and alloy as fastened metal, unless otherwise indicated. Do not use metals which are corrosive or incompatible with materials joined.

1. Use types, gauges, and lengths to suit unit installation conditions.

2. Use Phillips flat-head machine screws for exposed fasteners unless otherwise indicated.

D. Anchors and Inserts: Of type, size, and material required for type of loading and installation indicated. Use nonferrous metal or hot-dip galvanized anchors and inserts for exterior installations and elsewhere as required for corrosion resistance. Use toothed steel or expansion bolt devices for drilled-in-place anchors.

E. Bituminous Paint: SSPC-Paint 12 (cold-applied asphalt mastic).

2.03 FABRICATION, GENERAL

A. Fabricate louvers and vents to comply with requirements indicated for design, dimensions, materials, joinery, and performance.

B. Preassemble louvers in shop to minimize field splicing and assembly. Disassemble units as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation.

C. Maintain equal louver blade spacing, including separation between blades and frames at head and sill, to produce uniform appearance.

D. Fabricate frames, including integral sills, to fit in openings of size indicated with allowances made for fabrication and installation tolerances of louvers, adjoining construction, and perimeter sealant joints.

E. Include supports, anchorages, and accessories required for complete assembly.

F. Provide vertical mullions of type and at spacings indicated, but not further apart than recommended by manufacturer, or 72 inches on center, whichever is less. At horizontal joints between louver units, provide horizontal mullions except where continuous vertical assemblies are indicated.

G. Provide sill extensions and loose sills made of same material as louvers, where indicated, or required for drainage to exterior and to prevent water penetrating to interior.

H. Join frame members to one another and to fixed louver blades as follows, unless otherwise indicated, or size of louver assembly makes bolted connections between frame members necessary:

1. With fillet welds concealed from view, and concealed from view mechanical fasteners only where required for continuous assemblies.

2.04 FIXED EXTRUDED ALUMINUM WALL LOUVERS

A. Horizontal, Drainable Fixed Blade Louvers: Extruded aluminum frames and louver blades, designed to collect and drain water to exterior at sill by means of gutters in front edges of blades and of channels in jambs and mullions, complying with the following requirements.

1. Louver Depth: 4 inches, unless otherwise indicated.

2. Frame Thickness: 0.081 inch unless otherwise indicated.

3. Louver Blade Thickness: 0.081 inch unless otherwise indicated.

4. Louver Blade Angle: 45 degrees unless otherwise indicated.

5. Performance Requirements: As follows, determined by testing units 48 inches wide by 48 inches high per AMCA Standard 500:
   a. Louver-free Area: Not less than 7.34 square feet.

6. Static Pressure Loss: Not more than 0.15 inch water gauge at an airflow of 1,000 fpm free area intake velocity.

   a. Water Penetration: Not more than 0.02 ounce per square foot of free area at an airflow of 1,450 fpm free area velocity when tested for 15 minutes.

2.05 LOUVER SCREENS

A. Provide each exterior louver with louver screens complying with the following requirements:

1. Screen Location for Fixed Louvers: Interior face unless otherwise indicated.

2. Screening Type: Bird screening on all exhaust louvers unless otherwise indicated.

3. Screening Type: Insect screening on all intake louvers unless otherwise indicated.

4. Screening Type: Bird screening on all intake louvers unless otherwise indicated.

B. Secure screens to louver frames with stainless steel machine screws, spaced at each corner and at 12-inch on center between.

C. Louver Screen Frames: Fabricate screen frames with mitered corners to louver sizes indicated and to comply with the following requirements:

1. Metal: Same kind and form of metal as indicated for louver frames to which screens are attached.

a. Reinforce extruded aluminum screen frames at corners with clips.

2. Finish: Same finish as louver frames to which louver screens are attached.

3. Type: Rewireable frames with a driven spline or insert for securing screen mesh.

D. Louver Screening for Aluminum Louvers: Fit aluminum louver screen frames with screening covering louver openings and complying with the following requirements:

1. Bird Screening: 1/4-inch square mesh formed with 0.080-inch-diameter aluminum wire.

2. Insect Screening: 18 by 16-mesh formed with 0.012-inch-diameter aluminum wire.

2.06 WALL VENTS

A. Extruded Aluminum Wall Vents: Extruded aluminum louvers and frames not less than 0.125-inch thick and assembled by welding, with 18 by 14-mesh aluminum wire insect screening on inside face. Incorporating weep holes, continuous drip at sill, and integral water stop on inside edge of sill, of load-bearing design and construction.

2.07 FINISHES

A. Comply with NAAMM "Metal Finishes Manual" for recommendations relative to application and designations of finishes.

B. Finish louvers after assembly.

2.10 ALUMINUM FINISHES

A. Finish designations prefixed by "AA" conform to the system established by the Aluminum Association for designating aluminum finishes.

B. High-Performance Organic Coating: AA-C12C42R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: chemical conversion coating, acid chromate-fluoride-phosphate pretreatment; Organic Coating: as specified below). Prepare, pre-treat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturer's instructions using a licensed applicator.

1. Kynar 500 or Hylar 5000 Polyvinylidene Fluoride (PVDF) Fluorocarbon Multi-Coat System: Provide resin-based coating per manufacturer's standard multicoat thermo-cured system, composed of specially formulated inhibitive primer (minimum of 0.2 mil dry film thickness) and fluorocarbon color topcoat containing containing full-strength 70 percent "Kynar 500" or "Hylar 5000:" resin, minimum 1.0 mil dry film thickness, complying with AAMA 2605.

2. Color: Provide color as selected by ENGINEER from standard choices available from the coating manufacturer.

PART 3 EXECUTION

3.01 PREPARATION

A. Coordinate setting drawings, diagrams, templates, instructions, and directions for installation of anchorages which are to be embedded in concrete or masonry construction. Coordinate delivery of such items to Site.

3.02 INSTALLATION

A. Locate and place louver units plumb, level, and in proper alignment with adjacent work.

B. Use concealed anchorages where possible. Provide brass or lead washers fitted to screws where required to protect metal surfaces and to make a weathertight connection.

C. Form closely fitted joints with exposed connections accurately located and secured.

D. Provide perimeter reveals and openings of uniform width for sealants and joint fillers as indicated.

E. Repair finishes damaged by cutting, welding, soldering, and grinding operations required for fitting and jointing. Restore finishes so there is no evidence of corrective Work. Return items which cannot be refinished in field to shop, make required alterations, and refinish entire unit, or provide new units.

F. Protect nonferrous metal surfaces from corrosion or galvanic action by application of a heavy coating of bituminous paint on surfaces which will be in contact with concrete, masonry, or dissimilar metals.

G. Install concealed gaskets, flashings, joint fillers, and insulation as louver installation progresses, where required to make louver joints weathertight. Comply with Section 07 92 00 "Joint Sealants" for sealants applied during installation of louver.

3.03 ADJUSTING AND PROTECTION

A. Protect louvers and vents from damage of any kind during construction period, including use of temporary protective coverings where needed and approved by louver manufacturer. Remove protective covering at time of Substantial Completion.

B. Restore louvers and vents damaged during installation and construction period so that no evidence remains of correction Work. If results of restoration are unsuccessful, as judged by ENGINEER, remove damaged units and replace with new units.

C. Clean and touch-up minor abrasions in finishes with air-dried coating that matches color and gloss of, and is compatible with, factory-applied finish coating.

3.04 CLEANING

A. Periodically clean exposed surfaces of louvers and vents which are not protected by temporary covering to remove fingerprints and soil during construction period; do not let soil accumulate until final cleaning.

B. Before final inspection, clean exposed surfaces with water and with a mild soap or detergent not harmful to finishes. Rinse thoroughly and dry surface.

END OF SECTION

SECTION 10 21 13
TOILET COMPARTMENTS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:

1. Phenolic-core toilet compartments configured as toilet enclosures.

1.02 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: For toilet compartments. Include plans, elevations, sections, details, and attachments to other work.

C. Samples for each exposed product and for each color and texture specified.

1.03 INFORMATIONAL SUBMITTALS

A. Product certificates.

1.04 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.05 QUALITY ASSURANCE

A. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84, or another standard acceptable to authorities having jurisdiction, by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: 25 or less.

2. Smoke-Developed Index: 450 or less.

B. Regulatory Requirements: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA) and Architectural Barriers Act (ABA) Accessibility Guidelines for Buildings and Facilities" and ICC/ANSI A117.1 for toilet compartments designated as accessible.

PART 2 PRODUCTS

2.01 PHENOLIC-CORE UNITS

A. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:

1. Accurate Partitions Corporation.

2. Bobrick Washroom Equipment, Inc.

3. Bradley Corporation; Mills Partitions.

4. General Partitions Mfg. Corp.

B. Toilet-Enclosure Style: Floor anchored.

C. Door, Panel, and Pilaster Construction: Solid phenolic-core panel material with melamine facing on both sides fused to substrate during panel manufacture (not separately laminated), and with eased and polished edges and no-sightline system. Provide minimum 3/4-inch-thick doors and pilasters and minimum 1/2-inch-thick panels.

D. Pilaster Shoes: Fabricated from stainless-steel sheet, not less than 3 inches high, finished to match hardware.

E. Brackets (Fittings):

1. Full-Height (Continuous) Type: Manufacturer's standard design; stainless steel.

F. Phenolic-Panel Finish: Facing sheet of one color and pattern in each room.

1. Color and Pattern: As indicated on the Drawings or if not indicated as selected by Architect from manufacturer's full range, with manufacturer's standard through-color core matching face sheet.

2.02 ACCESSORIES

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

1. Material: Clear-anodized aluminum.

2. Hinges: Manufacturer's standard paired, self-closing type that can be adjusted to hold doors open at any angle up to 90 degrees.

3. Latch and Keeper: Manufacturer's standard [surface-mounted latch unit designed for emergency access and with combination rubber-faced door strike and keeper. Provide units that comply with regulatory requirements for accessibility at compartments designated as accessible.

4. Coat Hook: Manufacturer's standard combination hook and rubber-tipped bumper, sized to prevent in-swinging door from hitting compartment-mounted accessories.

5. Door Bumper: Manufacturer's standard rubber-tipped bumper at out-swinging doors.

6. Door Pull: Manufacturer's standard unit at out-swinging doors that complies with regulatory requirements for accessibility. Provide units on both sides of doors at compartments designated as accessible.

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

C. Anchorages and Fasteners: Manufacturer's standard exposed fasteners of stainless steel or chrome-plated steel or brass, 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.

2.03 FABRICATION

A. Floor-Anchored Units: Provide manufacturer's standard corrosion-resistant anchoring assemblies with leveling adjustment nuts at pilasters for structural connection to floor. Provide shoes at pilasters to conceal anchorage.

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

PART 3 EXECUTION

3.01 INSTALLATION

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.

B. Clearances: Maximum 1/2 inch between pilasters and panels; 1 inch between panels and walls.

3.02 ADJUSTING

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

END OF SECTION

SECTION 10 26 00
WALL PROTECTION

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:

1. Corner guards.

1.02 PERFORMANCE REQUIREMENTS

A. Structural Performance: Provide handrails capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:

1. Uniform load of 50 lbf/ft. (0.73 kN/m) applied in any direction.

2. Concentrated load of 200 lbf (0.89 kN) applied in any direction.

3. Uniform and concentrated loads need not be assumed to act concurrently.

1.03 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: For each impact-resistant wall protection unit. Include sections, details, and attachments to other work.

1. For installed products indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

C. Samples: For each exposed product and for each color and texture specified, 12 inches (300 mm) long.

1.04 INFORMATIONAL SUBMITTALS

A. Material certificates.

B. Material test reports.

C. Warranty: Sample of special warranty.

1.05 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.06 QUALITY ASSURANCE

A. Installer Qualifications: An employer of workers trained and approved by manufacturer.

B. Surface-Burning Characteristics: As determined by testing identical products per ASTM E 84, NFPA 255, or UL 723 by UL or another qualified testing agency.

C. Regulatory Requirements: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.

1.07 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of impact-resistant wall protection units that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:
   a. Structural failures.
   b. Deterioration of plastic and other materials beyond normal use.

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

PART 2 PRODUCTS

2.01 MATERIALS

A. PVC Plastic: ASTM D 1784, Class 1, textured, chemical- and stain-resistant, high-impact-resistant PVC or acrylic-modified vinyl plastic with integral color throughout.

1. Impact Resistance: Minimum 25.4 ft-lbf/in. (1356 J/m) of notch when tested according to ASTM D 256, Test Method A.

2. Chemical and Stain Resistance: Tested according to ASTM D 543 .

3. Self-extinguishing when tested according to ASTM D 635.

4. Flame-Spread Index: 25 or less.

5. Smoke-Developed Index: 450 or less.

B. Fasteners: Aluminum, nonmagnetic stainless-steel, or other noncorrosive metal screws, bolts, and other fasteners compatible with items being fastened. Use security-type fasteners where exposed to view.

2.02 CORNER GUARDS

A. Surface-Mounted, Opaque-Plastic Corner Guards : Fabricated from PVC plastic, acrylic-modified vinyl sheet or opaque polycarbonate sheet; with formed edges; fabricated with 90- or 135-degree turn to match wall condition; in dimensions and profiles indicated on Drawings.

1. 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:

2. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:
   a. American Floor Products Co., Inc.
   b. Arden Architectural Specialties, Inc.
   c. Balco, Inc.
   d. Boston Retail Products.
   e. Construction Specialties, Inc.
   f. IPC Door and Wall Protection Systems; Division of InPro Corporation.
   g. Korogard Wall Protection Systems; a division of RJF International Corporation.

3. Mounting: Countersunk screws through factory-drilled mounting holes .

4. Color and Texture: As selected by Architect from manufacturer's full range .

PART 3 EXECUTION

3.01 INSTALLATION

A. General: Install impact-resistant wall protection units level, plumb, and true to line without distortions. Do not use materials with chips, cracks, voids, stains, or other defects that might be visible in the finished Work.

1. Install impact-resistant wall protection units in locations and at mounting heights indicated on Drawings.

2. Provide splices, mounting hardware, anchors, and other accessories required for a complete installation.
   a. Provide anchoring devices to withstand imposed loads.
   b. Where splices occur in horizontal runs of more than 20 feet (6.1 m), splice aluminum retainers and plastic covers at different locations along the run, but no closer than 12 inches (305 mm).
   c. Adjust end and top caps as required to ensure tight seams.

B. Immediately after completion of installation, clean plastic covers and accessories using a standard, ammonia-based, household cleaning agent.

C. Remove excess adhesive using methods and materials recommended in writing by manufacturer.

END OF SECTION

SECTION 10 28 00
TOILET ACCESSORIES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Extent of each type of toilet accessory as indicated on Schedules on Drawings.

B. Types of toilet accessories required include:

1. Private-use toilet accessories.

2. Underlavatory guards.

3. Custodial accessories.

C. Related Sections: Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to Work of this Section.

1.02 SUBMITTALS

A. Shop Drawings: Submit in accordance with Section 01 30 00, Submittals covering the items included under this Section. Shop Drawing submittals shall include:

1. Product Data: Manufacturer's technical data and installation instructions for each toilet accessory.

1.03 QUALITY ASSURANCE

A. Inserts and Anchorages: Furnish inserts and anchoring devices which must be set in concrete or built into masonry; coordinate delivery with other work to avoid delay.

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.

C. Accessory Locations: Coordinate accessory locations with other work to avoid interference and to assure proper operation and servicing of accessory units.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Subject to compliance with specified requirements, manufacturers offering products which may be incorporated in Work include:

1. Toilet and Bath Accessories:
   a. A&J Washroom Accessories.
   b. American Specialties, Inc.
   c. Bobrick Washroom Equipment, Inc.
   d. Bradley Corporation.

2.02 MATERIALS

A. Stainless Steel: AISI Type 302/304, with polished No. 4 finish, 22 gauge (0.034 inch) minimum, unless otherwise indicated.

B. Chromium Plating: Nickel and chromium electro-deposited on base metal, ASTM B 456, Type SC 2.

C. Mirror Glass: FS DD-G-451, Type I, Class 1, Quality q2, 1/4-inch thick, with silver coating, copper protective coating, and non-metallic paint coating complying with FS DD-M-411.

D. Galvanized Steel Mounting Devices: ASTM A 153, hot-dip galvanized after fabrication.

E. Fasteners: Screws, bolts, and other devices of same material as accessory unit or of galvanized steel where concealed.

2.03 PAPER TOWEL DISPENSERS

A. Surfaced-Mounted Towel Dispensers: Fabricate of stainless steel with hinged front equipped with tumbler lockset. Provide pierced slots at sides as refill indicator.

B. Location: Provide one in every toilet room, unless otherwise indicated.

2.04 TOILET TISSUE DISPENSERS

A. Roll-In-Reserve Dispenser: Fabricate of stainless steel with for mounting indicated below. Lock keyed and sized to store and dispense either 4-1/2-inch-diameter or 5-inch-diameter core tissue rolls, with reserve roll placed in service by automatic release

or by action of manual release bar. Hinge front of unit with pivot hinge and secure with tumbler lockset.

1. Mounting:
   a. Surface-mounted, concealed anchorage, satin-finish.

B. Universal Single Jumbo-Roll Surface-Mounted Toilet Tissue Dispenser: Fabricate of stainless steel for mounting indicated below equipped with a lock key. Spindle holds on 10-inch diameter roll with 1-5/8-inch diameter core.

1. Mounting:
   a. Surface-mounted, concealed anchorage.

C. Double Roll Dispenser: Size to accommodate 2 separate rolls of core type tissue to 5-inch diameter.

D. Fabrication:

1. Fabrication: Noncontrolled delivery with manufacturer's standard spindle.

E. Location: Provide one at each toilet unless otherwise indicated.

2.05 WASTE RECEPTACLES

A. Surface-Mounted Waste Receptacle: Fabricate of stainless steel with seamless exposed walls and continuously welded bottom pan. Furnish heavy-duty vinyl removable liner, secured to receptacle at not less than 4 points by means of grommets and stainless steel hooks; minimum 20.0-gallon capacity.

2.06 GRAB BARS

A. Stainless Steel Type: The grab bars shall meet the requirements as set forth by the State of Alabama for making facilities accessible for the physically handicapped. Provide grab bars with wall thickness not less than 18 gauge (0.050-inch), 48 inches long, and as follows:

1. Mounting: Concealed, manufacturer's standard flanges and anchorages.

2. Clearance: 1-1/2-inch clearance between wall surface and inside face of bar.

3. Gripping Surfaces: Smooth, satin finish.

B. Location: Provide 2 at each toilet, and 1 at each shower unless otherwise indicated.

2.10 SANITARY NAPKIN DISPOSAL UNITS

A. Recessed Type: Fabricate of stainless steel for nominal 4-inch wall depth. Provide self-closing door and removable stainless steel of all-welded construction.

B. Partition-Mounted Dual Access Type: Fabricate of stainless steel equipped with adjustable flanges to permit partition mounting to service 2 toilet compartments. Provide self-closing door and all-welded stainless steel receptacle removable from one side.

C. Surface-Mounted Type: Fabricate of stainless steel with seamless exposed walls, tightly self-closing top cover and locking bottom panel with continuous stainless steel piano hinge.

2.11 SOAP DISPENSERS

A. Liquid Soap Dispenser, Horizontal Tank Type: Fabricate for surface mounting, sized for 40-fluid ounce minimum capacity. Provide stainless steel piston, springs, and internal parts designed to dispense soap in measured quantity by pump action. Provide cover, Type 304 stainless steel, with unbreakable window-type refill indicator.

1. Equip unit with push type valve for dispensing soap in liquid form.

B. Location: Provide 1 in each toilet room unless otherwise indicated.

2.12 SHOWER AND BATH ACCESSORIES

A. Shower Curtain Rod, Heavy-Duty (SCRHD): 1-1/4 inches outside diameter, 18 gauge (0.050 inch) stainless steel, satin finish; furnish 3-inch outside diameter, minimum, 20 gauge stainless steel flanges with satin finish designed for exposed fasteners.

B. Anti-Bacterial Shower Curtain (ABSC): Minimum 6 inches wider than opening by 72 inches high, 10-ounce nylon-reinforced anti-bacterial vinyl fabric with hemmed edges. Fabric to be flameproof, stain resistant, and self-deodorizing, with stainless steel grommets on 6-inch centers through top hem. Furnish in white unless otherwise indicated.

C. Shower Curtain Hooks (SCH): Chrome plated or stainless steel spring wire curtain hooks with snap fasteners; sized to accommodate curtain rod size specified above.

D. Recessed Soap Dish (RSD): One-piece construction of stainless steel for recess mounting in wall. Furnish with mounting clamp or lugs appropriate for wall construction indicated.

E. Towel Bars (TB): 24-inch long, satin finished, Type 304 stainless steel tubular (3/4-inch square) bar and rectangular end brackets. Provide galvanized backplates for concealed mounting.

F. Location: Provide 1 of each accessory at each shower unless otherwise indicated.

2.13 FOLDING SHOWER SEAT

A. Heavy-duty hinged seat designed to fold up against wall when not in use. Provide support braces, hinges, frame, and fasteners of Type 304 stainless steel. Construct frame of all-welded tubular construction for maximum strength. Seat shall be approximately 32 inches long and shall project 23 inches from the wall, designed to support 250 pounds and not project more than 2-1/2 inches from wall when tilted up. Provide seat with configuration and seating surface material as follows:

1. Configuration:
   a. L-shaped seat designed for easy wheelchair access.

2. Seat Material:
   a. Phenolic or polymeric composite of either slat type or one-piece construction. Color as selected from manufacturers standard selections.

B. Location: Provide one in each shower, unless otherwise indicated.

2.14 MISCELLANEOUS ACCESSORIES

A. Mop and Broom Holder/Utility Shelf (MBH/US): Combination unit with 18 gauge (0.050 inch), Type 304 stainless steel shelf with 1/2-inch returns and 16 gauge (0.062 inch) support brackets for wall mounting. Provide 16-gauge stainless steel hooks for wiping rags on front of shelf, together with spring-loaded rubber cam type mop/broom holders and 1/4-inch-diameter stainless steel drying rod suspended beneath shelf. Provide 36-inch-long unit with 4 mop/broom holders and 3 hooks.

1. Location: Provide 1 in each janitor closet unless otherwise indicated.

B. Double Robe Hook (DRH): Heavy-duty, satin finished stainless steel double-prong robe hook and rectangular wall bracket with backplate for concealed mounting. Unit shall be designed to withstand a 300-pound downward pull.

1. Location: Provide 2 adjacent to each shower unless otherwise indicated.

C. Warm-Air Dryer

1. Manufactures: Subject to compliance with requirements, provide products by one of the following:
   a. A & J Washroom Accessories, Inc.
   b. American Dryer, Inc.
   c. American Specialties, Inc.
   d. Bobrick Washroom Equipment, Inc.
   e. Bradley Corporation.

2. Basis-of-Design Product: American Specialties, Inc.

3. Mounting: Surface mounted.

4. Cover Material and finish: Satin Chrome Plated Steel.

5. Operation: Touch-button activated with timed power cut-off switch.
   a. Operation Time: 30 to 40 seconds.

6. Electrical Requirements: 115 V, 15A, 1725W

2.15 FABRICATION

A. Only an unobtrusive stamped logo of manufacturer, as approved by ENGINEER, is permitted on exposed face of toilet or bath accessory units. On either interior surface not exposed to view or back surface, provide additional identification by means of either a printed, waterproof label or a stamped nameplate indicating manufacturer's name and product model number.

B. Surface Mounted Toilet Accessories, General: Except where otherwise indicated, fabricate units with tight seams and joints and exposed edges rolled. Hang doors or access panels with continuous stainless steel piano hinge. Provide concealed anchorage wherever possible.

C. 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

3.01 INSTALLATION

A. Install toilet accessory units in accordance with manufacturer's instructions using fasteners which are appropriate to substrate and recommended by manufacturer of

unit. Install units plumb and level, firmly anchored in locations and at heights indicated.

B. Grab Bars: Install to withstand a downward load of at least 250 lbf (1112 N), when tested according to ASTM F 446.

3.02 ADJUSTING AND CLEANING

A. Adjust toilet accessories for proper operation and verify that mechanisms function smoothly. Replace damaged or defective items.

B. Clean and polish all exposed surfaces after removing temporary labels and protective coatings.

END OF SECTION

SECTION 10 44 16
FIRE EXTINGUISHERS

PART 1 GENERAL

1.01 SUMMARY

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

1.02 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.03 INFORMATIONAL SUBMITTALS

A. Warranty: Sample of special warranty.

1.04 CLOSEOUT SUBMITTALS

A. Operation and maintenance data.

1.05 COORDINATION

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

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

PART 2 PRODUCTS

2.01 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.

2.02 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 :

2. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:
   a. Amerex Corporation.
   b. Ansul Incorporated.
   c. Badger Fire Protection.
   d. Buckeye Fire Equipment Company.
   e. Fire End & Croker Corporation.
   f. Guardian Fire Equipment, Inc.
   g. JL Industries, Inc.; a division of the Activar Construction Products Group.
   h. Kidde Residential and Commercial Division; Subsidiary of Kidde plc.
   i. Larsens Manufacturing Company.

3. 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: UL-rated 10-pound nominal capacity, with monoammonium phosphate-based dry chemical in manufacturer's standard enameled container.

2.03 MOUNTING BRACKETS

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

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

2. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:
   a. Amerex Corporation.
   b. Ansul Incorporated.

c. Badger Fire Protection.
d. Buckeye Fire Equipment Company.
e. Fire End & Croker Corporation.
f. Guardian Fire Equipment, Inc.
g. JL Industries, Inc.; a division of the Activar Construction Products Group.
h. Larsens Manufacturing Company.
i. Nystrom Building Products.
j. Potter Roemer LLC.
k. Strike First Corporation of America.

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

3.01 INSTALLATION

A. Examine fire extinguishers for proper charging and tagging.

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

B. Install fire extinguishers in locations indicated and in compliance with requirements of authorities having jurisdiction.

1. Mounting Brackets: 54 inches (1372 mm) above finished floor to top of fire extinguisher.

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

END OF SECTION

SECTION 10 51 13
METAL LOCKERS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:

1. Welded corridor lockers.

2. Locker benches.

1.02 ACTION SUBMITTALS

A. Product data.

B. Shop Drawings: Include plans, elevations, sections, details, attachments to other work, and locker identification system and numbering sequence.

C. Samples: For each color specified.

1.03 INFORMATIONAL SUBMITTALS

A. Sample warranties.

1.04 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.05 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. Warranty Period for Knocked-Down Metal Lockers: Two years from date of Substantial Completion.
2. Warranty Period for Welded Metal Lockers: Lifetime from date of Substantial Completion.

PART 2 PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

A. Accessibility Requirements: For lockers indicated to be accessible, comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines and ICC A117.1.

2.02 WELDED CORRIDOR LOCKERS

A. Products: Subject to compliance with requirements, provide one of the following:

1. Art Metal Products; Bulldog Corridor.
2. DeBourgh Mfg. Co; Angle Iron Corridor.
3. List Industries Inc; Booksafe III.
4. Lyon Workspace Products, LLC; All-Welded.
5. Olympus Lockers & Storage Products, Inc; Hercules.
6. Penco Products, Inc; All-Welded.
7. Republic Storage Systems Company; All-Welded Ventilated.

B. Doors: One piece; fabricated from 0.075-inch (1.90-mm) nominal-thickness steel sheet; formed into channel shape with double bend at vertical edges and with right-angle single bend at horizontal edges.

1. Reinforcement: Manufacturer's standard reinforcing angles, channels, or stiffeners for doors more than 15 inches (381 mm) wide; welded to inner face of doors.

C. Unperforated Panel.Body: Assembled by welding body components together. Fabricate from unperforated steel sheet with thicknesses as follows:

1. Tops, Bottoms, and Sides: 0.060-inch (1.52-mm) nominal thickness.
2. Backs: 0.048-inch (1.21-mm) nominal thickness.
3. Shelves: 0.060-inch (1.52-mm) nominal thickness, with double bend at front and single bend at sides and back.

D. Frames: Channel formed; fabricated from 0.060-inch (1.52-mm) 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.

E. Hinges:

1. Knuckle Hinges: Steel, full loop, five or seven knuckles, tight pin; minimum 2 inches (51 mm) high. Provide no fewer than three hinges for each door more than 42 inches (1067 mm) high.

2. Continuous Hinges: Manufacturer's standard, steel, full height.

3. Hinges: Manufacturer's standard, steel, continuous or knuckle type.

F. 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 (1219 mm) and higher with three latch hooks and doors less than 48 inches (1219 mm) high with two latch hooks; fabricated from 0.105-inch (2.66-mm) 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.

G. 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 or padlocks; positive automatic latching and prelocking.
   a. Latch Hooks: Equip doors 48 inches (1219 mm) and higher with three latch hooks and doors less than 48 inches (1219 mm) high with two latch hooks; fabricated from 0.120-inch (3.04-mm) nominal-thickness steel sheet; welded to full-height door strikes; with resilient silencer on each latch hook.
   b. Latching Mechanism: Manufacturer's standard, rattle-free latching mechanism.

2. Single-Point Latching: Nonmoving latch hook designed to engage bolt of built-in combination or cylinder lock . Equip each door with one latch hook.

H. Door Handle and Latch for Box Lockers: Stainless-steel strike plate with integral pull; with steel padlock loop that projects through metal locker door.

I. Locks: Built-in combination locks.

J. Identification Plates: Manufacturer's standard, etched, embossed, or stamped aluminum plates, with numbers and letters at least 3/8 inch (9 mm) high.

K. Hooks: Manufacturer's standard ball-pointed type, aluminum or steel; zinc plated.

L. Coat Rods: Manufacturer's standard.

M. Legs: 6 inches (152 mm) high; formed by extending vertical frame members, or fabricated from 0.075-inch (1.90-mm) nominal-thickness steel sheet; welded to bottom of locker with closed front and end bases.

N. Continuous Zee Base: Fabricated from, manufacturer's standard thickness, but not less than 0.060-inch (1.52-mm) nominal-thickness steel sheet.

1. Height: 4 inches (102 mm).

O. Continuous Sloping Tops: Fabricated from 0.048-inch (1.21-mm) nominal-thickness steel sheet, with a pitch of approximately 20 degrees.

1. Closures: Vertical -end type.

P. Recess Trim: Fabricated from 0.048-inch (1.21-mm) nominal-thickness steel sheet.

Q. Filler Panels: Fabricated from 0.048-inch (1.21-mm) nominal-thickness steel sheet.

R. Boxed End Panels: Fabricated from 0.048-inch (1.21-mm) nominal-thickness steel sheet.

S. Materials:

1. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B, suitable for exposed applications.

2. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with A60 (ZF180) zinc-iron, alloy (galvannealed) coating designation.

T. Finish: Baked enamel or powder coat.

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

2.03 LOCKS

A. Manufacturers:

1. American Locker Company; A Division of Master Lock Company, LLC.
2. Master Lock Company, LLC.
3. Zephyr Lock LLC.

B. Built-in Combination Locks: Key-controlled, three-number dialing combination locks; capable of at least five combination changes made automatically with a control key.

1. Bolt Operation: Manually locking deadbolt or automatically locking spring bolt.

2.04 LOCKER BENCHES

A. Provide bench units with overall assembly height of 17-1/2 inches (445 mm) .

B. Bench Tops: Manufacturer's standard one-piece units, with rounded corners and edges.

1. Size: Minimum 9-1/2 inches wide by 1-1/4 inches thick (241 mm wide by 32 mm thick).

2. Laminated clear hardwood with one coat of clear sealer on all surfaces and one coat of clear lacquer on top and sides.

C. Fixed Pedestals: Manufacturer's standard tubular steel supports, with predrilled fastener holes for attaching bench top and anchoring to floor, complete with fasteners and anchors.

1. Color: Match metal lockers .

D. Freestanding Pedestals: Manufacturer's standard aluminum supports, with predrilled fastener holes for attaching bench top, complete with fasteners, and as follows:

1. Finish: Clear anodic finish.

E. Materials:

1. Stainless Steel: ASTM A 666, Type 304.

2. Steel Tube: ASTM A 500/A 500 M, cold rolled.

3. Particleboard: ANSI A208.1, Grade M-2.

2.05 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.

B. Fabricate each metal locker with an individual door and frame; individual top, bottom, and back; and common intermediate uprights separating compartments. Factory weld frame members of each metal locker together to form a rigid, one-piece assembly.

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.

2. Double-Tier Units: One double-prong ceiling hook and two single-prong wall hooks.

3. Triple-Tier Units: One double-prong ceiling hook.

4. Coat Rods: For each compartment of each locker .

D. 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 flush.

E. Accessible Lockers: Fabricate as follows:

1. Locate bottom shelf no lower than 15 inches (381 mm) above the floor.

2. Where hooks, coat rods, or additional shelves are provided, locate no higher than 48 inches (1219 mm) above the floor.

F. Continuous Base: Formed into channel or zee profile for stiffness, and fabricated in lengths as long as practical to enclose base and base ends of metal lockers; finished to match lockers.

G. Continuous Sloping Tops: Fabricated in lengths as long as practical, without visible fasteners at splice locations; finished to match lockers.

H. Individual Sloping Tops: Fabricated in width to fit one locker frame in lieu of flat locker tops; with integral back; finished to match lockers. Provide wedge-shaped divider panels between lockers.

I. Recess Trim: Fabricated with minimum 2-1/2-inch (64-mm) face width and in lengths as long as practical; finished to match lockers.

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

K. Boxed End Panels: Fabricated with 1-inch- (25-mm-) wide edge dimension, and designed for concealing fasteners and holes at exposed ends of nonrecessed metal lockers; finished to match lockers.

L. Finished End Panels: Designed for concealing unused penetrations and fasteners, except for perimeter fasteners, at exposed ends of non-recessed metal lockers; finished to match lockers.

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

PART 3 EXECUTION

3.01 INSTALLATION

A. General: 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 (910 mm) 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 of lockers and to floor.

3. Anchor back-to-back metal lockers to floor.

B. Welded Lockers: Connect groups together with standard fasteners, with no exposed fasteners on face frames.

C. 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.

3. Attach sloping-top units to metal lockers, with closures at exposed ends.

D. Fixed Locker Benches: Provide no fewer than two pedestals for each bench, uniformly spaced not more than 72 inches (1830 mm) apart.

END OF SECTION

SECTION 10 67 50
METAL STORAGE SHELVING

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Extent, location, and details of metal storage shelving are indicated on Drawings and Drawing Schedules.

B. Related Documents: Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to Work of this Section.

1.02 SUBMITTALS

A. Shop Drawings: Submit in accordance with Section 01 33 00, Submittal Procedures covering the items included under this Section. Shop Drawing submittals shall include:

1. Shop Drawings showing location, ranges, and extent of metal shelving systems. Show installation details at any special or non-standard conditions.

2. Product Data: Submit manufacturer's product literature and installation instructions for each type of metal storage systems and installation accessory required. Include methods of installation for each type of substrate.
   a. Submit written data on physical characteristics, durability, resistance to fading, and flame resistance characteristics.

3. Samples for Initial Selection Purposes: Submit manufacturer's standard size samples of colors and finishes.

B. Operation and Maintenance Manuals: Submit in accordance with requirements of Section 01 78 23, operation and maintenance manuals for items included under this Section.

1.03 QUALITY ASSURANCE

A. Single Source Responsibility: Provide material produced by a single manufacturer for each shelving unit type.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Comply with instructions and recommendations of manufacturer for special delivery, storage, and handling requirements.

1.05 SEQUENCING AND SCHEDULING

A. Sequence metal storage shelving installation with other work to minimize possibility of damage and soiling during remainder of construction period.

1.06 MAINTENANCE

A. Maintenance Instructions: Submit manufacturer's printed instructions for maintenance of installed Work, including methods and frequency recommended for maintaining optimum condition under anticipated use conditions. Include precautions against materials and methods which may be detrimental to finishes and performance.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Submit to compliance with specified requirements, manufacturers offering products which may be incorporated in Work include:

1. Wall-Mounted Shelving System:
   a. E-Z Shelving, Inc.

2. Freestanding Shelving System:
   a. Lyon Metal Products.
   b. Penco Products, Inc.

2.02 MATERIALS

A. Minimum 16 gauge cold-rolled steel sheet metal, electro zinc plated and chromate dipped; higher gauge where indicated to provide appropriate loading capacity.

B. Wall-Mounted Shelving System: Provide heavy-duty open shelving units consisting of wall-mounted uprights with a continuous slot to receive single and double-cantilevered support brackets and shelves. Shelves are infinitely adjustable. Provide 48-inch-long shelf units.

1. Unit Configuration: Provide shelf units in configuration as shown on Drawings.

2. Shelves: Provide units with number of shelves as indicated:

2.03 FREESTANDING SHELVING SYSTEM COMPONENTS

A. Freestanding Shelving System: Provide heavy-duty open shelving units consisting of 4 upright corner pilasters slotted to receive clips clipped together with shelves as indicated.

1. Open Shelving Units: Provide heavy-duty open shelving units consisting of 4 upright corner pilasters slotted to receive clips clipped together with shelves as indicated. Provide cross-braces laterally and at ends as required for stability with intended load. Shelves adjustable on 1-1/2 inches on center. Provide 42-inch-wide by 87-inch-high units shelving units.
   a. Unit Configuration: Provide shelf units in configuration as shown on Drawings.
      1) Standard Upright Assembly: Unit equipped with 2 uprights, shelves, top and back to stand independently.
      2) Starter/Adder Assembly: First unit of each bank equipped with 2 uprights, shelves, top and back, allowing attachment to preceding unit. Provide 1 upright assembly at the end of each bank.
   b. Shelves: Provide units with number of shelves as indicated:

2.04 WALL-MOUNTED SHELVING SYSTEM COMPONENTS

A. Shelves shall be constructed of 16 gauge G-90, LFQ, ASTM A 527 galvanized sheet with front and rear edges flanged in two directions to provide structural rigidity and withstand shelf failure.

B. Single Brackets shall be of 12- or 13-gauge steel (depending on size), electro zinc plated and chromate dipped after fabrication ensuring complete protection of all sheared edges. Each bracket shall be furnished with E-Z clamp assembly, zinc-plated 3/8-inch bolt and nut. Brackets available flanged to left or right depending on mounting position at ends of shelving runs.

C. Double brackets shall support 2 joining shelves on a common upright. Brackets of same construction as EZB shelf bracket with addition of a 14-gauge steel plate welded to the top horizontal flange portion of the bracket. Double bracket shall be electro zinc plated and chromate dipped to protect all sheared edges.

B. Uprights shall consist of 14 gauge rolled steel channels, continuously seam welded electro zinc plated and chromate dipped to ensure against rust and corrosion, punched to accept 1/4-inch lag screws, bolts, etc., for mounting to walls. Mounting holes to begin 2 inches from each end.

2.05 FINISHES

A. Provide units in the following finish:

1. Painted galvanized.

PART 3 EXECUTION

3.01 INSPECTION

A. Inspect areas and conditions in which metal storage shelving will be installed. Verify locations of power feeds, positioning of exits and aisle ways and overall dimensions of space, including height and HVAC venting.

3.02 PREPARATION

A. Prior to installation of shelving system, vacuum floor surface to remove dust, debris, and loose particles. Resilient flooring wet mopped and dried or finish buffed. Verify that components, including size and finish, are those specified before installing.

3.03 INSTALLATION

A. Install shelving system and accessories after finishing operations, including painting, have been completed. Install system to comply with final layout Drawings in strict compliance with manufacturer's printed instructions. Position units level, plumb, and at proper location relative to adjoining units and related work. Adjust accessories to provide visually acceptable installation.

3.04 FIELD QUALITY CONTROL

A. Remove and replace shelving components which are chipped, scratched, or otherwise damaged and which do not match adjoining Work. Provide new matching units, installed as specified and in manner to eliminate evidence of replacement.

3.05 ADJUST

A. Adjust components and accessories to provide visually acceptable installation.

3.06 CLEANING

A. Immediately upon completion of installation, clean components and surfaces following manufacturer's recommended procedures.

B. Remove surplus materials, rubbish, and debris resulting from installation upon completion of Work and leave areas of installation in neat, clean condition.

3.07 DEMONSTRATION

A. Upon completion of installation of system, inspect and determine capability and compliance with requirements. Repair or replace units which are not functional. All shelves and/or accessories shall be smoothly in place with no visual buckling or nonalignment of parts evident.

3.08 PROTECTION

A. Protect system against damage during remainder of construction period. Advise OWNER of additional protection needed to ensure that system will be without damage or deterioration at time of Substantial Completion.

END OF SECTION

SECTION 10 82 00

INTAKE SCREENS

PART 1 GENERAL

1.01 SUMMARY

A. Provide banded Type 304 stainless steel HSC profile bar intake screen panels and guide rails in accordance with the requirements of the Drawings and these specifications.

1.02 RELATED SECTIONS

A. Section 01 33 00 – Submittal Procedures

1.03 SUBMITTALS

A. Submit a quality manual showing evidence of being an ISO 9000 certified company.

B. Submit shop drawings showing compliance with the specifications including tolerances, prior to manufacturing screens.

C. Submit design calculations, signed and sealed by a registered professional engineer, including loading conditions, support design, and deflection calculations of the screen panels.

1.04 WARRANTY

A. Refer to Section 01 74 00 for specific warranty requirements.

1.05 QUALITY ASSURANCE

A. Screens shall be manufactured by an ISO 9000 Certified company, fabricated by ASME Section IX Certified welders.

B. Manufacturer: Hendrick Screen Company or an approved equal.

PART 2 PRODUCTS

2.01 BANDED TYPE 304 STAINLESS STEEL HSC PROFILE BAR INTAKE SCREEN PANELS AND GUIDE RAILS

A. General: The Contractor shall furnish and install six (6) screen systems upstream of three (3) pump chambers. Screens shall be designed to prevent debris from entering the pump chambers. Each screen system shall include guide rails anchored to the concrete floor and walls which shall support removable screen panels. The screen panels shall easily slide in and out of the guide rails for repair or maintenance. All guide rails, panel components, and anchors shall be of Type 304 stainless steel.

B. Construction: Screens shall consist of precision spaced, mechanically interlocked profile wires and U-clips with welded frames and guide rails. Resistance welded construction is not acceptable. Wrapped wire construction is not acceptable. He screen surface shall be of smooth profile wire of a wedge shape with inwardly enlarging openings to minimize the likelihood of debris entrapment. Screen profile wires shall be continuous over the length or width of each panel. Wires shall be welded to the support bars sufficient to withstand the specified loading conditions, tolerance and deflection. The wires, supports, backing bars, and banding shall be welded to form a single unit. Welds shall be smooth, without burrs or irregularities. Screen panels shall be designed for a 5'-0" inch chamber width and shall not exceed 4'-0" in height. Each screen system shall have an overall height of 18'6".

C. Wire and Slot: The surface wire shall be Hendrick Screen Co. No. B12 Profile wire or an approved equal. The screen slot opening shall be 2 inches. The open area for this slot opening shall be 90%. Slot size shall be controlled and continuously monitored during manufacture. The wire orientation shall be vertical.

D. Loading: The screen panel shall be designed for 5 pounds per square foot. The maximum deflection at the design load shall not exceed the width (W) of the screen divided by 360 (W/360).

E. Material: Screen assembly shall be Type 304 stainless steel.

PART 3 EXECUTION

3.01 TESTING

A. The screens shall be completely factory assembled and inspected prior to shipment. Upon completion of installation, field testing of the bar screen shall be conducted by the Contractor and an authorized manufacturer's representative.

3.02 INITIAL STARTUP AND TRAINING

A. The screens shall be installed in accordance with the manufacturer's instructions. The manufacturer shall provide the services of a factory trained service representative, who shall adequately inspect the installation, test the equipment furnished, and instruct the Owner's operating personnel in its maintenance and operation.

END OF SECTION