

SECTION 101100 - VISUAL DISPLAY SURFACES

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. Markerboards.
 - 2. Tackboards.
- B. Related Sections:

1.3 DEFINITIONS

- A. Tackboard: Framed or unframed, tackable, visual display board assembly.
- B. Visual Display Board Assembly: Visual display surface that is factory fabricated into composite panel form, either with or without a perimeter frame; includes chalkboards, markerboards, and tackboards.
- C. Visual Display Surface: Surfaces that are used to convey information visually, including surfaces of chalkboards, markerboards, tackboards, and surfacing materials that are not fabricated into composite panel form but are applied directly to walls.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for visual display surfaces.
 - 1. Include rated capacities, operating characteristics, electrical characteristics and individual panel weights for sliding visual display units.
 - 2. Include computer system requirements for electronic markerboards.
- B. Shop Drawings: For visual display surfaces. Include plans, elevations, sections, details, and attachments to other work.
 - 1. Show locations of panel joints.
 - 2. Show locations of special-purpose graphics for visual display surfaces.
 - 3. Include sections of typical trim members.
 - 4. Wiring Diagrams: For power, signal, and control wiring.

- C. Samples for Initial Selection: For each type of visual display surface indicated, for units with factory-applied color finishes, and as follows:
 - 1. Actual sections of visual display wall panel, display rail, and visual display wall covering.
 - 2. Fabric swatches of fabric-faced tack assemblies.
 - 3. Include accessory Samples to verify color selected.
- D. Samples for Verification: For each type of visual display surface indicated.
 - 1. Visual Display Surface: Not less than 8-1/2 by 11 inches, mounted on substrate indicated for final Work. Include one panel for each type, color, and texture required.
 - 2. Trim: 6-inch- long sections of each trim profile.
 - 3. Display Rail: 6-inch- long sections.
 - 4. Rail Modular Support System: 6-inch- long sections.
 - 5. Accessories: Full-size Sample of each type of accessory.
- E. Product Schedule: For visual display surfaces. Use same designations indicated on Drawings.
- F. Qualification Data: For qualified Installer.
- G. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for surface-burning characteristics of fabrics.
- H. Operation and Maintenance Data: For visual display surfaces and power-operated units to include in maintenance manuals.
- I. Warranties: Sample of special warranties.

1.5 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. Source Limitations: Obtain visual display surfaces from single source from single manufacturer.
- C. 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.
- D. 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.
- E. Preinstallation Conference: Conduct conference at Project site

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver factory-built visual display surfaces, including factory-applied trim where indicated, completely assembled in one piece without joints, where possible. If dimensions exceed maximum manufactured panel size, provide two or more pieces of equal length as acceptable to Architect. When overall dimensions require delivery in separate units, prefit components at the factory, disassemble for delivery, and make final joints at the site.
- B. Store visual display surfaces vertically with packing materials between each unit.

1.7 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install visual display surfaces until spaces are enclosed and weathertight, wet work in spaces is complete and dry, work above ceilings is complete, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.
- B. Field Measurements: Verify actual dimensions of construction contiguous with visual display surfaces by field measurements before fabrication.
 - 1. Allow for trimming and fitting where taking field measurements before fabrication might delay the Work.

1.8 WARRANTY

- A. Special Warranty for Porcelain-Enamel Face Sheets: Manufacturer's standard form in which manufacturer agrees to repair or replace porcelain-enamel face sheets that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Surfaces lose original writing and erasing qualities.
 - b. Surfaces exhibit crazing, cracking, or flaking.
 - 2. Warranty Period: 50 years from date of Substantial Completion.
 - 3. Warranty Period: Life of the building.
- B. Special Warranty for Electronic Markerboards: Manufacturer's standard form in which manufacturer agrees to repair or replace electronic markerboards that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Porcelain-Enamel Face Sheet: ASTM A 424, enameling-grade steel, uncoated thickness indicated; with exposed face and edges coated with primer, 1.7-to-2.5-mil- (0.043-to-0.064-mm-) thick ground coat, and color cover coat; and with concealed face coated with primer and 1.7-to-2.5-mil- (0.043-to-0.064-mm-) thick ground coat.
1. Matte-Finish Cover Coat: Low reflective; chalk wipes clean with dry cloth or standard eraser. Minimum 2.0-to-2.5-mil- (0.051-to-0.064-mm-) thick cover coat. Cover and ground coats shall be fused to steel at manufacturer's standard firing temperatures but not less than 1250 deg F (677 deg C).
 - a. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - 1) PolyVision Corporation, a Steelcase company; P³ ceramicsteel Chalkboard.
 2. Gloss-Finish Cover Coat: Gloss as indicated; dry-erase markers wipe clean with dry cloth or standard eraser. Minimum 3.0-to-4.0-mil- (0.076-to-0.102-mm-) thick cover coat. Cover and ground coats shall be fused to steel at manufacturer's standard firing temperatures but not less than 1475 deg F (802 deg C).
 - a. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - 1) PolyVision Corporation, a Steelcase company; P³ ceramicsteel Markerboard.
- B. 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. Matte Finish: Low reflective; chalk wipes clean with dry cloth or standard eraser.
 - a. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - 1) Claridge Products and Equipment, Inc.; Vitracite Chalkboard.
 2. Gloss Finish: Low gloss; dry-erase markers wipe clean with dry cloth or standard eraser. Suitable for use as projection screen.
 - a. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - 1) Claridge Products and Equipment, Inc.; LCS Markerboard.

- C. Porcelain-Enamel Face Sheet: Manufacturer's standard steel sheet with porcelain-enamel coating fused to steel; uncoated thickness indicated.
 - 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. Claridge Products and Equipment, Inc.
 - b. PolyVision Corporation; a Steelcase company.
 - 2. Matte Finish: Low reflective; chalk wipes clean with dry cloth or standard eraser.
 - 3. Gloss Finish: Gloss as indicated; dry-erase markers wipe clean with dry cloth or standard eraser.
- D. Melamine: Thermally fused, melamine-impregnated decorative paper complying with LMA SAT-1.
- E. High-Pressure Plastic Laminate: NEMA LD 3.
- F. Natural Cork Sheet: Seamless, single-layer, compressed fine-grain cork sheet; bulletin board quality; face sanded for natural finish.
- G. Plastic-Impregnated Cork Sheet: Seamless, homogeneous, self-sealing sheet consisting of granulated cork, linseed oil, resin binders, and dry pigments that are mixed and calendared onto fabric backing; with washable vinyl finish and integral color throughout.
- H. Vinyl Fabric: Mildew resistant, washable, complying with FS CCC-W-408D, Type II; weighing not less than 13 oz./sq. yd. (440 g/sq. m); with surface-burning characteristics indicated.
- I. Polyester Fabric: Nondirectional weave, 100 percent polyester; weighing not less than 15 oz./sq. yd. (508 g/sq. m); with surface-burning characteristics indicated.
- J. Hardboard: ANSI A135.4, tempered.
- K. Particleboard: ANSI A208.1, Grade M-1, made with binder containing no urea formaldehyde.
- L. Fiberboard: ASTM C 208.
- M. Extruded Aluminum: ASTM B 221 (ASTM B 221M), Alloy 6063.

2.2 MARKERBOARD ASSEMBLIES

- A. Porcelain-Enamel Markerboards: Balanced, high-pressure, factory-laminated markerboard assembly of three-ply construction consisting of backing sheet, core material, and 0.013-inch- (0.33-mm-) thick, porcelain-enamel face sheet with high low-gloss finish.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of 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.
 - i. Marsh Industries, Inc.; Visual Products Group.
 - j. Platinum Visual Systems; a division of ABC School Equipment, Inc.
 - k. PolyVision Corporation; a Steelcase company.
 - l. Tri-Best Visual Display Products.
2. Hardboard Core: 1/4 inch (6 mm) thick; with 0.005-inch- (0.127-mm-) thick, aluminum foil 0.015-inch- backing.
 3. Particleboard Core: 3/8 inch (9.5 mm) with 0.005-inch- (0.127-mm-) thick, aluminum foil backing.
 4. Fiberboard Core: 3/8 inch (9.5 mm) with 0.001-inch- (0.025-mm-) thick, aluminum foil backing.
 5. Manufacturer's Standard Core: Minimum 1/4 inch (6 mm) thick, with manufacturer's standard moisture-barrier backing.
 6. Laminating Adhesive: Manufacturer's standard, moisture-resistant thermoplastic type.
- B. Melamine Markerboards: Fabricated from 1/4-inch- (6-mm-) thick, sealed and primed hardboard panels permanently bonded with melamine or another high-pressure-laminate writing surface.
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. Ghent Manufacturing, Inc.
 - c. Marsh Industries, Inc.; Visual Products Group.
- C. High-Pressure-Laminate Markerboard Assembly: Balanced, high-pressure, factory-laminated chalkboard assembly of three-ply construction consisting of backing sheet, fiberboard core material, and high-pressure-laminate writing surface.
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. Best-Rite Manufacturing.
 - b. EverProducts by Glenroy Inc.
 - c. Marsh Industries, Inc.; Visual Products Group.

2.3 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.
 11. Marsh Industries, Inc.; Visual Products Group.
 12. Platinum Visual Systems; a division of ABC School Equipment, Inc.
 13. PolyVision Corporation; a Steelcase company.
 14. Tri-Best Visual Display Products.
- B. Natural-Cork Tackboard 1/8-inch- (3-mm-) thick, natural cork sheet factory laminated to 3/8-inch- (9.5-mm-) thick fiberboard backing.
- C. Plastic-Impregnated-Cork Tackboard: 1/8-inch- (3-mm-) thick, plastic-impregnated cork sheet factory laminated to 3/8-inch- (9.5-mm-) thick hardboard particleboard backing.
- D. Vinyl-Fabric-Faced Tackboard, vinyl-fabric-faced cork sheet factory laminated to 3/8-inch- (9.5-mm-) thick fiberboard backing.
- E. Polyester-Fabric-Faced Tackboard: Polyester fabric factory laminated to 3/8-inch- (9.5-mm-) 1/2-inch- (13-mm-) thick fiberboard backing.

2.4 FABRICATION

- A. Porcelain-Enamel Visual Display Assemblies: Laminate porcelain-enamel face sheet and backing sheet to core material under heat and pressure with manufacturer's standard flexible, waterproof adhesive.
- B. Visual Display Boards: Factory assemble visual display boards unless otherwise indicated.
1. Where factory-applied trim is indicated, trim shall be assembled and attached to visual display boards at manufacturer's factory before shipment.

2.5 GENERAL FINISH REQUIREMENTS

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

- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. 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.

2.6 ALUMINUM FINISHES

- A. Clear Anodic Finish: AAMA 611, AA-M12C22A31, Class II, 0.010 mm or thicker.
- B. Color Anodic Finish: AAMA 611, AA-M12C22A32/A34, Class II, 0.010 mm or thicker.
- C. Baked-Enamel or Powder-Coat Finish: AAMA 2603 except with a minimum dry film thickness of 1.5 mils (0.04 mm). Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.

2.7 VISUAL DISPLAY SURFACE SCHEDULE

- A. Visual Display Board: Factory assembled.
 - 1. Markerboard: Porcelain-enamel, Melamine, High-pressure-laminate markerboard assembly.
 - a. Color: As selected by Architect from full range of industry colors.
 - 2. Corners: As indicated on Drawings.
 - 3. Width: As indicated on Drawings.
 - 4. Height: As indicated on Drawings.
 - 5. Mounting: Wall Rail support system.
 - 6. Mounting Height: As indicated on Drawings.
 - 7. Factory -Applied Aluminum Trim: Manufacturer's standard as selected by Architect from full range of manufacturer's finishes.
 - a. Color: As selected by Architect from full range of industry colors and color densities.
 - 8. Factory -Applied Wood Trim: With transparent finish.
 - 9. Factory-Applied Vinyl Trim: As selected by Architect from full range of industry colors.
 - 10. Accessories:
 - a. Chalktray: As selected by Architect.
 - b. Map rail with accesoner selected by Architect.
- B. Tackboard: Factory assembled.
 - 1. Tack Surface: Vinyl-fabric-faced tackboard assembly.
 - a. Color: As selected by Architect from full range of industry colors.

2. Corners: As indicated on Drawings.
 3. Width: As indicated on Drawings.
 4. Height: As indicated on Drawings.
 5. Mounting: As indicated on Drawings.
 6. Mounting Height: As indicated on Drawings.
 7. Edges: As indicated on Drawings.
- a. Factory -Applied Aluminum Trim: Manufacturer's standard style, with finish selected by Architect.
 - 1) Color: As selected by Architect from full range of industry colors and color densities.
 - b. Factory -Applied Wood Trim: with opaque or transparent finish as indicated on drawing.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances, surface conditions of wall, and other conditions affecting performance of the Work.
- B. Examine roughing-in for electrical power systems to verify actual locations of connections before installation of motor-operated, sliding visual display units.
- C. Examine walls and partitions for proper preparation and backing for visual display surfaces.
- D. Examine walls and partitions for suitable framing depth where sliding visual display units will be installed.
- E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions for surface preparation.
- B. Clean substrates of substances that could impair the performance of and affect the smooth, finished surfaces of visual display boards, including dirt, mold, and mildew.
- C. 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.
 1. Prime wall surfaces indicated to receive, visual display tack wall panels or visual display wall coverings and as recommended in writing by primer/sealer manufacturer and wall covering manufacturer.

2. Prepare surfaces to receive visual display wall coverings and test for moisture according to requirements specified in Division 09 Section "Wall Coverings."
 3. Prepare substrates indicated to receive visual display wall covering as required by manufacturer's written instructions to achieve a smooth, dry, clean, structurally sound surface that is uniform in color.
 - a. Moisture Content: Maximum of 4 percent when tested with an electronic moisture meter.
 - b. Plaster: Allow new plaster to cure. Neutralize areas of high alkalinity. Prime with primer as recommended in writing by primer/sealer manufacturer and wall covering manufacturer.
 - c. Metals: If not factory primed, clean and apply metal as recommended in writing by primer/sealer manufacturer and wall covering manufacturer.
 - d. Gypsum Board: Prime with primer as recommended in writing by primer/sealer manufacturer and wall covering manufacturer.
 - e. Painted Surfaces: Treat areas susceptible to pigment bleeding.
- D. Prepare recesses for sliding visual display units as required by type and size of unit.

3.3 INSTALLATION, GENERAL

- A. 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.

3.4 INSTALLATION OF FACTORY-FABRICATED VISUAL DISPLAY BOARDS AND ASSEMBLIES

- A. Visual Display Boards: Attach visual display boards to wall surfaces as indicated on Drawings.
- B. Visual Display Boards: Attach concealed clips, hangers, and grounds to wall surfaces and to visual display boards with fasteners at not more than 16 inches (400 mm) o.c. Secure both top and bottom of boards to walls.
1. Field-Applied Aluminum Trim: Attach trim over edges of visual display boards and conceal grounds and clips. Attach trim to boards with fasteners at not more than 24 inches (610 mm) o.c.
 - a. Attach chalktrays to boards with fasteners at not more than 12 inches (300 mm) o.c.
 2. Field-Applied Wood Trim: Install trim according to requirements in Division 06 Section "Finish Carpentry."

3.5 CLEANING AND PROTECTION

- A. Clean visual display surfaces according to manufacturer's written instructions. Attach one cleaning label to visual display surface in each room.
- B. Touch up factory-applied finishes to restore damaged or soiled areas.
- C. Cover and protect visual display surfaces after installation and cleaning.

3.6 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain motor-operated, sliding visual display units.

END OF SECTION 101100

SECTION 102113 - 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. Stainless-steel toilet compartments configured as toilet enclosures entrance screens and urinal screens.
 - 2. Solid-polymer toilet compartments configured as toilet enclosure entrance screens and urinal screens.
- B. Related Sections:
 - 1. Division 05 Section "Metal Fabrications" for supports that attach ceiling-hung compartments floor-and-ceiling-anchored compartments and post-to-ceiling screens to overhead structural system.
 - 2. Division 06 Section "Miscellaneous Rough Carpentry" for blocking overhead support of floor-and-ceiling-anchored compartments and overhead support of post-to-ceiling screens.
 - 3. Division 10 Section "Toilet, Bath, and Laundry Accessories" for toilet tissue dispensers, grab bars, purse shelves, and similar accessories.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. LEED Submittals if noted as Project Requirements:
 - 1. Product Data for Credit MR 4.1 and Credit MR 4.2: For products having recycled content, documentation indicating percentages by weight of postconsumer and preconsumer recycled content. Include statement indicating costs for each product having recycled content.
- C. Shop Drawings: For toilet compartments. Include plans, elevations, sections, details, and attachments to other work.
 - 1. Show locations of cutouts for compartment-mounted toilet accessories.
 - 2. Show locations of reinforcements for compartment-mounted grab bars.
 - 3. Show locations of centerlines of toilet fixtures.

4. Show overhead support or bracing locations.
- D. Samples for Initial Selection: For each type of unit indicated. Include Samples of hardware and accessories involving material and color selection.
- E. Samples for Verification: For the following products, in manufacturer's standard sizes unless otherwise indicated:
 1. Each type of material, color, and finish required for units, prepared on 6-inch- (152-mm) square Samples of same thickness and material indicated for Work.
 2. Each type of hardware and accessory.
- F. Product Certificates: For each type of toilet compartment, from manufacturer.
- G. Maintenance Data: For toilet compartments to include in maintenance manuals.

1.4 QUALITY ASSURANCE

- A. Comply with requirements in GSA's CID-A-A-60003, "Partitions, Toilets, Complete."
- B. 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: 200 or less.
 2. Smoke-Developed Index: 450 or less.
- C. 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.

1.5 PROJECT CONDITIONS

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

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Aluminum Castings: ASTM B 26/B 26M.
- B. Aluminum Extrusions: ASTM B 221 (ASTM B 221M).
- C. Brass Castings: ASTM B 584.

- D. Brass Extrusions: ASTM B 455.
- E. Steel Sheet: Commercial steel sheet for exposed applications; mill phosphatized and selected for smoothness.
 - 1. Electrolytically Zinc Coated: ASTM A 879/A 879M, 01Z (03G).
 - 2. Hot-Dip Galvanized: ASTM A 653/A 653M, either hot-dip galvanized or galvanized.
- F. Stainless-Steel Sheet: ASTM A 666, Type 304, stretcher-leveled standard of flatness.
- G. Stainless-Steel Castings: ASTM A 743/A 743M.
- H. Zamac: ASTM B 86, commercial zinc-alloy die castings.

2.2 STAINLESS-STEEL UNITS

- 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:
- B. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:
 - 1. Bradley Corporation; Mills Partitions.
 - 2. General Partitions Mfg. Corp.
 - 3. Hadrian Manufacturing Inc.
 - 4. Rockville Partitions Incorporated.
 - 5. Sanymetal; a Crane Plumbing company.
- C. Door, Panel, and Pilaster Construction: Seamless, metal facing sheets pressure laminated to core material; with continuous, interlocking molding strip or lapped-and-formed edge closures; corners secured by welding or clips and exposed welds ground smooth. Provide with no-sightline system. Exposed surfaces shall be free of pitting, seam marks, roller marks, stains, discolorations, telegraphing of core material, or other imperfections.
 - 1. Core Material: Manufacturer's standard sound-deadening honeycomb of resin-impregnated kraft paper in thickness required to provide finished thickness of 1 inch (25 mm) for doors and panels and 1-1/4 inches (32 mm) for pilasters.
 - 2. Grab-Bar Reinforcement: Provide concealed internal reinforcement for grab bars mounted on units.
 - 3. Tapping Reinforcement: Provide concealed reinforcement for tapping (threading) at locations where machine screws are used for attaching items to units.
- D. Urinal-Screen Construction:
 - 1. Flat-Panel Urinal Screen: Matching panel construction.
 - 2. Integral-Flange, Wall-Hung Urinal Screen: Similar to panel construction, with integral full-height flanges for wall attachment, and maximum 1-1/4 inches (32 mm) thick.
 - 3. Wedge-Shaped, Wall-Hung Urinal Screen: Similar to panels, V-shaped, fabricated for concealed wall attachment, and maximum 6 inches (152 mm) wide at wall and minimum 1 inch (25 mm) wide at protruding end.

- E. Facing Sheets and Closures: Stainless-steel sheet of nominal thicknesses as follows:
 - 1. Pilasters, Braced at Both Ends: Manufacturer's standard thickness, but not less than 0.038 inch (0.95 mm).
 - 2. Pilasters, Unbraced at One End: Manufacturer's standard thickness, but not less than 0.050 inch (1.27 mm).
 - 3. Panels: Manufacturer's standard thickness, but not less than 0.031 inch (0.79 mm).
 - 4. Doors: Manufacturer's standard thickness, but not less than 0.031 inch (0.79 mm).
 - 5. Flat-Panel Urinal Screens: Thickness matching the panels.
 - 6. Integral-Flange, Wall-Hung Urinal Screens: Manufacturer's standard thickness, but not less than 0.031 inch (0.79 mm).
 - 7. Wedge-Shaped, Wall-Hung Urinal Screens: Manufacturer's standard thickness, but not less than 0.038 inch (0.95 mm).
- F. Pilaster Shoes and Sleeves (Caps): Stainless-steel sheet, not less than 0.031-inch (0.79-mm) nominal thickness and 3 inches (76 mm) high, finished to match hardware.
- G. Urinal-Screen Post: Manufacturer's standard post design of material matching the thickness and construction of pilasters; with shoe and sleeve (cap) matching that on the pilaster.
- H. Brackets (Fittings):
 - 1. Stirrup Type: Ear or U-brackets; stainless steel.
 - 2. Full-Height (Continuous) Type: Manufacturer's standard design; stainless steel.
- I. Stainless-Steel Finish: Manufacturer's standard textured finish on exposed faces. Protect exposed surfaces from damage by application of strippable, temporary protective covering before shipment.

2.3 SOLID-POLYMER UNITS

- 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:
- B. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:
 - 1. Bradley Corporation; Mills Partitions.
 - 2. Comtec Industries/Capitol Partitions.
 - 3. General Partitions Mfg. Corp.
 - 4. Hadrian Manufacturing Inc.
 - 5. Rockville Partitions Incorporated.
 - 6. Santana Products, Inc.
 - 7. Sanymetal; a Crane Plumbing company.
- C. Door, Panel, Screen, and Pilaster Construction: Solid, high-density polyethylene (HDPE) or polypropylene (PP) panel material, not less than 1 inch (25 mm) thick, seamless, with eased edges, no-sightline system, and with homogenous color and pattern throughout thickness of material.
 - 1. Integral Hinges: Configure doors and pilasters to receive integral hinges.

2. Heat-Sink Strip: Manufacturer's standard continuous, extruded-aluminum or stainless-steel strip fastened to exposed bottom edges of solid-polymer components to prevent burning.
 3. Color and Pattern: As selected by Architect from manufacturer's full range.
- D. Pilaster Shoes and Sleeves (Caps): Manufacturer's standard design; polymer or stainless steel.
1. Polymer Color and Pattern: As selected by Architect from manufacturer's full range.
- E. Urinal-Screen Post: Manufacturer's standard post design of material matching the thickness and construction of pilasters with shoe and sleeve (cap) matching that on the pilaster.
- F. Brackets (Fittings):
1. Stirrup Type: Ear or U-brackets, clear-anodized aluminum.
 2. Full-Height (Continuous) Type: Manufacturer's standard design.
 - a. Polymer Color and Pattern: As selected by Architect from manufacturer's full range.
- G. Overhead Cross Bracing for Ceiling-Hung Units: As recommended by manufacturer and fabricated from solid polymer.

2.4 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 and entrance-screen 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.

2.5 FABRICATION

- A. 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.
- B. 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.
- C. Ceiling-Hung Units: Provide manufacturer's standard corrosion-resistant anchoring assemblies with leveling adjustment nuts at pilasters for connection to structural support above finished ceiling. Provide assemblies that support pilasters from structure without transmitting load to finished ceiling. Provide sleeves (caps) at tops of pilasters to conceal anchorage.
- D. Floor-and-Ceiling-Anchored Units: Provide manufacturer's standard corrosion-resistant anchoring assemblies with leveling adjustment at tops and bottoms of pilasters. Provide shoes and sleeves (caps) at pilasters to conceal anchorage.
- E. Urinal-Screen Posts: Provide manufacturer's standard corrosion-resistant anchoring assemblies with leveling adjustment at tops and bottoms of posts. Provide shoes and sleeves (caps) at posts to conceal anchorage.
- F. Door Size and Swings: Unless otherwise indicated, provide 24-inch (610-mm) wide, in-swinging doors for standard toilet compartments and 36-inch- (914-mm) wide, out-swinging doors with a minimum 32-inch- (813-mm) wide, clear opening for compartments designated as accessible.

PART 3 - EXECUTION

3.1 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.
 - 1. Maximum Clearances:
 - a. Pilasters and Panels: 1/2-inch (13-mm).
 - b. Panels and Walls: 1-inch (25-mm).
 - 2. Stirrup Brackets: Secure panels to walls and to pilasters with no fewer than three brackets attached at midpoint and 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 (44 mm) 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. Floor-Anchored Units: Set pilasters with anchors penetrating not less than 2 inches (51 mm) into structural floor unless otherwise indicated in manufacturer's written instructions. Level, plumb, and tighten pilasters. Hang doors and adjust so tops of doors are level with tops of pilasters when doors are in closed position.
- D. Ceiling-Hung Units: Secure pilasters to supporting structure and level, plumb, and tighten. Hang doors and adjust so bottoms of doors are level with bottoms of pilasters when doors are in closed position.
- E. Floor-and-Ceiling-Anchored Units: Secure pilasters to supporting construction and level, plumb, and tighten. Hang doors and adjust so doors are level and aligned with panels when doors are in closed position.
- F. Urinal Screens: Attach with anchoring devices to suit supporting structure. Set units level and plumb, rigid, and secured to resist lateral impact.

3.2 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[and doors in entrance screens] to return doors to fully closed position.

END OF SECTION 102113

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. Public-use washroom accessories.
 - 2. Underlavatory guards.
 - 3. Custodial accessories.
- B. Related Sections:
 - 1. Division 09 Section "Tiling" for ceramic toilet and bath accessories.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated. Include the following:
 - 1. Anchoring and mounting requirements, including requirements for cutouts in other work and substrate preparation.
 - 2. Material and finish descriptions.

1.4 QUALITY ASSURANCE

- A. Source Limitations: For products listed together in the same Part 2 articles, obtain products from single source from single manufacturer.
- 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.

1.5 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.

1.6 WARRANTY

- A. Special Mirror Warranty: Manufacturer's standard form in which manufacturer agrees to replace mirrors that develop visible silver spoilage defects and that fail in materials or workmanship within specified warranty period.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Stainless Steel: ASTM A 666, Type 304, 0.031-inch (0.8-mm) minimum nominal thickness unless otherwise indicated.
- B. Brass: ASTM B 19, flat products; ASTM B 16/B 16M, rods, shapes, forgings, and flat products with finished edges; or ASTM B 30, castings.
- C. Steel Sheet: ASTM A 1008/A 1008M, Designation CS (cold rolled, commercial steel), 0.036-inch (0.9-mm) minimum nominal thickness.
- D. Galvanized-Steel Sheet: ASTM A 653/A 653M, with G60 (Z180) hot-dip zinc coating.
- E. Galvanized-Steel Mounting Devices: ASTM A 153/A 153M, hot-dip galvanized after fabrication.
- F. Fasteners: Screws, bolts, and other devices of same material as accessory unit and tamper-and-theft resistant where exposed, and of galvanized steel where concealed.
- G. Chrome Plating: ASTM B 456, Service Condition Number SC 2 (moderate service).
- H. Mirrors: ASTM C 1503, Mirror Glazing Quality, clear-glass mirrors, nominal 6.0 mm thick.
- I. ABS Plastic: Acrylonitrile-butadiene-styrene resin formulation.

2.2 PUBLIC-USE WASHROOM ACCESSORIES

- A. Toilet Tissue (Roll) Dispenser No. 09507, Manufactured by Kimberly Clark.
 - B. No. 09755, Manufactured by Kimberly Clark.
- Grab Bar 1 1/4" – 1 1/2" diameter, stainless steel, manufactured by Bobrick or approved equal.
- Sanitary-Napkin Disposal Unit: 6140 , Manufactured by Rubbermaid.
- Diaper-Changing Station: Acceptable manufacturers include: Baby Changing station by Koala Bear Kare; and Diaper Deck by American Infant Care Products (AICP), or approved equal.
- G. Mirror Unit: Acceptable manufacturer Bobrick, stainless steel channel frame B156E size as indicated on drawings.

2.3 UNDERLAVATORY GUARDS

- A. Manufactured by: Truebro by IPS Corporation or approved equals, Antimicrobial, molded plastic, white:
- B. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:

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

3.2 ADJUSTING AND CLEANING

- A. Adjust accessories for unencumbered, smooth operation. Replace damaged or defective items.
- B. Remove temporary labels and protective coatings.
- C. Clean and polish exposed surfaces according to manufacturer's written recommendations.

END OF SECTION 102800