

SECTION 10155 - TOILET PARTITIONS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. Floor Mounted Toilet Partitions and Urinary Screens in locations indicated on the drawings.
- B. Related Sections include, but are not limited to:
 - 1. Section 05500 - Metal Fabrications.
 - 2. Section 06100 - Rough Carpentry.
 - 3. Section 09300 - Tile
 - 4. Section 10800 - Toilet Accessories.

1.3 REGULATORY REQUIREMENTS

- A. Conform to State of Florida Accessibility Code for Building, Chapter 11 of Florida Building Code, 2007 Edition for installing work in conformance with ANSI A 117.1.

1.4 SUBMITTALS

- A. Product Data: Provide data on toilet partition and urinary screen materials, including catalog cuts of anchors, hardware, fastenings, and accessories. Provide installation instructions for installation of anchorage devices built into adjacent work.
- B. Shop Drawings: Indicate partition plan and elevation views, dimensions, and details of wall supports.
- C. Samples: Submit two samples 12 x 12-inches in size illustrating panel finish, color, and sheen.

1.5 QUALITY ASSURANCE

- A. Fire-Test-Response Characteristics: Provide toilet partitions that comply with the following requirements:
 - 1. Fire-Resistance Characteristics: Where indicated, provide toilet partitions identical to those of assemblies tested for fire resistance per ASTM E 119 by UL or another testing and inspecting agency acceptable to authorities having jurisdiction.
- B. Surface-Burning Characteristics: Provide toilet partitions with the following surface-burning characteristics complying with ASTM E 1264 for Class A materials as determined by testing identical products when tested per ASTM E 84:

1. Smoke-Developed Index: 70 or less for 3/4-inch thick and 85 or less for 1/2-inch material.
- C. Stainless steel hardware shall comply with ASTM A 167, Type 304.
- D. Concealed fasteners and leveling devices: hot-dipped galvanized steel; ASTM A 153.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver pre-finished materials to the project site in original, unopened cartons or packaging materials necessary to protect structure and finishes. Label packages clearly with manufacturer's name and item description.
- B. Store compartment components in a vertical position with adequate support to ensure flatness and to prevent damage to pre-finished surface.

1.7 JOB CONDITIONS

- A. Field Measurements: Verify actual locations of walls, columns, ceilings, and other construction contiguous with toilet compartments by field measurements before fabrication and indicate measurements on Shop Drawings.
 1. Allow for adjustments within specified tolerances wherever taking field measurements before fabrication might delay work.

1.8 COORDINATION

- A. Furnish inserts and anchorages that must be built into other work for installation of toilet compartments and related items; coordinate delivery with other work to avoid delay.

1.9 WARRANTY

- A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.
- B. Submit written agreement on toilet partition manufacturer's standard form, signed by manufacturer, installer, and contractor, agreeing to repair or replace defective parts including, but not limited to doors, panels, and hardware, that do not comply with referenced quality standards and plastic laminated materials that discolor or delaminate from the partition core.
 1. Warranty Period: one year from date of Substantial Completion and Owner Final Acceptance.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Materials are specified by brand names to establish a basis for quality and design, or by

performance requirements and general description of product. The Interior Designer reserves the right to reject any material which, in his opinion, will not produce the quality of the work specified herein.

- B. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include the following:

1. Accurate Partitions Corp. (708) 442-6800 www.accuratepartitions.com .
2. Bobrick Washroom Equipment (800) 553-1600 www.bobrick.com
3. Knickerbocker Partition Corp. (516) 546-0550 www.knickerbocker.com .

- C. One substitute manufacturer may be submitted for each product specified in this section, to Architect for review following procedures established in Section 01631 and upon receipt of completed Substitution Form.

2.2 PRODUCTS

- A. General: Provide materials which have been selected for surface flatness and smoothness. Exposed surfaces which exhibit pitting, seam marks, roller marks, stains, discolorations, telegraphing of core material, or other imperfections on finished units are not acceptable.
- B. Panel Construction: High pressure plastic laminate, NEMA LD 3, GP-50, 0.050-inch nominal thickness, color and pattern as selected by Interior Designer; core of industrial grade 45 pound density Type M-2 particle board, complying with ANSI 208.1.
1. Pilaster Shoes: ASTM A 167, Type 302/304 stainless steel, not less than 3" high, 20 gage, finished to match hardware.
- C. Doors and Panels: 1 inch thick, face pressure bonded to core.
- D. Partition Mounting & Style: Standard Overhead Braced and Floor Mounted.
- E. Screen Mounting & Style: Standard Wall-Hung and/or Standard Overhead Braced and Floor Mounted as indicated on the drawings.
- F. Anchorages and Fasteners: Manufacturer's standard exposed fasteners of stainless steel finished to match hardware, with theft-resistant-type heads. Provide sex-type bolts for through-bolt applications. For concealed anchors, use hot-dip galvanized or other rust-resistant, protective-coated steel.
1. Exception: For Pool/Cabana and/or non-air-conditioned Toilet Rooms - all concealed anchors shall be Type 302/304 stainless steel.
- G. Stirrup Brackets: Manufacturer's standard design for attaching panels to walls and pilasters, either chromium-plated non-ferrous cast alloy ("Zamac") or anodized aluminum.
- H. Hardware: Manufacturer's standard design, heavy-duty operating hardware and accessories of stainless steel.

1. Hinges: Manufacturer's standard cutout inset type, adjustable to hold door open at any angle up to 90 degrees. Provide gravity type, spring-action cam type, or concealed torsion rod type, to suit manufacturer's standards.
 2. Latch and Keeper: Manufacturer's standard surface-mounted latch unit, designed for emergency access, with combination rubber-faced door strike and keeper. Provide units that comply with accessibility requirements of authorities having jurisdiction at compartments indicated to be accessible to people with disabilities.
 3. Coat Hook: Manufacturer's standard combination hook and rubber-tipped bumper, sized to prevent door from hitting compartment-mounted accessories.
 4. Door Bumper: Manufacturer's standard rubber-tipped bumper at out-swinging doors.
 5. Door Pull: Manufacturer's standard unit at out-swinging doors that complies with accessibility requirements of authorities having jurisdiction. Provide pulls on both sides of doors at compartments indicated to be accessible to people with disabilities.
- I. Finish Color: As indicated in Interior Finish Schedule and/or Interior Designer's Drawings.

2.3 FABRICATION

- A. Fabricate components with plastic laminate finish to faces and edges of core material. Apply laminate to edges before broad surfaces to seal edges and prevent laminate from being pried loose. Seal exposed core material at cutouts to protect core from moisture.
- B. Door, Panel, and Pilaster Construction: Plastic-laminate facing sheets are pressure laminated to core material without splices or joints in facings or cores, minimum 1-inch thick. Laminate is applied to edges before broad surfaces to seal edges and prevent laminate from being pried loose. Exposed core material is sealed at cutouts to protect core from moisture.
- C. Floor-Anchored Units: Provide manufacturer's standard corrosion-resistant anchoring assemblies complete with threaded rods, lock washers, and leveling adjustment nuts at pilasters for structural connection to floor. Provide shoes at pilasters to conceal anchorage.

PART 3 EXECUTION

3.1 EXAMINATION AND PREPARATION

- A. Verify that opening dimensions and plumbing fixture and rough-in locations are as indicated on shop drawings and have been verified in the field.

3.2 INSTALLATION

- A. Comply with manufacturer's written installation instructions. Install units rigid, straight, plumb, and level. Provide clearances of not more than 1/2 inch between pilasters and panels and not more than 1 inch between panels and walls. Secure units in position with manufacturer's recommended anchoring devices.
1. Secure panels to walls and panels with not less than 2 stirrup brackets attached near top and bottom of panel. Locate wall brackets so holes for wall anchors occur in masonry or tile joints. Align brackets at pilasters with brackets at walls.

- B. Floor-Anchored Partitions: Set pilaster units with anchors penetrating not less than 2 inches 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.
- C. Install stainless steel protective splash panels on employee toilet partitions adjacent to urinals.
- D. Provide adjustment for height variations with threaded rods through steel saddles. Conceal fastenings with pilaster shoes.
- E. Equip each door with three hinges, one door latch, and one coat hook and bumper.
- F. Screens: Attach with anchoring devices as recommended by manufacturer to suit supporting structure set units to provide support and to resist lateral impact.

3.3 ADJUSTMENT AND CLEANING

- A. Hardware Adjustment: Adjust and lubricate hardware according to 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.
- B. Clean exposed surfaces of partition systems using materials and methods recommended by manufacturer, and provide protection as necessary to prevent damage during remainder of construction period.

END OF SECTION 10155

SECTION 10200 - LOUVERS AND VENTS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. Provide louvers and vents: aluminum louvers for exterior walls, soffit and eave vents, louvers for mechanical equipment. Verify mechanical equipment louver and accessory selection with MEP drawings and specifications.
- B. Provide bird screening.
- C. Related Sections include, but are not limited to:
 - 1. Section 07900 - Sealants.
 - 2. Section 09220 - Portland Cement Plaster.
 - 3. Refer to MEP Drawings for Metal Ductwork specifications.

1.3 DEFINITIONS

- A. Louver Terminology: Definitions of terms for metal louvers contained in AMCA 501 apply to this Section, unless otherwise defined in this Section or in referenced standards.
- B. Standard Free Area: Free area of a louver 48 inches wide by 48 inches high, identical to that provided.
- C. Maximum Standard Airflow: Airflow at point of beginning water penetration through a louver 48 inches wide by 48 inches high, identical to that provided.
- D. Drainable-Blade Louver: Louver designed to collect and drain water to exterior at sill by means of gutters in front edges of blades and channels in jambs and mullions.

1.4 PERFORMANCE REQUIREMENTS

- A. Structural Performance: 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; or permanent damage to fasteners and anchors.
- B. Thermal Movements: Provide louvers that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of

joints, overstressing of components, failure of connections, and other detrimental effects. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.
- C. Air-Performance, Water-Penetration, Air-Leakage, and Wind-Driven Rain Ratings: Provide louvers complying with performance requirements indicated, as demonstrated by testing manufacturer's stock units identical to those provided, except for length and width according to AMCA 500-L.
- D. Airborne Sound Transmission Loss: Provide acoustical louvers complying with airborne sound transmission loss ratings indicated, as demonstrated by testing manufacturer's stock units identical to those specified, except for length and width according to ASTM E 90.

1.5 SUBMITTALS

- A. Product Data: Provide data on louvers and vents, accessories, and installation instructions.
- B. Shop drawings of louver units and accessories. Include plans, elevations, sections, and details showing profiles, angles, and spacing of louver blades; unit dimensions related to wall openings and construction; free areas for each size indicated; profiles of frames at jambs, heads, and sills; and anchorage details and locations.
 1. For installed products indicated to comply with certain design loadings, include structural analysis data sealed and signed by the qualified professional engineer who was responsible for their preparation.
- C. Samples for selection in the form of manufacturer's color charts showing the full range of colors available for units with factory-applied color finishes.
- D. Product test reports evidencing compliance of units with performance requirements indicated.
- E. Submit current Miami-Dade County Product Approval documentation in compliance with Rule 9B-72 of the Florida Administrative Code.
- F. Certificates:
 1. Certify that materials meet or exceed requirements of this section.
 2. Product certificates signed by louver manufacturers certifying that their products comply with the specified requirements and are licensed to bear the AMCA seal based on tests made according to AMCA 500 and complying with the AMCA Certified Ratings Program.
 3. Product certificates signed by louver manufacturers certifying that their products' finishes comply with the specified requirements and AAMA 2605.

1.6 QUALITY ASSURANCE

- A. Comply with AMCA Standard 500 and provide units with AMCA Certification rating seal. Comply with SMACNA Architectural Sheet Metal Manual except as otherwise indicated.

- B. Single-Source Responsibility: Obtain louvers and vents from one source and by a single manufacturer where alike in one or more respects regarding type, design, and factory-applied color finish.
- C. Welding Standards: Comply with applicable provisions of D1.2 "Structural Welding Code--Aluminum," and D1.3 "Structural Welding Code--Sheet Steel."
- D. Comply with Florida Building Code, 2007 Edition.
- E. Aluminum Finish shall comply with: AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels.
- F. Compliance with applicable ASTM Standards, including, but not limited to:
 - 1. ASTM B 209 - Standard Specification for Aluminum and Aluminum Alloy Sheet and Plate.
 - 2. ASTM B 221 - Standard Specification for Aluminum - Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes.
- G. Engineer Qualifications: A professional engineer legally authorized to practice in the jurisdiction where the Project is located and experienced in providing engineering services of the kind indicated that have resulted in the installation of louvers similar to this Project in material, design, and extent and that have a record of successful in-service performance.
- H. Elevator Hoistway vents shall comply with ANSI/ASME A17.1, "Safety Code for Elevators and Escalators, current edition.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to job site ready for use. Fabricate in as large sections and assemblies as practical.
- B. Storage: Store materials in a dry area indoors, protected from damage and in accordance with manufacturer's instructions.
- C. Handling: Protect materials and finishes during handling and installation to prevent damage. Remove materials that are damaged or otherwise not suitable for installation from job site and replace with acceptable material at no additional cost to Owner.

1.8 PROJECT CONDITIONS

- A. Field Measurements: Check actual louver openings by accurate field measurements before fabrication, and show recorded measurements on final shop drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work. Exact measurements are the Contractor's responsibility.
 - 1. Coordinate fabrication schedule with construction progress to avoid delay. Where necessary, proceed with fabrication without field measurements and coordinate fabrication tolerances to ensure properly fitting aluminum louver units in all openings indicated on the drawings. Any variations from accepted tolerances will be corrected per Engineer's approved methods before

installation may proceed.

- B. Furnish or obtain templates, patterns, and setting instructions as required for the installation of all Work. Verify all dimensions in the field.

1.9 WARRANTY

- A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.
- B. Manufacturer's Special Warranty for Louvers and Vents: Written warranty, made out to Owner and signed by manufacturer agreeing to replace louver and vent units and accessories due to defects in materials and workmanship within specified warranty period indicated below:
 1. Warranty Period: three (3) years from date of Substantial Completion and Owner Final Acceptance.
- C. Special Finish Warranty for Fluoropolymer Three-Coat System: Manufacturer's standard form in which manufacturer agrees to repair or replace components on which finishes fail within specified warranty period. Warranty does not include normal weathering.
 1. Warranty Period: ten (10) years from date of Substantial Completion and Owner Final Acceptance.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Materials are specified by brand names to establish a basis for quality and design, or by performance requirements and general description of product. The Architect reserves the right to reject any material which, in his opinion, will not produce the quality of the work specified herein.
- B. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include the following:
 1. Airline Products, a Nystrom Building Products Co. (301) 582-2500 www.nystrom.com
 2. Airolite Company (740) 373- 7676 www.airolite.com
 3. Construction Specialities (800) 631-7379 www.c-sgroup.com
 4. Ruskin Company (816) 761-7476 www.ruskin.com .
- C. One substitute manufacturer may be submitted for each product specified in this section, to Architect for review following procedures established in Section 01631 and upon receipt of completed Substitution Form.

2.2 MATERIALS

- A. Horizontal, Storm Resistant, 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 blades and channels in jambs and mullions, ASTM B221, Alloy 6063-T5; stationary, horizontal drainable blade louvers, minimum extrusion 0.081", insect screen. Fluorocarbon finish, as specified herein, color selected by architect.

1. Louver depth: 4 or 6 inches, as required to resist pressures.
 2. Frame thickness: 0.125 inch extruded aluminum.
 3. Blade Angle: 38 degrees, unless otherwise noted.
 4. Blade Thickness: 0.081 inch extruded aluminum.
 5. Blade Spacing: 4.25 inches, unless otherwise noted.
- B. Extruded aluminum frame: ASTM B221, Alloy 6063-T5; minimum extrusion 0.100 inches thick, depth: 4 inches, no flanges unless noted otherwise on the drawings.
- C. Vents: Extruded or bent aluminum louvers and frames, Fluorocarbon finish, as specified herein, color selected by architect.
- D. Fasteners: Type 300 series stainless steel, unless otherwise indicated. Do not use metals that are corrosive or incompatible with joined materials. Provide other accessories as required for complete and proper installation.
- E. Anchors, Clips 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.
- F. Bituminous Paint: Cold-applied asphalt coating complying with MIL-C-16173D Type I and Federal Specification TT-C-494B Type II, except containing no asbestos fibers, Karnak 118 Black Asphaltum, manufactured by Karnak Corp. (800) 526-4236; www.karnakcorp.com or approved equal.

2.3 FABRICATION

- A. General: Fabricate louvers and vents to comply with requirements indicated for design, dimensions, materials, joinery, and performance. Include supports, anchorages, and accessories required for complete assembly.
- B. Assemble 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. 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.
- E. Fabricate frames, including integral sills, to fit in openings of sizes indicated, with allowances made for fabrication and installation tolerances of louvers, adjoining construction, and perimeter sealant joints.

- F. 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.
 2. With fillet welds, concealed from view; or mechanical fasteners; or a combination of these methods; as standard with louver manufacturer.
- G. Provide vertical mullions of type and at spacings indicated, but not more than recommended by manufacturer, or **72 inches** o.c., whichever is less.
1. Fully Recessed (Concealed) Mullions: Where indicated, provide mullions fully recessed behind louver blades. Where length of louver exceeds fabrication and handling limitations, fabricate with close-fitting blade splices designed to permit expansion and contraction.

2.4 LOUVER SCREENS

- A. General: 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, interwoven wire mesh of aluminum, 0.063 inch diameter wire, ½-inch open weave, square grid, unless otherwise indicated.
- B. Fabricate screen frames with mitered corners to louver sizes indicated and to comply with the following requirements:
1. Reinforced extruded-aluminum screen frames at corners with clips. Finish to match louver.

2.5 FINISHES

- A. Finish for Exposed Aluminum Surfaces: Electrostatically applied thermosetting Kynar or Duranar fluoropolymer resin coating with inhibitive flash primer over chromate conversion coating. Meet or exceed AAMA 2605 standard. Color to be selected by Owner. Submit color samples for approval.
1. Chemical Pretreatment (AA-C12C40R1X): Aluminum shall be cleaned with inhibited chemicals and the surface chemically converted to amorphous chromium phosphate to conform to ASTM D 1730, Type B, Method 5, prior to coating. Conversion coating weight must exceed 40 milligrams/square foot. No substitutions for amorphous chromium phosphate (conversion coat) will be permitted.
 2. Fluoropolymer Three-Coat System: Manufacturer's standard three-coat, thermocured system consisting of specially formulated inhibitive primer, fluoropolymer color coat, and a clear fluoropolymer top coat, with both the color and clear coats containing not less than 70 percent polyvinylidene fluoride resin by weight. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with AAMA 2605 and with coating and resin manufacturers' written instructions. Provide coating which has been field tested under normal range of weathering conditions for a minimum of 20 years without significant peel, blister, flake, chip, crack, or check in the finish, and without chalking in excess of 8 (ASTM D 4214) and without fading in excess of 5 NBS units (ASTM D 2244).
 3. Paint system to be tested and certified by the louver and vent manufacturer to comply with AAMA 2605.

4. Paint system shall provide 1.60 mil dry film thickness consisting of 0.25 (+/- .05) mil primer, minimum 1.0 mil colorcoat, 0.40 (+/- .20) mil clear top coat.
5. Samples shall be provided to sealant contractor for required adhesion testing.

- B. Apply bituminous paint to properly prepared concealed unpainted surfaces in contact with dissimilar materials. Coat surfaces with 2 coats of bituminous paint for a minimum of 16 mils DFT or as recommended by coating manufacturer. Dipping of aluminum into bituminous paint is not permitted. Allow bituminous paint to dry prior to installation of aluminum component.

2.6 BLANK - OFF PANELS

- A. Uninsulated, Blank-off Panels:
 1. Aluminum sheet for aluminum louvers, not less than 0.050-inch nominal thickness, unless otherwise indicated.
 2. Finish: same finish as louvers.
 3. Attach blank-off panels to back of louver frames with stainless steel screws and clips.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine substrate surfaces to receive louvers, vents, and associated work and conditions under which work will be installed.
- B. Examine substrates and openings, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.
- C. Do not proceed with installation until satisfactory conditions have been corrected in a manner acceptable to installer. Starting work within a particular area will be construed as applicator's acceptance of surface conditions.

3.2 PREPARATION

- A. Coordinate setting drawings, diagrams, templates, instructions, and directions for installation of anchorages that are to be embedded in concrete or masonry construction. Coordinate delivery of such items to Project site.
- B. Confirm that unfinished concealed aluminum in contact with dissimilar metals, cementitious materials, masonry, and wood has been treated with a protective coating as specified in Part 2 of this specification section.

3.3 INSTALLATION

- A. Install materials in accordance with manufacturer's instructions and approved submittals. Install materials in proper relation with adjacent construction and with uniform appearance. Coordinate with work of other sections.
- B. Provide separate continuous sills where needed to prevent water penetration. Maintain equal blade-

to-blade and blade-to-frame spacing for uniform appearance. Provide concealed vertical mullions and reinforcement as needed.

- C. Provide anchors, supports and accessories as needed. Provide gaskets, flashings and fillers as necessary to make installation water tight.
- D. Protect nonferrous-metal surfaces from corrosion or galvanic action by applying a heavy coating of bituminous paint on surfaces that will be in contact with concrete, masonry, or dissimilar metals.
- E. Apply joint sealant at perimeter of all exterior louvers and vents following Section 07900 - Joint Sealants.

3.4 CLEANING AND PROTECTION

- A. Clean exposed surfaces of louvers and vents that 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 a mild soap or detergent not harmful to finishes. Thoroughly rinse surfaces and dry.
- C. Restore louvers and vents damaged during installation and construction so no evidence remains of corrective work. If results of restoration are unsuccessful, as determined by Architect, remove damaged units and replace with new units.
 - 1. Touch up minor abrasions in finishes with air-dried coating that matches color and gloss of, and is compatible with, factory-applied finish coating.

END OF SECTION 10200

SECTION 10350 - FLAGPOLES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. Six (6) anodized aluminum ground set mounted flagpoles in locations indicated on the drawings.
- B. United States of America, Denmark, Finland, Iceland, Norway, and Sweden flags provided by Owner.
- C. Related Work Specified Elsewhere:
 - 1. Section 03300 - Cast-In-Place Concrete.
 - 2. Section 05500 - Metal Fabrications.
 - 3. Section 07900 - Sealants.
 - 4. Refer to MEP Drawings for "Lightning Protection".

1.3 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide flagpole assemblies, including anchorages and supports, capable of withstanding the effects of wind loads, determined according to NAAMM FP 1001, "Guide Specifications for Design of Metal Flagpoles."
 - 1. Products to comply with Florida Building Code, 2007 Edition and resist wind loads determined by ASCE 7-05 and Structural Engineer's Calculations.
 - 2. Base flagpole design on polyester flags of maximum standard size suitable for use with flagpole or flag size indicated, whichever is more stringent.

1.4 SUBMITTALS

- A. Product Data: For each type of flagpole required.
- B. Shop Drawings: Include elevations and details showing general arrangement, jointing, fittings and accessories, grounding, and anchoring and supporting systems.
 - 1. Include details of foundation system for ground-set flagpoles.
- C. Structural Calculations: For flagpoles indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

- D. Finish Samples for Verification: For each finished material used for flagpoles and accessories.
- E. Qualification Data: For professional engineer.
- F. Product test reports evidencing compliance of units with performance requirements indicated.

1.5 QUALITY ASSURANCE

- A. Source Limitations: Obtain each flagpole as a complete unit, including fittings, accessories, bases, and anchorage devices, from a single manufacturer.
- B. Engineer Qualifications: A professional engineer legally authorized to practice in the jurisdiction where the Project is located and experienced in providing engineering services of the kind indicated that have resulted in the installation of flagpoles similar to this Project in material, design, and extent and that have a record of successful in-service performance.
- C. Certify that pole will withstand 90 mph winds with 8' x 12' flag.
- D. Design Data:
 - 1. The engineering design of the flagpole foundation is the manufacturer's responsibility. Submit design analysis calculations.
 - 2. Shop drawings and calculations shall be signed and stamped by a structural engineer licensed in the state where project is located.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. General: Spiral wrap flagpoles with heavy paper and enclose in a hard fiber tube or other protective container.
- B. If shaft is to be stored outdoors, it must be stored unwrapped, out of the tube, and off the ground.
- C. Flagpole shaft will stain if allowed to remain in contact with wet or damp wrappings. If there is any sign that the shaft or its shipping tube has come in contact with water during shipment, remove it from the tube and unwrap immediately.

1.7 WARRANTY

- A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.
- B. Manufacturer's Special Warranty for Flagpole finish: Written warranty, made out to Owner and signed by manufacturer agreeing to replace louver and vent units and accessories due to defects in materials and workmanship within specified warranty period indicated below:
 - 1. Warranty Period: one year from date of Substantial Completion and Owner Final Acceptance.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Materials are specified by brand names to establish a basis for quality and design, or by performance requirements and general description of product. The Architect reserves the right to reject any material which, in his opinion, will not produce the quality of the work specified herein.
- B. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include the following:

1. [American Flagpole \(800\) 368-7171 www.americanflagpole.com](http://www.americanflagpole.com)
2. [Baartol Company Inc. \(The\) \(800\) 537-4143 www.baartool.com](http://www.baartool.com)
3. [Ewing Flagpoles \(716\) 833-3278 www.ewingflagpole.com](http://www.ewingflagpole.com)

- C. One substitute manufacturer may be submitted for each product specified in this section, to Architect for review following procedures established in Section 01600 and upon receipt of completed Substitution Form.

2.2 FLAGPOLES

- A. Provide **cone** -tapered flagpoles fabricated from seamless extruded tubing complying with **ASTM B 241**, Alloy 6063, with a minimum wall thickness of **3/16 inch**. Heat treat after fabrication to comply with ASTM B 597, Temper T6.
- B. Flagpole Construction: Construct flagpoles in one piece if possible. If more than one piece is necessary, comply with the following:
 1. Fabricate shop and field joints without using fasteners, screw collars, or lead calking.
- C. Exposed Height: 30'-0".
- D. Foundation Tube: Galvanized corrugated-steel foundation tube, 0.0635" minimum wall thickness, sized to suit flagpole and installation. Provide with 3/16" steel bottom plate and support plate; 3/4" diameter, steel ground spike; and steel centering wedges all welded together. Galvanize steel parts, including foundation tube, after assembly. Provide loose hardwood wedges at top of foundation tube for plumbing pole.

2.3 FITTINGS

- A. Finial Ball: Manufacturer's standard flush-seam ball, sized as indicated or, if not indicated, to match flagpole-butt diameter.
 1. 0.063-inch (1.6-mm) spun aluminum, Clear Anodized finished to match flagpole.
- B. Internal Halyard, Winch System: Manually operated winch with control stop device and removable handle, stainless-steel cable halyard, and concealed revolving truck assembly with plastic-coated counterweight and sling. Provide flush access door secured with cylinder lock. Finish truck assembly to match flagpole.

1. Provide one halyard and one cleat at each flagpole.
 2. Provide halyard protectors consisting of a 2" channel, 60" long, finished to match flagpole.
- C. Halyard Flag Snaps: Provide 2 swivel snap hooks per halyard.
- D. Winch: Stainless steel, direct drive, self-locking.
- E. Lightning Rod: 3/4" diameter galvanized lightning spike welded to base steel plate.

2.4 MISCELLANEOUS MATERIALS

- A. Concrete: Comply with requirements in Division 3 Section "Cast-in-Place Concrete" for normal-weight, air-entrained, ready-mix concrete with a minimum 28-day compressive strength of 3000 psi
- B. Sealants are specified in Section 07900.
- C. Anchors, Clips 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.
- D. Bituminous Paint: Cold-applied asphalt mastic complying with SSPC-Paint 12, except containing no asbestos fibers, or cold-applied asphalt emulsion complying with ASTM D 1187; Karnak 118 Black Asphaltum, Karnak Corp. (800) 526-4236; www.karnakcorp.com or approved equal.
1. Apply bituminous paint to properly cleaned concealed unpainted surfaces in contact with cementitious or dissimilar materials. Apply 2 coats, minimum 16 mils DFT total thickness, according to manufacturer's instructions. Do not dip or over apply bituminous paint.

2.5 FINISHES

- A. Aluminum: Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
1. Class I, Clear Anodic Finish: AA-M12C22A41 (Mechanical Finish: nonspecular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, clear coating 0.018 mm or thicker) complying with AAMA 611.

PART 3 EXECUTION

3.1 PREPARATION

- A. Prepare in-ground flagpoles by painting below-grade portions with a heavy coat of bituminous paint.
- B. Coordinate setting drawings, diagrams, templates, instructions, and directions for installation of anchorages that are to be embedded in concrete construction.

- C. Foundation Excavation: Excavate to neat clean lines in undisturbed soil. Remove loose soil and foreign matter from excavation and moisten earth before placing concrete.
- D. Provide forms where required due to unstable soil conditions and for perimeter of flagpole base at grade. Secure and brace forms and foundation tube, sleeve, or anchor bolts in position, to prevent displacement during concreting.
- E. Place concrete immediately after mixing. Compact concrete in place by using vibrators. Moist-cure exposed concrete for not less than seven days or use nonstaining curing compound.
- F. Trowel exposed concrete surfaces to a smooth, dense finish, free of trowel marks, and uniform in texture and appearance. Provide positive slope for water runoff to perimeter of concrete base.

3.2 INSTALLATION

- A. General: Install flagpoles where shown and according to Shop Drawings and manufacturer's written instructions.
- B. Foundation-Tube Installation: Install flagpole in foundation tube, seated on bottom plate between steel centering wedges. Plumb flagpole and install hardwood wedges to secure flagpole in place. Place and compact sand in foundation tube and remove hardwood edges. Seal top of foundation tube with a 2" layer of elastomeric sealant and cover with flashing collar.

END OF SECTION 10350

SECTION 10425 - SIGNS (CODE REQUIRED)**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. Unframed panel signs as required by Town of Davie Building and Fire Departments for interior code required applications. Coordinate code required signage with Interior Designer and Owner.
- B. Related Sections include, but are not limited to:
 - 1. Section 06200 - Finish Carpentry.
 - 2. Section 08110 - Metal Doors and Frames..
 - 3. Section 08210 - Wood Doors.
 - 4. Section 09250 - Gypsum Board Systems.
 - 5. Refer to MEP Drawings for specifications.

1.3 REFERENCES

- A. Reference American National Standard for Buildings and Facilities Providing Accessibility and Useability for Physically Handicapped People as published by the American National Standards Institute, Inc. - ANSI A117.1.

1.4 SUBMITTALS

- A. Product data for each type of sign specified, including details of construction relative to materials, dimensions of individual components, profiles, and finishes.
- B. Shop drawings showing fabrication and erection of signs. Include plans, elevations, and large-scale sections of typical members and other components. Show anchors, grounds, layout, reinforcement, accessories, and installation details.
 - 1. Provide message list for each sign required, including large-scale details of wording and lettering layout.
 - 2. For signs supported by or anchored to permanent construction, provide setting drawings, templates, and directions for installation of anchor bolts and other anchors to be installed as a unit of Work in other Sections.
- C. Wiring diagrams from the manufacturer for illuminated sign units.
- D. Samples: Provide the following samples of each sign component for initial selection of color,

pattern and surface texture as required and for verification of compliance with requirements indicated.

1. Samples for verification of color, pattern, and texture selected and compliance with requirements indicated:
 - a. Cast Acrylic Sheet: Provide a sample panel not less than 8-1/2 inches by 11 inches for each material, color, texture, and pattern required. On each panel include a representative sample of the graphic image process required, showing graphic style, and colors and finishes of letters, numbers, and other graphic devices.

1.5 QUALITY ASSURANCE

- A. Graphic signs, including materials, fabrication, mounting and installation, shall conform to state and local code regulations and requirements.
- B. All items shall utilize the highest standards of professional workmanship and practices.
- C. Sign Fabricator Qualifications: Firm experienced in producing signs similar to those indicated for this Project, with a record of successful in-service performance, and sufficient production capacity to produce sign units required without causing delay in the Work.
- D. UL and NEMA Compliance: Provide lighting fixtures and electrical components for illuminated signs that are labeled and listed by UL and comply with applicable NEMA standards.
- E. Regulatory Requirements: Comply with the Americans with Disabilities Act (ADA) and with code provisions as adopted by authorities having jurisdiction.
 1. Interior Code Signage: Provide signage as required by accessibility regulations and requirements of authorities having jurisdiction. These include, but are not limited to, the following:
 - a. Illuminated Exit Signs: Refer to Division 16.
 - b. Room Identification.
 - c. Room Capacity.
 - d. Elevator Signs.
 - e. Stairway Identification.
 - f. Toilet Room Signs.
 - g. Signs for Accessible Spaces.
 - h. Visible Hazard Identification Signs per NFPA 704.
 - i. No Storage Signs.
 - j. No Smoking Signs.
- F. Single-Source Responsibility: For each separate sign type required, obtain signs from one source of a single manufacturer.
- G. Design Concept: The Drawings indicate sizes, profiles, and dimensional requirements of signs and are based on the specific types and models indicated. Sign units by other manufacturers may be considered provided deviations in dimensions and profiles do not change the design concept

as judged by the Architect. The burden of proof of equality is on the proposer.

1.6 PROJECT CONDITIONS

- A. Field Measurements: Take field measurements prior to preparation of shop drawings and fabrication to ensure proper fitting. Show recorded measurements on final shop drawings. Coordinate fabrication schedule with construction progress to avoid delay.
- B. Coordinate work with all trades affected by Contractor's work and be fully cognizant of their requirements as pertaining to Contractor's work.
- C. Perform all cutting and fitting necessary for installation and completion of the work while accommodating the work of other trades. Immediately repair damage to existing surfaces or finishes caused by work of this Contractor at no cost to Owner.

1.7 COORDINATION

- A. For signs supported by or anchored to permanent construction, advise installers of anchorage devices about specific requirements for placement of anchorage devices and similar items to be used for attaching signs.
- B. Coordinate Code Required Sign package with signage for remainder of buildings as selected by Owner and submitted to Contractor for pricing under separate documents.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Store products of this section in manufacturer's unopened packaging until installation.
- B. Maintain dry storage area for products until installation.

1.9 WARRANTY

- A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.
- B. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace signs that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Mounting failure.
 - b. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
 - 2. Warranty Period: Three (3) years from date of Substantial Completion and Owner Final Acceptance.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Materials are specified by brand names to establish a basis for quality and design, or by performance requirements and general description of product. The Interior Designer reserves the right to reject any material which, in his/her opinion, will not produce the quality of the work specified herein.
- B. Available Manufacturers: Refer to Interior Designer's Drawings and Control Book.

2.2 MATERIALS

- A. Cast Acrylic Sheet: Provide cast (not extruded or continuous cast) methyl methacrylate monomer plastic sheet, in sizes and thicknesses indicated, with a minimum flexural strength of 16,000 psi when tested according to ASTM D 790, with a minimum allowable continuous service temperature of 176 deg F (80 deg C), and of the following general types:
 - 1. Transparent Sheet: Where sheet material is indicated as "clear," provide colorless sheet in matte finish, with light transmittance of 92 percent, when tested according to the requirements of ASTM D 1003.
 - 2. White Translucent Sheet: Where sheet material is indicated as "white," provide white translucent sheet of density required to produce uniform brightness and minimum halation effects.
 - 3. Opaque Sheet: Where sheet material is indicated as "opaque," provide colored opaque acrylic sheet in colors and finishes indicated.
 - 4. Opaque Sheet: Where sheet material is indicated as "opaque," provide colored opaque acrylic sheet in colors and finishes as selected from the manufacturer's standards.
- B. Adhesive: Colorless adhesive used in strict accordance with manufacturer's recommendations for conformance to the manufacturer's product warranty, as manufactured by one of the following:
 - 1. General Electric
 - 2. Dow Corning, Inc. (800) 248-2481.
 - 3. Approved substitution.
- C. Fasteners: Use concealed fasteners fabricated from metals that are not corrosive to the sign material and mounting surface.
- D. Anchors and Inserts: Use nonferrous metal or hot-dipped galvanized anchors and inserts for exterior installations and elsewhere as required for corrosion resistance. Use toothed steel or lead expansion bolt devices for drilled-in-place anchors. Furnish inserts, as required, to be set into concrete or masonry work.
- E. Colored Coatings for Acrylic Plastic Sheet: Use colored coatings, including inks and paints for copy and background colors, that are recommended by acrylic manufacturers for optimum adherence to acrylic surface and are nonfading for the application intended.
- F. Aluminum Castings: ASTM B 26/B 26M, of alloy and temper recommended by sign manufacturer for casting process used and for use and finish indicated.

- G. Aluminum Sheet and Plate: **ASTM B 209**, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with at least the strength and durability properties of Alloy 5005-H32.
- H. Brass Castings: ASTM B 584, Alloy UNS No. C85200 (high-copper yellow brass).
- I. Stainless-Steel Sheet: Type 304, not less than **0.050 inch** thick for face and **0.031 inch** thick for returns, No.4 satin (brushed) finish.

2.3 PANEL SIGNS

- A. Panel Signs: Comply with requirements indicated in the drawings. for materials, thicknesses, finishes, colors, designs, shapes, sizes, and details of construction.
- B. General: Provide panel signs that comply with requirements indicated for materials, thicknesses, finishes, colors, designs, shapes, sizes, and details of construction.
 - 1. Produce smooth panel sign surfaces constructed to remain flat under installed conditions within tolerance of plus or minus **1/16 inch** measured diagonally.
- C. Unframed Panel Signs: Fabricate signs with edges mechanically and smoothly finished to comply with the following requirements:
 - 1. Edge condition:
 - 2. Corner condition:
- D. Graphic Content and Style: Provide sign copy that complies with requirements indicated on Drawings for size, style, spacing, content, mounting height and location, material, finishes, and colors of signage.
- E. Tactile and Braille Copy: Manufacturer's standard process for producing copy complying with ADA Accessibility Guidelines and ICC/ANSI A117.1. Text shall be accompanied by Grade 2 braille. Produce precisely formed characters with square cut edges free from burrs and cut marks. Braille applied by separate layer is not acceptable. Braille shall be same color as sign face.
 - 1. Numbers and Letters: Non-glare, scratch resistant finish with raised numbers and letters, set into surface.
 - 2. Braille Characters: Grade 2 Braille with a true dome shape, no sharp edges.
 - 3. Graphics: Use ADA symbols where applicable, and international symbols.
 - 4. Raised-Copy Thickness: Not less than **1/32 inch**.

2.4 FINISHES

- A. Colors and Surface Textures: For exposed sign material that requires selection of materials with integral or applied colors, surface textures or other characteristics related to appearance, provide color matches indicated, or if not indicated, as selected by the Interior Designer/Owner.
- B. Stainless Steel: Remove tool and die marks and stretch lines or blend into finish. Grind and

polish surfaces to produce uniform, directionally textured, polished finish indicated, free of cross scratches. Run grain with long dimension of each piece.

1. Directional Satin Finish: No. 4 finish.
 2. When polishing is completed, passivate and rinse surfaces. Remove embedded foreign matter and leave surfaces chemically clean.
- C. Aluminum: Clear Anodic Finish: Manufacturer's standard Class 1 clear anodic coating, 0.018 mm or thicker, over a satin mechanical finish, complying with AAMA 611.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.
- B. Examine supporting members to ensure that surfaces are at elevations indicated or required to comply with authorities having jurisdiction and are free from dirt and other deleterious matter.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Locate sign units and accessories where indicated, using mounting methods of the type described and in compliance with the manufacturer's instructions.
 1. Install signs level, plumb, and at the height indicated, with sign surfaces free from distortion or other defects in appearance.
 2. Mount signs at heights and locations indicated on the drawings or as required by Florida Building Code, 2007 Edition and State of Florida Accessibility Code for Building, for installing work in conformance with ANSI A 117.1.
- B. Wall/Door-Mounted Panel Signs: Attach panel signs to wall/door surfaces using methods indicated below:
 1. Silicone-Adhesive Mounting: Use liquid-silicone adhesive recommended in writing by sign manufacturer to attach signs to irregular, porous, or vinyl-covered surfaces. Use double-sided vinyl tape where recommended in writing by sign manufacturer to hold sign in place until adhesive has fully cured.
 2. Shim Plate Mounting: Provide **1/8-inch-** thick, concealed aluminum shim plates with predrilled and countersunk holes, at locations indicated, and where other mounting methods are not practicable. Attach plate with fasteners and anchors suitable for secure attachment to substrate. Attach panel signs to plate using method specified above.
 3. Mechanical Fasteners: Use nonremovable mechanical fasteners placed through predrilled holes. Attach signs with fasteners and anchors suitable for secure attachment to substrate as recommended in writing by sign manufacturer.
 4. Where panel signs are scheduled or indicated to be mounted on glass, provide matching

plate on opposite side of glass to conceal mounting materials.

- C. Bracket-Mounted Units: Provide the manufacturer's standard brackets, fittings, and hardware as appropriate for mounting signs that project at right angles from walls and ceilings. Attach brackets and fittings securely to walls or ceilings with concealed fasteners and anchoring devices to comply with manufacturer's directions.
- D. Sign items are to be cut out and assembled according to the design drawings.
- E. Install signs specified herein in accordance with Owner' schedule requirements.
- F. Coordinate installation with Owner.
- G. Guestroom evacuation plaques shall be subsurface screened.
- H. Signs shall be individually wrapped in protective coating and coded for installation coordination.
- I. No items shall be delivered to the site without prior arrangement for receipt and security of the product delivered.
- J. Items shall be inspected, adjusted and cleaned after final installation. Use protective coating over installed product if other work is ongoing at time of installation completion.
- K. Provide cleanup and removal of debris resulting from the installation work.

3.3 CLEANING AND PROTECTION

- A. After installation, clean soiled sign surfaces according to the manufacturer's instructions. Protect units from damage until acceptance by the Owner.

END OF SECTION 10425

SECTION 10520 - FIRE PROTECTION EQUIPMENT

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. Fire Extinguishers; Fire Extinguisher Cabinets in locations indicated on the drawings and as per governing codes.
- B. Mounting brackets and accessories.
- C. Related Sections include, but are not limited to:
 - 1. Section 07840 - Through-Penetration Fire Stop Systems - for firestopping sealants at fire-rated cabinets.
 - 2. Refer to MEP Drawings for Fire Protection System specifications.

1.3 SUBMITTALS

- A. Product Data for each type of product specified. For fire extinguisher cabinets include rough-in dimensions, details showing mounting methods, relationships of box and trim to surrounding construction, door hardware, cabinet type and materials, trim style, door construction, panel style, and materials.
- B. Samples: For each type of metal finish required, two of each, prepared on 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.
- C. Maintenance Data: For fire extinguishers and fire-protection cabinets to include in maintenance manuals.

1.4 QUALITY ASSURANCE

- A. Single-Source Responsibility: Obtain fire extinguishers and cabinets from one source from a single manufacturer.
- B. Fabricate and label Fire Extinguishers to comply with NFPA 10 - "Standard for Portable Fire Extinguishers".
- C. Verify type and size of fire extinguishers by occupancy classification as set forth by Florida Fire Prevention Code (FFPC) and NFPA 10.

- D. Coordination: Verify that fire extinguisher cabinets are sized to accommodate fire extinguishers of type and capacity indicated.
- E. UL-Listed Products: Fire extinguishers UL-listed and bear UL "Listing Mark" for type, rating, and classification of extinguisher.
- F. FMG-Listed Products: Fire extinguishers approved by Factory Global (formerly Factory Mutual Research Corporation) for type, rating, and classification of extinguisher and carry appropriate FMG marking.
- G. Fire-Rated Fire-Protection Cabinets: Listed and labeled to comply with requirements of ASTM E 814 for fire-resistance rating of walls where they are installed.

1.5 COORDINATION

- A. Coordinate size of cabinets to ensure that type and capacity of fire extinguishers indicated and provided by Developer under separate Contract are accommodated. Verify location and capacity with Town of Davie Fire Marshall.

1.6 WARRANTY

- A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.
- B. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of fire protection equipment that fail in materials or workmanship within specified warranty period.
 - 1. Fire Extinguisher failures include, but are not limited to, the following:
 - a. Failure of hydrostatic test according to NFPA 10.
 - b. Faulty operation of valves or release levers.
 - 2. Fire extinguisher Cabinet failures include, but are not limited to, the following:
 - a. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
 - b. Failure of cabinet door hardware.
 - 3. Warranty Period for Fire Extinguisher: Six (6) years from date of Substantial Completion and Owner Final Acceptance.
 - 4. Warranty Period for Fire Extinguisher Cabinet: One (1) year from date of Substantial Completion and Owner Final Acceptance.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Materials are specified by brand names to establish a basis for quality and design, or by

performance requirements and general description of product. The Architect reserves the right to reject any material which, in his/her opinion, will not produce the quality of the work specified herein.

- B. Subject to compliance with the requirements, manufacturers offering products that may be incorporated in the Work include the following:

1. J. L. Industries, (800) 554-6077 www.jlindustries.com
2. Larsen's Mfg. Co. (954) 486-3325 www.larsenmfg.com

2.2 FIRE EXTINGUISHERS

- A. Typical Locations and Inside Fire Extinguisher Cabinets: ABC dry chemical type, having UL rating and approval 2A-10BC, 5.0 pound capacity, 14-5/8 inches high; red glossy polyester coated steel cylinder; complete with discharge hose and pressure gauge. Approved manufacturers and model numbers:

1. J. L. Industries, Model: Cosmic 5E.
2. Larsen's Mfg. Co., MP-5.
3. Potter-Roemer, Inc. Model # 3005.

2.3 FIRE EXTINGUISHER CABINETS

- A. General: Provide fire extinguisher and hose valve cabinets where indicated, of suitable size for housing fire extinguishers of types and capacities indicated.
1. Fire-Rated Cabinets: Listed and labeled to meet requirements in ASTM E 814 for fire-resistance rating of wall where it is installed; recessed only.
 - a. Construct fire-rated cabinets with double walls fabricated from 0.0478-inch-thick, cold-rolled steel sheet lined with minimum 5/8-inch thick, fire-barrier material.
 - b. Exception: Cabinets located at exterior of building an/or adjacent to swimming pool shall be fabricated from Type 304 stainless steel, manufacturer's standard thickness).
- B. Extinguisher cabinets exposed to public view:
1. For office areas and non public areas: surface mounted with bracket.
 2. For public areas: Larsen SS2409-6R semi-recessed 21/2" trim solid door (#4 stainless steel) with vertical engraved letters without backfill. FS fire rated where installed in rated partitions.
 3. Cabinet Interior: Baked Enamel paint, manufacturer's standard.
- C. Identify fire extinguisher in cabinet with lettering spelling "FIRE EXTINGUISHER" and/or "FIRE DEPT. VALVE" applied to door. Provide horizontal die-cut lettering, color and size as required by Town of Davie Fire Marshall.
- D. Door Hardware: Provide manufacturer's standard door-operating hardware of proper type for cabinet type, trim style, and door material and style indicated. Provide either lever handle with cam action latch, or door pull, concealed, and friction latch. Provide concealed or continuous-type hinge permitting door to open 180 deg.

2.4 MOUNTING BRACKETS

- A. Provide brackets designed to prevent accidental dislodgement of extinguisher, of sizes required for type and capacity of extinguisher indicated in plated finish. Approved manufacturers include:
 - 1. Amerex Corporation www.amerex-fire.com
 - 2. J. L. Industries, Inc.; a div. of Activar Construction Products Group www.jlindustries.com
 - 3. Larsen's Manufacturing Company www.larsenmfg.com
- B. Identification: Lettering complying with authorities having jurisdiction for letter style, size, spacing, and location. Locate as indicated on the drawings and approved by local Fire Marshall.
 - 1. Identify bracket-mounted fire extinguishers with the words "FIRE EXTINGUISHER" in red letter decals applied vertically to mounting surface.

2.5 CABINET FINISHES

- 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. Finish fire-protection cabinets after assembly.
- D. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.
- E. Surface Preparation: Clean surfaces of dirt, oil, grease, mill scale, rust, and other contaminants that could impair paint bond using manufacturer's standard methods.
- F. Steel Finishes:
 - 1. Baked-Enamel Finish: Immediately after cleaning and pretreating, apply manufacturer's standard two-coat, baked-enamel finish consisting of prime coat and thermosetting topcoat. Comply with paint manufacturer's written instructions for applying and baking to achieve a minimum dry film thickness of 2 mils.
 - 2. Color and gloss: As selected by Architect from manufacturer's full range.
- G. Stainless Steel Finishes:
 - 1. General: Remove tool and die marks and stretch lines or blend into finish.
 - 2. Grind and polish surfaces to produce uniform, directionally textured, polished finish indicated, free of cross scratches. Run grain with long dimension of each piece.
 - 3. Satin, Directional Polish: No. 6 finish.
 - 4. When polishing is completed, passivate and rinse surfaces. Remove embedded foreign matter and leave surfaces chemically clean.

PART 3 EXECUTION

3.1 EXAMINATION AND PREPARATION

- A. Verify that surfaces and internal wall blocking are ready to receive work and opening dimensions are as instructed by the manufacturer.
- B. Examine fire extinguishers for proper charging and tagging.
 - 1. Remove and replace damaged, defective, or undercharged units.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.
- D. Prepare recesses for fire-protection cabinets as required by type and size of cabinet and trim style.

3.2 INSTALLATION

- A. Install items included in this section in locations and at mounting heights indicated, or if not indicated, at heights to comply with applicable regulations of governing authorities. Verify all locations with Town of Davie Fire Marshall prior to placement.
- B. Install extinguishers in accordance with manufacturer's instructions, in locations indicated on the drawings or as determined by local Fire Marshal.
- C. Install cabinet with not more than 1/16-inch tolerance between pipe o.d. and knockout o.d. Center pipe within knockout.
- D. Seal through penetrations with firestopping sealant as specified in Section 07840.
- E. Install units level and plumb in wall openings.

3.3 ADJUSTING AND CLEANING

- A. Remove temporary protective coverings and strippable films, if any, as fire-protection specialties are installed, unless otherwise indicated in manufacturer's written installation instructions.
- B. Adjust fire-protection cabinet doors to operate easily without binding. Verify that integral locking devices operate properly.
- C. Touch up marred finishes, or replace fire-protection cabinets that cannot be restored to factory-finished appearance. Use only materials and procedures recommended or furnished by fire-protection cabinet manufacturer.

END OF SECTION 10520

SECTION 10712 - ALUMINUM TRELLIS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. Aluminum trellis in locations indicated on the drawings as an alternate to wood trellis. Refer to Section 01230 - Alternates.
- B. Related Sections include, but are not limited to:
 - 1. Section 01230 - Alternates.
 - 2. Section 03300 - Cast-in-Place Concrete.
 - 3. Section 05500 - Metal Fabrications.

1.3 SYSTEM DESCRIPTION

- A. General: In engineering trellis systems to withstand structural loads indicated, determine allowable design working stresses of trellis materials based on the following:
 - 1. For aluminum: AA "Specifications for Aluminum Structures."
 - 2. Structural Engineer's Calculation and in accordance with the Florida Building Code Product Approval.
- B. Structural Performance of Trellis Systems: Engineer, fabricate, and install trellis systems to withstand the following structural loads without exceeding the allowable design working stress of the materials for trellis systems, anchors, and connections.

1.4 SUBMITTALS

- A. Product Data: Provide material specifications, characteristics, and instructions for installation.
- B. Samples: Submit two samples, 12 inch length illustrating each type of exposed finish required, prepared on components indicated below that are of the same thickness and metal indicated for final unit of Work.
- C. Shop Drawings: Submit shop drawings, consisting of dimensions and Indicate component details, materials, finishes, connection and joining methods, and the relationship to adjoining work, and methods of installation. Florida Registered Professional Engineer to prepare structural computations for trellis systems to determine compliance with structural performance requirements. Shop drawings to be signed and sealed.

- D. Product test reports from and based on tests performed by qualified independent testing laboratory evidencing compliance of trellis components and systems.
- E. Test reports from independent testing laboratory evidencing compliance of trellis systems with ASTM E 985 for structural performance.
- F. Submit current Florida Product Approval documents in compliance with Rule 9B-72 of the Florida Administrative Code.

1.5 QUALITY ASSURANCE

- A. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.
- B. Single Source Responsibility: Obtain trellis systems from a single fabricator.
- C. Installer Qualifications: Engage an experienced Installer who has successfully completed metal trellis work of same materials and extent to that indicated for Project.
- D. Aluminum Finish shall comply with AAMA 2605 - Voluntary Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Extruded Aluminum.
- E. Compliance with applicable ASTM Standards, including, but not limited to:
 - 1. ASTM B 221 - Aluminum - Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes.
 - 2. ASTM B 429 - Aluminum - Alloy Extruded Structural Pipe and Tube.
 - 3. ASTM B 483 - Aluminum & Aluminum Alloy Drawn Tubes for General Purpose Applications.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to job site ready for use. Fabricate in as large sections and assemblies as practical.
- B. Storage: Store materials in a clean, dry area away from uncured concrete and masonry, preferably indoors, protected from damage and in accordance with manufacturer's recommendations. Cover with waterproof paper, tarpaulin, or polyethylene sheeting in a manner that will permit circulation of air inside the covering. Stacking should be done in a manner that will prevent bending.
- C. Handling: Protect materials and finishes during handling and installation to prevent damage. Remove materials that are damaged or otherwise not suitable for installation from job site and replace with acceptable material at no additional cost to Owner.

1.7 PROJECT CONDITIONS

- A. Field Measurements: Check actual locations for trellis systems by accurate field measurements before fabrication and show recorded measurements on Shop Drawings. Coordinate fabrication and delivery schedules with construction progress to avoid delaying the Work.

1.8 WARRANTY

- A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.
- B. Submit written agreement on trellis fabricator's standard form, signed by fabricator, extrusion manufacturer, installer, and contractor, agreeing to repair or replace defective parts and components that do not comply with referenced quality standards.
 - 1. Warranty Period: one year from date of Substantial Completion and Owner Final Acceptance.
- C. Special Finish Warranty for Fluoropolymer Three-Coat System: Manufacturer's standard form in which manufacturer agrees to repair or replace components on which finishes fail within specified warranty period. Warranty does not include normal weathering.
 - 1. Warranty Period: ten (10) years from date of Substantial Completion and Owner Final Acceptance.

PART 2 PRODUCTS

2.1 FABRICATORS

- A. Materials are specified by brand names to establish a basis for quality and design, or by performance requirements and general description of product. The Architect reserves the right to reject any material which, in his opinion, will not produce the quality of the work specified herein.
- B. In order to establish design intent the manufacturers named have been approved for use; manufacturers may be substituted where products proposed are in compliance with the requirements and equal to or better than the approved product:
 - 1. Alufab, Inc. (800) 858-7066 (305) 681-4701 www.alufabfenceandrailing.com
 - 2. Metals USA Building Products (800) 874-0002 www.buildingproductsusa.com .
 - 3. Solar Innovations (800) 618-0669 www.solarinnovations.com .

2.2 MATERIALS

- A. Aluminum: Alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated and with not less than the strength and durability properties of the alloy and temper designated below for each aluminum form required.
 - 1. Extruded Posts & Tubes: ASTM B 221, 6061-T6.
 - 2. Extruded Bar and Shapes: ASTM B 221, 6063-T5/T52.

2.3 COMPONENTS

- A. Rafters, Beams, and Posts: Extruded tubing sizes, as indicated on the drawings.
- B. Fittings: Elbows, Tee-shapes, wall brackets, escutcheons; machined aluminum.

- C. Mounting: Brackets and flanges, with steel inserts for casting in concrete.
- D. Splice Connectors: Concealed spigot; machined aluminum.

2.4 FINISHES

- A. Aluminum: Cast or extruded. Alloys recommended by Aluminum Association for use and finish required, unless otherwise approved.
- B. Finish for Exposed Aluminum Surfaces: Electrostatically applied thermosetting Kynar or Duranar fluoropolymer resin coating with inhibitive flash primer over chromate conversion coating. Meet or exceed AAMA 2605 standard. Color to be selected by Owner. Submit color samples for approval.
 - 1. Chemical Pretreatment (AA-C12C40R1X): Aluminum shall be cleaned with inhibited chemicals and the surface chemically converted to amorphous chromium phosphate to conform to ASTM D 1730, Type B, Method 5, prior to coating. Conversion coating weight must exceed 40 milligrams/square foot. No substitutions for amorphous chromium phosphate (conversion coat) will be permitted.
 - 2. Fluoropolymer Three-Coat System: Manufacturer's standard three-coat, thermocured system consisting of specially formulated inhibitive primer, fluoropolymer color coat, and a clear fluoropolymer top coat, with both the color and clear coats containing not less than 70 percent polyvinylidene fluoride resin by weight. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with AAMA 2605 and with coating and resin manufacturers' written instructions. Provide coating which has been field tested under normal range of weathering conditions for a minimum of 20 years without significant peel, blister, flake, chip, crack, or check in the finish, and without chalking in excess of 8 (ASTM D 4214) and without fading in excess of 5 NBS units (ASTM D 2244).
 - 3. Paint system to be tested and certified by the sliding glass door manufacturer to comply with AAMA 2605.
 - 4. Paint system shall provide 1.60 mil dry film thickness consisting of 0.25 (+/- .05) mil primer, minimum 1.0 mil colorcoat, 0.40 (+/- .20) mil clear top coat.
 - 5. Samples shall be provided to sealant contractor for required adhesion testing.

2.5 MISCELLANEOUS MATERIALS

- A. Welding Electrodes and Filler Metal: Provide type and alloy of filler metal and electrodes as recommended by producer of metal to be welded and as required for color match, strength, and compatibility in fabricated items.
- B. Fasteners for Anchoring Trellis Components to Other Construction: Select fasteners of the type, grade, and class required to produce connections that are suitable for anchoring trellis to other types of construction indicated and capable of withstanding design loadings.
 - 1. All fasteners fabricated from type 304 stainless steel.
- C. Fasteners for Interconnecting Trellis Components: Use fasteners of same basic metal as the fastened metal, unless otherwise indicated. Do not use metals that are corrosive or incompatible with materials joined.
 - 1. Provide concealed fasteners for interconnection of trellis components and for their

attachment to other work, except where otherwise indicated.

- D. Cast-In-Place and Post -installed Anchors in Concrete: Anchors fabricated from corrosion-resistant materials with capability to sustain, without failure, load imposed within a safety factor of 4, as determined by testing per ASTM E 488, conducted by a qualified independent testing laboratory.
- E. Bituminous Paint: Cold-applied asphalt coating complying with MIL-C-16173D Type I and Federal Specification TT-C-494B Type II, except containing no asbestos fibers, Karnak 118 Black Asphaltum, manufactured by Karnak Corp. (800) 526-4236; www.karnakcorp.com or approved equal.

2.6 FABRICATION

- A. Verify dimensions on site prior to shop fabrication. When fabrication must precede construction and field measurements are not practical, make sure construction conforms to fabricated dimensions. Ill fitting work due to failure to coordinate will not be accepted.
- B. Fill and shop assemble sections in largest practical sizes, for delivery to site and installation.
- C. Supply components required for secure anchorage of the trellis system.
- D. Grind exposed welds smooth and flush with adjacent surfaces.
- E. Make exposed joint butt tight, flush and hairline.
- F. Provide caps or matching profile fittings at exposed ends. Finish to match ending member.
- G. Accurately form components required for anchorage of trellis components to each other and to building structure.
- H. For trellis systems that are exposed to exterior or to moisture from condensation or other sources, provide weepholes or other means for evacuation of entrapped water in hollow sections of trellis members.
- I. Fabricate joints that will be exposed to weather in a manner to exclude water.
- J. Close exposed ends of trellis members by use of manufacturer's standard prefabricated end fittings.

PART 3 EXECUTION

3.1 EXAMINATION AND PREPARATION

- A. Coordinate setting drawings, diagrams, templates, instructions, and directions for installation of anchorages, such as sleeves, concrete inserts, anchor bolts, and miscellaneous items having integral anchors, that are to be embedded in concrete as masonry construction. Coordinate delivery of such items to project site.

- B. Confirm that unfinished concealed aluminum in contact with dissimilar metals, cementitious materials, masonry, and wood has been treated with a protective coating as specified in Part 2 of this specification section.

3.2 INSTALLATION

- A. Set posts in 3" diameter drilled holes not less than 3" deep. Clean holes of loose material and fill with anchoring cement flush with the surface of the concrete. Do not leave a recess where water may collect. Build-up grout 1/8 inch sloping away from post.
 - 1. Secure clearance from Structural Engineer before drilling in post-tensioned concrete.
- B. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installation of trellis system. Set trellis system accurately in location, alignment, and elevation, measured from established lines and levels and free from rack.
- C. Field welding: Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals. Field welding will not be permitted unless shown and approved in shop drawings, in concealed locations.
 - 1. At exposed connections, finish exposed welds and surfaces smooth and blended so that no roughness shows after finishing and contour of welded surface matches those adjacent.
- D. Adjust trellis systems prior to anchoring to ensure matching alignment at abutting joints. Space posts at interval indicated but not less than that required by structural loads. Provide concealed fittings unless otherwise approved by Owner.
- E. Anchor trellis component ends into concrete and masonry with round flanges connected to rail ends and anchored into wall construction with post-installed anchors and bolts. Grout cells as specified in Section 04220.
- F. Attach trellis components to wall with wall brackets and end fittings. Provide bracket with not less than 1-1/2-inch clearance from inside face of handrail and finished wall surface.
 - 1. Aluminum ends to be embedded in concrete will be dipped in approved epoxy coating.
- G. Weld field connections and grind smooth to complete assembly. Touch-up welds with primer.
- H. Upon completion of the work, touch up minor abrasions and defects. Work damaged or defaced to the extent that in the opinion of the Owner constitutes an unsightly condition may not be corrected by field touching up. Invisible field repair, removal and shop refinishing, or replacement, will be required.

3.3 CLEANING AND PROTECTION

- A. Cleaning: Clean aluminum in accordance with recommendations of metal finisher in a manner that leaves an undamaged and uniform finish matching approved sample.
- B. Protect finishes of trellis systems from damage during construction period by use of temporary

protective coverings approved by trellis manufacturer. Remove protective covering at time of Substantial Completion and Owner Final Acceptance.

- C. Restore finishes damaged during installation and construction period so no evidence remains of correction work. Cleaning and touchup painting of field welds, bolted connections, and abraded areas of paint finish shall match paint finish of trellis system.
- D. Protective coverings to be supplied by subsequent subtrades installing their work in or around the trellis systems.

END OF SECTION 10712

SECTION 10715 - ALUMINUM BAHAMA SHUTTERS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. Aluminum Bahama-type Shutters at exterior window openings in locations indicated on the drawings.
- B. Related Sections include, but are not limited to:
 - 1. Section 03300 - Cast-in-Place Concrete.
 - 2. Section 05500 - Metal Fabrications.

1.3 SUBMITTALS

- A. Product Data: Provide material specifications, characteristics, finish data and maintenance, and instructions for installation.
- B. Samples: Submit two samples, 12 inch length illustrating exposed finish required, of the same thickness and metal indicated for final unit of Work.
- C. Shop Drawings: Submit shop drawings showing layout, sizes and types, product materials, components and accessories, fabrication data, operation, finishes, rough-in dimensions, anchorage and installation requirements and details. Shop drawings to be signed and sealed by licensed State of Florida Engineer.
- D. Product test reports from and based on tests performed by qualified independent testing laboratory evidencing compliance of aluminum Bahama shutters.
- E. Submit current Miami-Dade County Product Approval Notice of Acceptance documentation.

1.4 QUALITY ASSURANCE

- A. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.
- B. Single Source Responsibility: Obtain shutters from a single fabricator.
- C. Installer Qualifications: Engage an experienced Installer who has successfully completed installation of bahama shutter work of same materials and extent to that indicated for Project.

- D. Aluminum Finish shall comply with AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels.
- E. Products to comply with Florida Building Code, 2007 Edition for High Velocity Zones. Provide current Miami-Dade County Notice of Acceptance for complete system. Unless required otherwise, fabricate to withstand wind loads that carry same rating as component and cladding of walls.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver components in manufacturer's original, unopened, undamaged containers with identification labels intact. Store components protected from harmful weather conditions and damage from other construction activity.

1.6 PROJECT CONDITIONS

- A. Field Measurements: Check actual locations for shutters by accurate field measurements before fabrication and show recorded measurements on Shop Drawings. Coordinate fabrication and delivery schedules with construction progress to avoid delaying the Work.

1.7 WARRANTY

- A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.
- B. Submit written agreement on Bahama shutter fabricator's standard form, signed by fabricator, extrusion manufacturer, installer, and contractor, agreeing to repair or replace defective parts and components that do not comply with referenced quality standards.

PART 2 PRODUCTS

2.1 FABRICATORS

- A. Materials are specified by brand names to establish a basis for quality and design, or by performance requirements and general description of product. The Architect reserves the right to reject any material which, in his opinion, will not produce the quality of the work specified herein.
- B. In order to establish design intent the manufacturers named have been approved for use; manufacturers may be substituted where products proposed are in compliance with the requirements and equal to or better than the approved product:
 - 1. Alufab, Inc. (800) 858-7066 (305) 681-4701 www.alufabfenceandrailing.com
 - 2. Hurst Awning Co., Inc. (305) 693-0600 www.hurstawning.com .
 - 3. Roll-a-way, Inc. (800) 683-9505 www.roll-a-way.com .
- C. One substitute manufacturer may be submitted for each product specified in this section, to

Architect for review following procedures established in Section 01631 and upon receipt of completed Substitution Form.

2.2 BAHAMA SHUTTER COMPONENTS

- A. Aluminum: Alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated and with not less than the strength and durability properties of the alloy and temper designated below for each aluminum form required.
- B. Bahama Shutter Components:
 - 1. Frame: Extruded aluminum, 6063-T6 alloy, 0.055 inch wall thickness.
 - 2. Slat Type: Extruded Aluminum, 6061-T6 alloy, 0.062 inch thickness
 - 3. Telescoping Aluminum Adjustment Tube to allow for rotation from wall or fixed condition.
 - 4. Full Length Hinge: Extruded Aluminum, 6063-T6 alloy.
 - 5. Baking Panel: (choice of Clear Lexan or Aluminum Sheet Metal) built in to unit - trapped in frame during assembly.

2.3 FINISHES

- A. Aluminum: Cast or extruded. Alloys recommended by Aluminum Association for use and finish required, unless otherwise approved.
- B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.
 - 1. All exposed surfaces of aluminum shall be free of scratches and other surface blemishes.
- C. Finish for Exposed Aluminum Surfaces: Electrostatically applied thermosetting Kynar or Duranar fluoropolymer resin coating with inhibitive flash primer over chromate conversion coating. Meet or exceed AAMA 2605 standard. Color to be selected by Owner. Submit color samples for approval.
 - 1. Chemical Pretreatment (AA-C12C40R1X): Aluminum shall be cleaned with inhibited chemicals and the surface chemically converted to amorphous chromium phosphate to conform to ASTM D 1730, Type B, Method 5, prior to coating. Conversion coating weight must exceed 40 milligrams/square foot. No substitutions for amorphous chromium phosphate (conversion coat) will be permitted.
 - 2. Fluoropolymer Three-Coat System: Manufacturer's standard three-coat, thermocured system consisting of specially formulated inhibitive primer, fluoropolymer color coat, and a clear fluoropolymer top coat, with both the color and clear coats containing not less than 70 percent polyvinylidene fluoride resin by weight. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with AAMA 2605 and with coating and resin manufacturers' written instructions. Provide coating which has been field tested under normal range of weathering conditions for a minimum of 20 years without significant peel, blister, flake, chip, crack, or check in the finish, and without chalking in excess of 8 (ASTM D 4214) and without fading in excess of 5 NBS units (ASTM D 2244).

3. Paint system to be tested and certified by the sliding glass door manufacturer to comply with AAMA 2605.
4. Paint system shall provide 1.60 mil dry film thickness consisting of 0.25 (+/- .05) mil primer, minimum 1.0 mil colorcoat, 0.40 (+/- .20) mil clear top coat.
5. Samples shall be provided to sealant contractor for required adhesion testing.

2.4 MISCELLANEOUS MATERIALS

- A. Welding Electrodes and Filler Metal: Provide type and alloy of filler metal and electrodes as recommended by producer of metal to be welded and as required for color match, strength, and compatibility in fabricated items.
- B. Fasteners for Anchoring Shutter Components to Other Construction: Select fasteners of the type, grade, and class required to produce connections that are suitable for anchoring shutters to other types of construction indicated and capable of withstanding design loadings.
 1. All fasteners fabricated from type 304 stainless steel.
- C. Fasteners for Interconnecting Shutter Components: Use fasteners of same basic metal as the fastened metal, or stainless steel, unless otherwise indicated. Do not use metals that are corrosive or incompatible with materials joined.
 1. Provide concealed fasteners for interconnection of shutter components and for their attachment to other work, except where otherwise indicated.
- D. Cast-In-Place and Post -installed Anchors in Concrete: Anchors fabricated from corrosion-resistant materials with capability to sustain, without failure, load imposed within a safety factor of 4, as determined by testing per ASTM E 488, conducted by a qualified independent testing laboratory..
- E. Joint Sealants: As specified in Section 07900; color to match shutters.
- F. Bituminous Paint: Cold-applied asphalt mastic complying with SSPC-Paint 12, except containing no asbestos fibers, or cold-applied asphalt emulsion complying with ASTM D 1187; Karnak 118 Black Asphaltum, Karnak Corp. (800) 526-4236; www.karnakcorp.com or approved equal.

2.6 FABRICATION

- A. Verify dimensions on site prior to shop fabrication. When fabrication must precede construction and field measurements are not practical, make sure construction conforms to fabricated dimensions. Ill fitting work due to failure to coordinate will not be accepted.
- B. Fill and shop assemble sections in largest practical sizes, for delivery to site and installation.
- C. Grind exposed welds smooth and flush with adjacent surfaces.
- D. For shutters that are exposed to exterior or to moisture from condensation or other sources, provide weepholes or other means for evacuation of entrapped water in hollow sections of shutter components.

- E. Fabricate joints that will be exposed to weather in a manner to exclude water.

PART 3 EXECUTION

3.1 EXAMINATION AND PREPARATION

- A. Verify conditions of substrates to determine if acceptable for shutter installation in accordance with manufacturer's instructions. Correct all unsatisfactory conditions prior to commencing shutter installations.

3.2 INSTALLATION

- A. Install all shutter components to comply with project shop drawings and manufacturer's written installation requirements and current Miami-Dade Notice of Acceptance documentation.
- B. Corrosion Protection: Coat concealed surfaces of components, which will be in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.
- C. Anchor shutter component supports into concrete and masonry wall construction with post-installed anchors and bolts. Grout cells as specified in Section 04810.
- D. Upon completion of the work, touch up minor abrasions and defects. Work damaged or defaced to the extent that in the opinion of the Owner constitutes an unsightly condition may not be corrected by field touching up. Invisible field repair, removal and shop refinishing, or replacement, will be required.

3.3 CLEANING AND PROTECTION

- A. Cleaning: Clean aluminum in accordance with recommendations of metal finisher in a manner that leaves an undamaged and uniform finish matching approved sample.
- B. Protect finishes of shutters from damage during construction period by use of temporary protective coverings approved by shutter manufacturer. Remove protective covering at time of Substantial Completion and Owner Final Acceptance.
- C. Restore finishes damaged during installation and construction period so no evidence remains of correction work. Cleaning and touchup painting of field welds, bolted connections, and abraded areas of paint finish shall match paint finish of shutters.

END OF SECTION 10715

SECTION 10800 -TOILET AND BATH ACCESSORIES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. Toilet and bath accessory items in Public Restrooms as indicated on the Drawings. Refer to the Drawings for Manufacturer and Model Numbers.
- B. Toilet and bath accessory items in Residential Units as indicated on the Drawings. Refer to the Drawings for Manufacturer and Model Numbers.
- C. Mirrored glass for frameless applications is specified in Section 08830.
- D. Related Sections include, but are not limited to:
 - 1. Section 06100 - Rough Carpentry.
 - 2. Section 07900 - Sealants.
 - 3. Section 08830 - Mirrors.
 - 4. Section 09300 - Tile.
 - 5. Refer to MEP Drawings for Plumbing.

1.3 REFERENCES

- A. ASTM A167 - Stainless and Heat Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
- B. ASTM A366 - Cold Rolled Carbon Steel Sheets, Commercial Quality.
- C. ASTM F 446 - Standard Consumer Safety Specification for Grab Bars and Accessories Installed in the Bathing Area.
- D. ASTM F 2285 - Standard Consumer Safety Performance Specification for Diaper Changing Tables for Commercial Use.

1.4 SUBMITTALS

- A. Product Data: Provide data on accessories describing size, finish, details of function, attachment methods.
- B. Samples: Submit two samples of each component illustrating color and finish.

- C. Setting drawings where cutouts are required in other work, including templates, substrate preparation instructions, and directions for preparing cutouts and installing anchorage devices.
- D. Product Schedule: Indicating types, quantities, sizes, and installation locations by room of each accessory required. Use designations indicated in the Toilet Accessory Schedule and room designations indicated on Drawings.
- E. Maintenance instructions including replaceable parts and service recommendations.

1.5 QUALITY ASSURANCE

- A. Conform to State of Florida Accessibility Code for Building, Chapter 11 of Florida Building Code, 2007 Edition, for installing work in conformance with ANSI A 117.1 and the Fair Housing Act, 1998 Amendments inclusive.
- B. Inserts and Anchorages: Furnish accessory manufacturers' standard inserts and anchoring devices that must be set in concrete or built into masonry. Coordinate delivery with other work to avoid delay.
- C. Single-Source Responsibility: Provide products of same manufacturer for each type of accessory unit and for units exposed to view in same areas, unless otherwise acceptable to Architect.
- D. Installation of accessories shall comply with ASTM F 446 - "Standard Consumer Safety Specification for Grab Bars and Accessories Installed in the Bathing Area".

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Do not deliver accessories to site until rooms in which they are to be installed are ready to receive them.
- B. Deliver and store toilet accessories to prevent damage, in a secure place, in original packaging with seals unbroken, bearing name of manufacturer and product. Immediately remove damaged and unsuitable items from site.
- C. Protection: Protect adjacent or adjoining finished surfaces and work from damage during installation of work of this Section.

1.7 COORDINATION

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

1.8 WARRANTY

- A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements

of the Contract Documents.

- B. Submit written agreement on manufacturer's standard form, signed by manufacturer, installer, and contractor, agreeing to repair or replace defective parts and components that do not comply with referenced quality standards.
 - 1. Warranty Period: One (1) year from date of Substantial Completion and Owner Final Acceptance.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Materials are specified by brand names to establish a basis for quality and design, or by performance requirements and general description of product. The Architect reserves the right to reject any material which, in his opinion, will not produce the quality of the work specified herein.
- B. Subject to compliance with requirements, manufacturers offering toilet and bath accessories in the public toilet rooms, that may be incorporated into the Work include, but are not limited to, the following:
 - 1. American Specialties, Inc. (914) 476-9000 www.americanspecialties.com .
 - 2. Bobrick Washroom Equipment, Inc. (800) 553-1600 www.bobrick.com .
 - 3. Bradley Corporation (414) 251-6000 www.bradleycorp.com .

2.2 MATERIALS

- A. Sheet Steel: ASTM A 366.
- B. Stainless Steel Sheet: ASTM A 167 Type 304.
- C. Stainless Steel Tubing: ASTM A 269, 18 ga., seamless welded, Type 304.
- D. Adhesive: Contact, waterproof, epoxy-type.
- E. Mirror Glass: Nominal 6.0-mm (0.23-inch) thick, conforming to ASTM C 1036, Type I, Class 1, Quality q2, and with silvering, electro-plated copper coating, and protective organic coating with 10-year guarantee against silver spoilage.
- F. Exposed Fasteners: 18-8 (Type 302) stainless steel alloy of at least 22 gauge in all elements of cabinet work. Unless shown otherwise, all exposed stainless steel to have a #4 Satin finish or Satin chrome finish where applicable with all elements of a unit to have brushing in one direction.
- G. Concealed Fasteners, Screws, and Bolts: Hot dip galvanized steel (ASTM A366), tamper-proof. Expansion shields: Fiber, lead, or rubber as recommended by accessory manufacturer for component substrate.
- H. Exposed surfaces of toilet accessories to be protected with a factory applied PVC film to be left in

place until final clean-up.

2.3 FABRICATION

- A. Form surfaces flat without distortion. Weld and grind joints smooth.
- B. Shop assemble components and package with anchors and fittings.
- C. Back paint components to prevent electrolysis.
- D. Provide steel anchor plates, adapters, and anchor components for installation.
- E. Hot dip galvanize exposed and painted ferrous metal and fastening devices.

2.4 FINISHES

- A. Anchors: Galvanize to 1.25 oz/sq yd.
- B. Ferrous Metals - Shop Primed: Pre-treat and clean, spray apply one coat primer and bake.
- C. Enamel: Pre-treat, one coat primer and two coats electrostatic baked enamel.
- D. Nickel Plating: ASTM B 456; US 15 satin finish.
- E. Stainless Steel: No. 4 satin luster finish.

2.5 PUBLIC RESTROOM TOILET AND BATH ACCESSORIES

- A. All toilet accessories shall comply with ADA requirements. All soap dispensers and napkin vending machines must comply with 5 lbs operating force and shall not require tight turning or twisting movement to operate. All toilet tissue dispensers must be free spinning.
- B. Grab Bars shall have peened gripping surface with satin finish ends.

PART 3 EXECUTION

3.1 EXAMINATION AND PREPARATION

- A. Verify exact location of accessories for installation; verify blocking in place as specified in Section 06100.
- B. Deliver inserts and rough-in frames to site. Provide templates and rough-in measurements as required.

3.2 INSTALLATION

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

anchored in locations and at heights indicated.

1. Where an accessory is mounted on or in surface having joint pattern, it shall be mounted symmetrically within pattern.
 2. Surfaces of fastening devices exposed after installations shall have same finish as attached accessory.
 3. Exposed surfaces of accessories shall be protected with strippable plastic or other approved means until installation is accepted.
 4. Recessed accessories shall be fastened to metal studs or blocking with screws through to rough frame, blocking, or anchor plates, as required by construction.
 5. Installation of accessories in fire rated walls shall preserve the fire rating of the wall.
 6. Fasteners for all accessory mounting to be theft-resistant.
- B. Install accessories at heights in conformance with State of Florida Accessibility Code for Building, Chapter 11 of Florida Building Code, 2007 Edition for installing work in conformance with ANSI A 117.1 and the Fair Housing Act, 1998 Amendments inclusive.
- C. Install grab bars to withstand a downward load of at least 250 lbf, when tested according to method in ASTM F 446.
1. Coordinate with backer board, tile, and stone installers to verify that proper framing back-up is installed to receive grab bars, fold down shower seats, and other accessories.
- D. Secure mirrors to walls in concealed, tamper-resistant manner with special hangers, toggle bolts, or screws. Set units level, plumb, and square at locations indicated, according to manufacturer's written instructions for substrate indicated.

3.3 ADJUSTING AND CLEANING

- A. Adjust accessories for unencumbered, smooth operation and verify that mechanisms function properly. Replace damaged or defective items.
- B. Remove temporary labels and protective coatings.
- C. Remove excess sealant and sealant residue. Polish marble, aluminum, and glass surfaces.

END OF SECTION 10800

SECTION 10902- VINYL COATED SHELVING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. Vinyl-coated ventilated shelving, accessories, and fasteners in locations indicated on the drawings.
- B. Related Sections include, but are not limited to:
 - 1. Section 06100 - Rough Carpentry.

1.3 SUBMITTALS

- A. Product Data: Provide data on accessories describing size, finish, details of function, attachment methods.
- B. Samples: Submit two samples of each exposed component, illustrating color and finish.

1.4 QUALITY ASSURANCE

- A. Inserts and Anchorages: Furnish accessory manufacturers' standard inserts and anchoring devices that must be set in concrete or built into masonry. Coordinate delivery with other work to avoid delay.
- B. Single-Source Responsibility: Provide products of same manufacturer for each type of accessory unit and for units exposed to view in same areas, unless otherwise acceptable to Owner.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store vinyl coated shelving to prevent damage, in a secure place, in original packaging with seals unbroken, bearing name of manufacturer and product. Immediately remove damaged and unsuitable items from site.

1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install vinyl coated shelving until spaces are enclosed and weatherproof, wet work in spaces is completed and dry, and ambient temperature is being maintained at the levels indicated for Project when occupied for its intended use.

1.7 WARRANTY

- A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other

rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.

- B. Submit written agreement on manufacturer's standard form, signed by manufacturer, installer, and contractor, agreeing to repair or replace defective parts and components that do not comply with referenced quality standards.
 - 1. Warranty Period: one (1) year from date of Substantial Completion and Owner Final Acceptance.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Materials are specified by brand names to establish a basis for quality and design, or by performance requirements and general description of product. The Architect reserves the right to reject any material which, in his opinion, will not produce the quality of the work specified herein.
- B. Available Manufacturers: Subject to compliance with requirements, manufacturers offering closet shelving and storage specialties that may be incorporated in the Work include the following:
 - 1. ClosetMaid (800) 874-0008 (904) 368-4047 www.closetmaid.com .
 - 2. Lee-Rowan Co. (800) 872-5332 (314) 721-3363 www.leerowan.com .
 - 3. Schulte Corp. (800) 669-3225 (513) 489-9300 www.schultestorage.com
- C. One substitute manufacturer may be submitted for each product specified in this section, to Architect for review following procedures established in Section 01631 and upon receipt of completed Substitution Form.

2.2 MATERIALS

- A. Grade C-1006 bright basic cold-drawn steel wire.
- B. Coating: PVC coated, minimum 9 mils thick. No PVC ingredients listed as hazardous per OSHA 29CFR1910.0017.
- C. Fasteners, Screws, and Bolts: Hot dip galvanized steel, security type.

2.3 PRODUCTS

- A. Ventilated Shelving - ½ to 1 inch incremental cross-deck spacings.
 - 1. Wardrobe type, full length.
 - 2. Linen type.

2.4 FINISHES

- A. Coating: non-exudating formula PVC over steel, white in color.

PART 3 EXECUTION

3.1 EXAMINATION AND PREPARATION

- A. Verify exact location of accessories for installation. Do not install brackets and clips unless in-wall blocking has been installed and locations confirmed.

3.2 INSTALLATION

- A. Install fixtures, accessories and items in accordance with manufacturers' instructions.
- B. Install plumb and level, securely and rigidly anchored to substrate.
- C. After installation each shelf shall be capable of supporting a load of 75 lbs. per square foot without deflection of more than ½ inch or permanent deformation.
- D. Closets: Single shelf and continuous uninterrupted hanging rod. Top of shelf is 5'-8" above floor.

END OF SECTION 10902