# PART 1 - GENERAL

* 1. RELATED DOCUMENTS

1. The Pinellas County Schools Bidding Requirements and Contractual Conditions shall apply to work hereunder.
2. Section \_\_\_\_\_\_\_\_ – Concrete Forms and Accessories. (To Be Added by P A/E)
3. Section \_\_\_\_\_\_\_\_ – Structural Cast-In-Place Concrete. (To Be Added by P A/E)
4. Section 26 56 33 – Site Lighting. (Walkway Fixtures)
5. AAMA 2605 – Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels.
6. Aluminum Association Specification AA-M10-C22-A21.
   1. SCOPE
7. Work required under this Section consists of providing and installing necessary services, tools, equipment, material and labor to do all pre-engineered, pre-finished extruded aluminum covered walkway covers and canopy work.
   1. QUALITY ASSURANCE
8. Design Engineering Qualifications:
   1. Structural engineering design calculations and other pertinent documents shall be signed and sealed by a Florida Registered Professional Engineer, experienced in structural engineering, who will be in responsible charge of the design of the protective cover.
9. Manufacturer’s Qualifications:
10. Minimum of five (5) years’ experience in the manufacturing of protective covers with welded or mechanically-fastened bents of the type specified.
11. Installer’s Qualifications:

1. Minimum of two (2) years’ experience in the installation/construction of protective covers of the type specified.
2. Submit a list of successfully completed installation/construction projects of protective covers of the type specified, within the State of Florida, of similar size and complexity. Include the name, title, address and telephone number of knowledgeable owners’ representatives to be used as references.
3. Design Requirements:
4. Structural Design: The proposed protective cover plans, shop drawings and design calculations shall be signed, sealed and dated by a Florida Registered Professional Engineer who will be the Engineer-of-Record for the protective cover design.
5. Calculations: Complete structural design calculations for all components and connections of the protective cover including foundation (if applicable) shall be provided for review and approval **prior to fabrication**, in an easy to follow and understand format, which means that the reviewer should not be expected to make his/her own calculations to verify the correctness of the provided end results. No end results will be accepted without showing how they were derived. Calculations made by computer programs shall be provided with the program description. Computer printouts must be accompanied by sufficient design assumptions and identified input and output information to allow proper evaluation. All section properties and allowable load capacities or stresses for shear, tension, compression, bending and torsion where applicable; shall be provided for all structural components proposed to be used, and accompanied with the published written literature/catalog from which the values were obtained. Submittals not accompanied by supporting documents will be returned for the required additional information. Failure to provide the supporting published written literature/catalog means the proposed structural component cannot be used, thus, must be replaced with an equal or better structural component that has the required supporting documents.
6. Building Codes
7. Comply with current Building Code for site location.
8. 2017 Florida Building Code (current code shall apply)
9. ASCE/SEI 7-10 (current standard shall apply)
10. Wind Analysis and Design
11. The Engineer-of-Record for the design of protective cover shall review carefully the definition of “Enclosed”, “Partially Enclosed”, and “Open” Building or Structure as defined in Sections 26.2 and 26.10.4 of ASCE/SEI 7-10. Unless it can be justified otherwise, protective cover shall be designed as “**Open**” **Building or Structure** per Sections 27.4.3 and 30.8 of ASCE/SEI 7-10.
12. All structural members, roof decks, connections and footings shall be designed, fabricated and installed in a manner that will meet the wind load requirements, unless specifically noted otherwise, for:

* A design 3-second gust wind speed of 155 mph per ASCE/SEI 7-10, as determined from Figure 26.5-1B,
* Risk category: III,
* Exposure: B, with the applicable coefficients and factors as outlined in Chapters 26, 27 and 30.
* Minimum design wind load indicated on Sections 27.1.5 and the minimum design wind pressure indicated on Section 30.2.2 of ASCE/SEI 7-10.
* Wind load calculations shall properly identify all factors, coefficients, and formulas used with reference to the appropriate sections of ASCE/SEI 7-10.

1. All structural members, roof decks, connections and footings shall be designed for the worst loading combination per Section 2.3.2 or Section 2.4.1 of ASCE/SEI 7-10. Deflection calculations for the beam and roof deck shall be provided for live load, wind load, and dead load plus live load combination, and compared to an allowable deflection limit of Table 1604.3 of the 2014 Florida Building Code.
2. Provide all required reaction information for the footing design.
3. Design Loads
4. Design dead load shall be for the specific material element(s) included on the loading calculations. Provide published written literature/catalog that identifies the weight of the material element(s) used.
5. Design live load shall be for **20 pounds per square foot**, unless noted otherwise.
6. Design collateral load shall be for additional loads imposed by other materials or systems identified in the contract documents or as specifically noted for the project.
7. Columns, Beams, Deck, and Trim: Aluminum Extrusions
8. The roof deck shall be **no less than 0.080 inch thick**. Width of bottom flute shall be no less than six (6) inches clear and a depth of no less than three inches (3”), and no more than three and one half inches (3 ½”). Height of walkway cover structure shall be no less than eight feet (8’) from the top of the concrete walkway slab to the bottom of the aluminum beams.
9. The fascia shall be secured directly to the roof deck at the bottom of the fascia, and by a 0.080-inch (0.080”) thick by one inch (1”) wide aluminum tie-back straps spaced at forty (40) inches on centers, maximum.
10. Drainage/Water flow shall be designed to be directed from deck to beams and into columns as indicated on shop and architectural drawings for discharge out the “weep holes” at ground level. Do not use strainers.
11. The structure shall be capable to sustain concentrated load such as being walked upon.
12. Structural Framing
13. Interlocking deck sections shall be secured by screws.
14. One piece, heli-arc welded rigid bents.
15. Mechanically-fastened bents using internally concealed bolted connections.
16. Vehicular Traffic Area Overhang
17. At all areas where there is vehicular traffic, the overhang shall be a minimum of fifteen inches (15”) back from the curb on the sidewalk side.

1. Foundation Design
2. Footings shall be designed for the worst loading combination per Section 2.3.2 or Section 2.4.1 of ASCE/SEI 7-10.
3. Portions of the walkway concrete slab shall not be used to aid the footings in resisting uplift unless the concrete slab is monolithically poured with the footings, and designed and reinforced accordingly to help counteract the uplift.
4. **Contractor shall obtain a** **soils investigation report from a Florida Registered Geotechnical Engineer** for the soil parameters to be used in the design of the footings.

1.4 SUBMITTALS

1. Product Data: Manufacturer’s product information, catalog data, detail sheets, specifications, and other requested supporting documents
2. Shop Drawings: Complete layout and erection drawings showing roof framing, deck panels, covering and trim details, dimensions, cross sections of all structural components (**with dimensions to ease inspection**), and trim details to clearly indicate proper assembly
3. Design Calculations: Signed and sealed by a Florida Registered Professional Engineer, experienced in structural engineering
4. Samples: Color selection samples consisting of actual coating material or anodizing process on aluminum extrusions
5. Manufacturer’s Installation Instructions:Provide copy of manufacturer’s installation instructions.
6. Contractor will be allowed a **maximum of three submittals** for review and approval prior to the issuance of a building permit. **Failure to obtain a building permit after three submittals will result in the cancelation of the issued purchase order.**

1.5 DELIVERY, STORAGE AND HANDLING OF MATERIALS

1. Comply with the manufacturer’s recommendation as to handling, delivery and storage of materials.
2. Promptly inspect shipments to assure that materials comply with the requirements, quantities are correct, and products are undamaged.
3. Provide equipment and personnel to handle materials with methods that prevent soiling, disfigurement, or damage.
4. Stack preformed and prefinished materials to prevent twisting, bending, or abrasion, and to provide ventilation. Slope metal to ensure drainage.
5. Prevent contact with materials during storage which may cause discoloration or staining.
6. Store and protect materials in accordance with manufacturer’s instructions, with seals and labels intact and legible. Store sensitive products in weather tight, climate controlled enclosures.
7. For exterior storage of fabricated materials, place on sloped supports, above ground.
8. Provide off-site storage and protection when site does not permit on-site storage and protection.
9. Cover materials subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation.
10. Arrange storage of materials to permit access for inspection. Periodically Inspect to assure products are undamaged and maintained under specified conditions.

1.6 WARRANTY

1. The Contractor shall warrant the entire installation against defects in labor and materials for a period of one (1) year commencing on the Date of Substantial completion of the work.

1. The intention of this warranty is to have the Installing Contractor with assistance from the Manufacturer and come to the jobsite and perform all necessary work to effect corrections of any deficiencies or defects not noted during final inspection.
2. Prima facie evidence of defects in labor or material may include, but is not limited to, one or more of the following:
3. Leaks
4. Metal failure including excessive deflection
5. Fastener failure
6. Finish failure

1.7 MATERIALS

1. All sections shall be extruded aluminum 6063 alloy heat-treated to a T-6 temper.
2. Structural member finish:
3. Standard finish, of satin anodized 204-R1 meeting Aluminum Association Specification AA-M10-C22-A21.
4. Roof deck finish:
5. Standard finish, of satin anodized 204-R1 meeting Aluminum Association Specification AA-M10-C22-A21.
6. Fastenings:
7. Deck screws (**do not use rivets**): Type 18-8 stainless steel, sealed with neoprene “O” ring beneath flat washers.
8. Fascia rivets: Size 3/16” by ½” grip range, aluminum rivets, with aluminum mandrel.
9. Bolts: Stainless steel, 18-8, or 3/8” or ½” size as necessary for structural requirements.
10. Sheet Aluminum:
11. Shall be .040 satin anodized aluminum with a finish to match the metal canopy.
12. Form in lengths not less than 10’ in length.
13. Comply with SMACNA whenever possible when fabricating and installing flat sheet aluminum.
14. Sealant:
15. Silicone sealant designed specifically for application between metals. Color shall be clear.
16. Approved products and manufacturers:
17. DOW Corning DOWSIL 790[ <https://consumer.dow.com/en-us/pdp.dowsil%E2%84%A2%20790%20silicone%20building%20sealant.01397737z.html?tab=overview&id=01397737z>] or DOWSIL 795 [<https://consumer.dow.com/en-us/pdp.dowsil%E2%84%A2%20795%20silicone%20building%20sealant.01595717z.html?tab=overview&id=01595717>z]
18. GE Silpruf [<http://www.siliconeforbuilding.com/Product-Categories/Weatherseal.aspx>]

# PART 2 - PRODUCTS

2.1 APPROVED PRODUCTS

1. The following products are approved, subject to compliance with these specifications:
2. Ditt-Deck As Manufactured by:

Dittmer Architectural Aluminum

1006 Shepard Road

Winter Springs, Florida, 33708-2018

(407) 699-1755

<https://www.dittdeck.com/index.php>

1. Walkway Cover As Manufactured by:

E.L. Burns Company, Inc.

5840 Greenwood Road

P.O. Box 19160

Shreveport, Louisiana 71149

(318) 636-2722

[Architectural Fabrication; 2100 E Richmond Ave.

Fort Worth, TX 76104]

<https://arch-fab.com/>

1. Span Deck

Architectural Metal Systems, Inc.

881 Distribution Dr. Hoffner Industrial Park

Orlando, FL 32822

(407) 277-1364

<https://www.archmetalsystems.com/index.php/en/>

1. Protective Covers As Manufactured by:

Peachtree Protective Covers

3255 S. Sweetwater Road

Lithia Springs, Georgia 30122

(800) 341-3325

<http://www.peachtreecovers.com/>

1. AAPCO Dura Deck As Manufactured by:

Aluminum Design Concepts, Inc.

3117 Emery Circle

Austell, Georgia 30168

(404) 948-3505

1. Ultra Deck 380 As Manufactured by:

White Aluminum Products Inc.

2101 US Highway 441

Leesburg, FL 34748

352-787-6783

1. RIGID-ROLL-LOCK SYSTEM As Manufactured by:

Perfection Architectural Systems Inc.

2310 Mercator Drive

Orlando, FL 32807

(800) 238-7207

<http://www.perfectionarch.com/>

2.3 FABRICATIONS:

1. Under structure shall consist of shop heli-arc welded one-piece rigid bents and the deck of interlocking anodized aluminum extrusions. Grind welds down smooth. The corners of all bends shall have rounded corners of no less than 1/25” radius. (When size of the bent system does not permit shipment as a welded unit, concealed mechanical joints may be utilized. Mechanical joints in such situations shall be of stainless steel bolts with a minimum of two bolts per fastening (bolts and nuts shall be installed in a concealed manner utilizing ½” thick by 1-1/2” aluminum bolt bars welded to members).
2. Apply a shop applied dip-coat of clear acrylic enamel at each column end to terminate in concrete to insulate from electrolytic reaction.

# PART 3 - ERECTION

3.1 SLEEVES (Styrofoam block-outs):

1. Shall be furnished by the aluminum deck subcontractor and set by the Contractor. Authorized installer shall be scheduled to erect after all adjacent roofing and masonry have been completed. Concrete footings, anchor bolts and/or flashing, where required, shall be by the Contractor. Bents shall be carefully aligned prior to grouting; downspout column interiors shall be grouted to lower edge of “weephole”; deflectors shall be installed after grouting. All deck ends at beam joints shall be capped as detailed. Butt and miter joints shall be executed in a workmanlike manner.

3.2 COLUMNS/BENTS/ELEVATIONS:

1. All columns shall be set true and plumb. All bents shall be set true and level. Elevations of top bents shall be as designated on the Drawings (as may be otherwise required) to provide the required deck slope.

3.3 FASCIA CUTS:

1. All fascia cuts shall be accurately made and tightly fit.

**END OF SECTION**