SPECIFICATIONS

Section 107301 – Cantilevered Walkway Cover

Part 1: General

1.1 Related Documents

A. The requirements of Division 1 specifications shall apply to work specified in the section.

1.2 Engineering Design Criteria

A. International Building Code 2015
B. ASCE 7-10, Minimum Design Loads for Buildings and Other Structures
C. Aluminum Design Manual 2015
D. AWS D1.2 – 2014, Structural Welding Code - Aluminum
E. Local governing codes and standards for site location

1.3 General Description of Work

A. Work in this section shall include design, fabrication, and installation of aluminum protective covers. All work shall be in accordance with the shop drawings and this specification section.

1.4 Submittals

A. Shop Drawings – Submit complete shop drawings including:
    1) Overall canopy layout dimensions
    2) Cut section details including elevation, bent layout dimensions, canopy connection details, and wall connection details
    3) Flashing details pertaining to aluminum canopy
    4) Concrete footing and/or canopy anchorage details
B. Product Data – Submit manufacturer's product information, specifications, and installation instructions for the aluminum canopy.
C. Samples – Submit color selection samples of actual coated aluminum material or actual anodized aluminum material.
D. Certification – Provide Professional Engineer certification that the proposed canopy design and layout meets or exceeds all applicable loadings (ex: wind load, rain live load, dead load, snow load) for the job location (city & state) in accordance with IBC 2015 and ASCE 7-10.

1.5 Quality Assurance

A. Manufacturer Qualifications: Minimum five years experience in design, fabrication, and production of aluminum protective covers.
B. Components shall be assembled in shop to greatest extent possible to minimize field assembly.
C. Aluminum protective cover, including material and workmanship, shall be warranted from defects for a period of one year from date of completion of aluminum protective cover installation.

Part 2: Products and Materials

2.1 Acceptable Manufacturers

A. **Mitchell Metals, LLC**
1761 McCoba Drive
Smyrna, GA 30080
Phone: 770.431.7300
www.mitchellmetals.net

B. **Dittmer Architectural Aluminum**
1006 Shepard Road
Winter Springs, FL 32708
Phone: 407.699.1755
www.dittdeck.com

C. Equivalent systems by other manufacturers will be approved for substitution by addendum if the following conditions are met:
1) Other manufacturers must have submitted requested information and have been qualified to bid no less than 10 days prior to bid closing date.
2) Manufacturer must submit complete company literature and information to the architect for review
3) Manufacturer must submit complete proposed canopy system details, including sizes and strength values of all members to be used.

2.2 Design & Assembly

A. Aluminum protective cover shall consist of cantilevered bents comprised of column with fully welded angle brace and a horizontal drain beam mechanically fastened down to the column and brace. Cantilever bent construction shall result in a 2-degree pitch of the canopy toward the draining column.

B. Canopy shall use perimeter false fascia and extruded decking running parallel to length of sidewalk. Beams are to be full welded at both ends to eliminate leaking of water. Extruded decking shall be a roll-locked design where the extruded cap and pan shall interlock to make a rigid structure. Crimped decking is not allowed. Pans are to be welded at ends to prevent water leakage. Standard T-flashing shall be used where decking is separated at a drain beam. The false fascia is to be secured using a rivet every 4'-0" on center connecting the fascia to the edge pans. Tie back straps are to be installed connecting the top of the fascia to the decking at 8'-0" on center.
C. Canopies shall drain from the decking into the drain beam and discharge at the bottom of the column.
D. Deflector plates are to be installed at the bottom of the column to discharge the water away from the column, unless under ground drainage is desired. The deflector plates are to be caulked inside the column and fastened to the column using a single rivet.
E. Columns are to be locked into the concrete foundation using a single piece of rebar, approximately 9" long, running through the bottom of the column below finished floor.

2.3 Materials

A. Columns
   1) Columns are to be radius cornered aluminum tubular extrusion. Size of column used shall exceed loading requirements in section 1.2 – Engineering Design Criteria of size indicated on architect's drawings. Minimum column size shall be 6"x 6" at 0.188" thick.
   2) Provide clear acrylic protection or bituminous paint protection between the aluminum column and the concrete footer.
   3) Tombstone shaped water outlet holes are to be cut at the bottom of all draining columns with deflector plates installed inside, unless under ground drainage is desired. Circular drain holes are not allowed.
B. Beams
   1) Beams are to be open topped aluminum tubular extrusions.
   2) Size of beam used shall exceed loading requirements in section 1.2 – Engineering Design Criteria. Minimum beam size shall be 6"x 6" at 0.188" thick.
C. Decking
   1) Decking shall be a rigid roll-locked design that is self flashing and utilizes interlocking sections.
   2) Extruded decking shall exceed loading requirements in section 1.2 – Engineering Design Criteria. Minimum 3" x 6" cap and pan.
   3) Where decking is run parallel to walkway, the ends of the pans shall be welded closed where decking does not terminate into a drain beam.

D. False Fascia
    1) False Fascia shall be aluminum extrusion that exceeds loading requirements in section 1.2 – Engineering Design Criteria. Minimum fascia size shall be 1”x 6” at 0.070” thick.

E. Flashing
    1) Flashing shall be made of aluminum sheet painted to match the color of the canopy. Minimum flashing thickness shall be 0.040” thick.

2.4 Fasteners

A. All framing fasteners shall be 300 series stainless steel with neoprene washers. All rivets are 3/16” aluminum. All decking fasteners shall be long life coated steel with a 300 series stainless steel cap and neoprene washer.

2.5 Finishes

A. Factory applied baked enamel
    1) Enamel is to comply with AAMA 2603.
    2) Color is to be as selected by architect from manufacturer’s standard color chart.

Part 3: Installation and Execution

3.1 Erection

A. Canopies are to be installed according to approved shop drawings and plans.
B. The entire structure shall be installed straight, true, and plumb according to standard construction procedures.
C. Canopies shall be installed minimal slope to allow water flow from top of canopy to draining columns and eliminate ponding.
D. Non-draining columns shall have weep holes drilled through column at top of finished concrete to remove condensation from post. Minimum weep hole size shall be ¼” in diameter.
E. All joints, corners, and connections shall be tight and clean.
F. All exposed fasteners are to be painted to match the canopy color.
G. Decking is to be aligned and secured to aluminum frame structure.

3.2 Column Foundations

A. Styrofoam blockouts shall be provided by the canopy manufacturer and installed by the General Contractor into the concrete foundation.

B. General Contractor shall pour the required concrete foundation size around the Styrofoam blockouts provided by the manufacturer.
C. Canopy installer is to remove the Styrofoam after the foundation has cured, set column in cavity, and fill with minimum 2000 psi grout to level of finished concrete slab.
D. Slab mounting of aluminum columns for cantilevered canopies is not allowed.
E. Foundation/Footing design and installation is not covered in this specification and scope of work.

3.3 Cleaning

A. All canopy surfaces exposed are to be cleaned after installation is complete.
B. Surplus materials and debris shall be removed from the jobsite after installation is complete.

3.4 Protection

A. General Contractor shall ensure protection of installed aluminum canopies from other construction so that canopies are without damage at time of substantial completion of project.