

**ADDENDUM NO. 2
TO SPECIFICATIONS AND PLANS FOR THE
SECONDARY CLARIFIER ADDITIONS AND IMPROVEMENTS PROJECT
CITY OF WIXOM, MICHIGAN**

ISSUED: June 21, 2022

HRC Job. No. 20210864

This Addendum is issued prior to receipt of bids to provide for certain changes and clarifications to the Specifications and/or the Plans, as herein specified, and is hereby made a part of the Contract Documents and shall be taken into consideration in preparing the Proposal. All other conditions remain the same. The following lists the extent of this Addendum. Descriptions of the changes or clarifications are given within each heading.

The Bidder shall acknowledge the receipt of this Addendum on the Bid form. Failure to acknowledge Addendum No. 2 in the submission of bids may be justification for the bid proposal being rejected as non-responsive.

ADDENDUM NO. 2 CHANGES

SPECIFICATIONS

Section 01210, Page 3, Section 3.3.B “Schedule of Allowances, replace paragraph 1 and 2 with the following:

1. Owner Controlled Changes/Contingency Allowance. An Owner directed contingency allowance of \$175,000 shall be included in the contract for use by the Owner as directed.
2. SCADA allowance. An allowance of \$13,698.00 shall be included in the contract for SCADA supply and programming services by Motor City Electric. The specific scope letter for this work is included as an Appendix.

Section 10730, Page 4, Section 2.2, replace section title with the following:

“Steel Canopy Products”

Section 10730, Page 6, Section 2.2, corrected typo in sub-section numbering.

Section 10730, Page 7, add Section 2.3 “Aluminum Canopy Products” with the following content:

- A. Panel Components
 1. Face Sheets:

Bloomfield Hills
555 Hulet Drive
Bloomfield Hills, MI 48302
248-454-6300

Delhi Township
2101 Aurelius Rd.
Suite 2A
Holt, MI 48842
517-694-7760

Detroit
535 Griswold St.
Buhl Building, Ste
1650
Detroit, MI 48226
313-965-3330

Grand Rapids
1925 Breton Road SE
Suite 100
Grand Rapids, MI
49506
616-454-4286

Jackson
401 S. Mechanic St.
Suite B
Jackson, MI 49201
517-292-1295

Kalamazoo
834 King Highway
Suite 107
Kalamazoo, MI 49001
269-665-2005

Lansing
215 S. Washington
SQ
Suite D
Lansing, MI 48933
517-292-1488

- a. Translucent faces: Manufactured from glass fiber reinforced thermoset resins, formulated specifically for architectural use.
 - 1) Thermoplastic (e.g. polycarbonate, acrylic) faces are not acceptable.
 - 2) Face sheets shall not deform, deflect, or drip when subjected to fire or flame.
 - b. Interior face sheets:
 - 1) Flame spread: Underwriters Laboratories (UL) listed, which requires periodic unannounced retesting, with flame spread rating no greater than 10 and smoke developed no greater than 350-400 when tested in accordance with UL 723.
 - 2) Burn extent by ASTM D 635 shall be no greater than 1”.
 - c. Exterior face sheets:
 - 1) Color stability: Full thickness of the exterior face sheet shall not change color more than 3 CIE Units DELTA E by ASTM D 2244 after 3 years outdoor South Florida weathering at 5° facing south, determined by the average of at least three white samples with and without a protective film or coating to ensure long-term color stability. Color stability shall be unaffected by abrasion or scratching.
 - 2) Strength: Exterior face sheet shall be uniform in strength, impenetrable by hand held pencil and repel an impact minimum of 70 ft. lbs. without fracture or tear when impacted by a 3-1/4” diameter, 5 lb. free-falling ball per UL 972.
 - 3) Erosion Protection: Integral, embedded-glass erosion barrier.
 - d. Appearance:
 - 1) Exterior face sheet: Smooth, .070” thick. Color to be selected from manufacturer's standards
 - 2) Interior face sheet: Smooth, .045” thick. Color to be selected from manufacturer's standards
 - 3) Face sheets shall not vary more than $\pm 10\%$ in thickness and be uniform in color.
2. Grid Core:
 - a. Aluminum I-beam grid core shall be of 6063-T6 or 6005-T5 alloy and temper with provisions for mechanical interlocking of muntin-mullion and perimeter. Width of I-beam shall be no less than 7/16”.
 - b. I-beam Thermal break: Minimum 1”, thermoset fiberglass composite.
 3. Laminate Adhesive:
 - a. Heat and pressure resin type adhesive engineered for structural sandwich panel use, with minimum 25-years field use. Adhesive shall pass testing requirements specified by the International Code Council “Acceptance Criteria for Sandwich Panel Adhesives”.
 - b. Minimum tensile strength of 750 PSI when the panel assembly is tested by ASTM C 297 after two exposures to six cycles each of the aging conditions prescribed by ASTM D 1037.
 - c. Minimum shear strength of the panel adhesive by ASTM D 1002 after exposure to four separate conditions:
 - 1) 50% Relative Humidity at 68° F: 540 PSI
 - 2) 182° F: 100 PSI
 - 3) Accelerated Aging by ASTM D 1037 at room temperature: 800 PSI
 - 4) Accelerated Aging by ASTM D 1037 at 182° F: 250 PSI

B. Panel Construction

1. Provide sandwich panels of flat fiberglass reinforced translucent face sheets laminated to a grid core of mechanically interlocking I-beams. The adhesive bonding line shall be straight, cover the entire width of the I-beam and have a neat, sharp edge.
 - a. Thickness: 2 3/4" or 4"
2. Standard panels shall withstand 1200° F fire for minimum one hour without collapse or exterior flaming.
3. Canopy System:
 - a. Canopy system shall pass Class A Roof Burning Brand Test by ASTM E 108.
 - b. Roof system shall be UL listed as a Class A Roof by UL 790, which requires periodic unannounced factory inspections and retesting by Underwriters Laboratories.
4. Canopy System shall meet the fall through requirements of OSHA 1910.23 as demonstrated by testing in accordance with ASTM E 661, thereby not requiring supplemental screens or railings.

C. Batten and Perimeter Closure System

1. Closure system: Extruded aluminum 6063-T6 and 6063-T5 alloy and temper clamp-tite screw type closure system.
2. Sealing tape: Manufacturer's standard, pre-applied to closure system at the factory under controlled conditions.
3. Fasteners: Various series stainless steel screws for aluminum closures, excluding final fasteners to the building.
4. Finish: Manufacturer's factory applied finish, which meets the performance requirements of AAMA 2604. Color to be selected from manufacturer's standards.

D. Superstructure

1. The superstructure shall be pre-fabricated of extruded aluminum alloy 6005-T5, 6005A-T61 or 6061-T6 box beams. Ferrous metals shall not be allowed. All parts shall be pre-assembled at the factory and knocked down for shipment. System shall be a Rigid Frame design.
2. Finish: Manufacturer's factory applied finish, which meets the performance requirements of AAMA 2604. Color to be selected from manufacturer's standards.
3. Aluminum structural system design and calculations must be furnished in accordance with the Aluminum Association "Specifications for Aluminum Structures" and the applicable building code. Design calculations must be prepared and stamped by a Licensed Professional Engineer.

Very truly yours,

HUBBELL, ROTH & CLARK, INC.



John Bergsma, P.E.
Project Engineer

ENCLOSURES: Specification Section 10732

SECTION 10730

CANOPIES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes the structural canopy system as shown and specified. Work includes providing and installing:
1. Structural framing.
 2. Factory prefabricated roofing.
 3. Anchorage and accessories for canopy assembly.

1.2 Related Sections:

1. 03310 – Concrete work.
2. 09900 – Painting.

1.3 REFERENCES

- A. ASTM A36/A36M - Structural Steel.
- B. ASTM A123 - Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- C. ASTM A153 - Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- D. ASTM A446/A446M - Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process, Structural (Physical) Quality.
- E. ASTM A501 - Hot-Formed Welded and Seamless Carbon Steel Structural Tubing.
- F. ASTM A525/A525M - Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process.
- G. AWS A2.0 - Standard Welding Symbols.
- H. AWS D1.1 - Structural Welding Code - Steel.
- I. SSPC (Steel Structures Painting Council) - Steel Structures Painting Manual.
- J. SSPC - Paint 20 Zinc Rich Coating.

1.4 SUBMITTALS

- A. Submit manufacturer's product data. Provide data on material composition, profiles, fasteners, interior and exterior prime and finish coatings. Include construction details and material descriptions.
- B. Submit shop drawings. Include plans, elevations, and details. Indicate assembly dimensions, locations of structural members, connections, attachments, roof openings; wall and roof system dimensions, framing layout, general construction details, anchorages and method of anchorage, framing anchor bolt settings, sizes, and locations; indicate welded connections with AWS A2.0 welding symbols; indicate net weld lengths.
- C. Submit manufacturer's color charts showing the full range of colors available for factory finishes.
 - 1. When requested, submit samples for each exposed finish required, in same thickness, profile, and material indicated for the work and in size indicated below. If finishes involve normal color variations, include sample sets consisting of two or more units showing the full range of variations expected.
 - a. Roofing panels: **12"x12"** units
- D. Submit Installer Certificate, signed by installer, certifying compliance with project qualification requirements.
- E. Provide structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation, licensed in the State of Michigan.

1.5 CLOSEOUT SUBMITTALS

- A. Provide project maintenance manuals.

1.6 QUALITY ASSURANCE

- A. Manufacturer's Qualifications:
 - 1. Material and products shall be manufactured by a company continuously and regularly employed in the manufacture of specified materials for a period of at least ten consecutive years and which can show evidence of those materials being satisfactorily used on at least three projects of similar size, scope, and location. At least two of the projects shall have been in successful use for ten years or longer.
- B. Installer's Qualifications: Installation shall be by an experienced installer, which has been in the business of installing specified systems for at least five consecutive years and can show evidence of satisfactory completion of projects of similar size, scope, and type.
- C. Do not install systems when temperature, humidity, or ventilation is outside of limits recommended by manufacturer.

1.7 PERFORMANCE REQUIREMENTS

- A. The manufacturer shall be responsible for the configuration and fabrication of the complete canopy system, including the superstructure and anchorage.
- B. Structural Loads – Provide canopy system capable of handling loads as indicated on the Drawings.
- C. Deflection and Drift Limits:
 - 1. Roof Beam Deflection: Limited to L/180.
 - 2. Roof Panel Deflection: Limited to L/60.
 - 3. Canopy Column Lateral Drift: Limited to H/120.
- D. System must be in compliance with Michigan Building Code requirements.

1.8 DESIGN

- A. Canopy system layout, size, eave height, and roof pitch are as indicated on the Drawings.

1.9 DELIVERY, STORAGE AND HANDLING

- A. Deliver canopy system, components, and materials in manufacturer's standard protective packaging.
- B. Store canopy system materials on the long edge; several inches above the ground, blocked and under cover to prevent warping in accordance with manufacturer's storage and handling instructions.

1.10 PRE-INSTALLATION MEETING

- A. Convene one week before starting work of this section.

1.11 WARRANTY

- A. Provide manufacturer's and installer's written warranty agreeing to repair or replace canopy system work, which fails in materials or workmanship within one year from the date of delivery. Failure of materials or workmanship shall include excessive deflection, deterioration of finish on metal in excess of normal weathering, defects in accessories, roofing and other components of the work.
- B. Extended Panel Warranty: 2 years from date of delivery.
- C. Extended Manufacturer's factory applied Finish Warranty: 2 years from date of delivery.
- D. Special Panel Finish Warranty: On Manufacturer's standard form, in which Manufacturer agrees to repair or replace metal panels that evidence deterioration of factory-applied finish within the specified number years from date of Substantial Completion, including:
 - 1. Acrylic Coated Galvalume (Galvalume® Plus): Product will not rupture, fail structurally, or perforate within period of 20 years due to normal atmospheric corrosion.
 - 2. Fluoropolymer Two-Coat System (PVDF):
 - a. Color fading in excess of 5 Hunter units per ASTM D 2244 for 30 years.

- b. Chalking in excess of No. 6 rating per ASTM D 4214 for 30 years.
- c. Failure of adhesion, peeling, checking, or cracking for 40 years.
- 3. Metallic Fluoropolymer Two-Coat System (Metallic PVDF):
 - a. Chalking in excess of No. 6 rating per ASTM D 4214 for 25 years.
 - b. Failure of adhesion, peeling, checking, or cracking for 25 years.
- 4. Modified Silicone-Polyester Two-Coat System (SMP):
 - a. Color fading in excess of 5 Hunter units per ASTM D 2244, for vertical applications for 30 years.
 - b. Color fading in excess of 7 Hunter units per ASTM D 2244, for non-vertical applications for 30 years.
 - c. Chalking in excess of No. 8 rating per ASTM D 4214, for vertical applications for 30 years.
 - d. Chalking in excess of No. 6 rating per ASTM D 4214, for non-vertical applications for 30 years.
 - e. Failure of adhesion, peeling, checking, or cracking for 40 years.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. The basis for this specification is for products manufactured by Structures Unlimited, Inc. Other manufacturers may bid this project provided they comply with all of the performance requirements of this specification and submit evidence thereof. Listing other manufacturers' names in this specification does not constitute approval of their products or relieve them of compliance with all the performance requirements contained herein.
- B. Structures Unlimited, Inc., Tel: (800) 225-3895 – Web: www.structuresunlimitedinc.com
- C. Poligon, Tel: (616) 888.3500 – Web: www.poligon.com
- D. CEAS+: Tel: (844) 748.9698 – Web: www.ceasplus.com

2.2 STEEL CANOPY PRODUCTS

- A. Buy American Act/American Reinvestment and Recovery Act (ARRA) requirements: Provide materials in compliance with the following requirements:
 - 1. Buy American Act of 1933 BAA-41 U.S.C §§ 10a – 10d for non-ferrous products.
 - 2. Buy American provisions of Section 1605 of the American Recovery and Reinvestment Act of 2009 (ARRA), for ferrous products.
- B. Primary Framing Steel:
 - 1. Recycled Content: Post-consumer recycled content plus one-half of pre-consumer recycled content not less than 75 percent.
 - 2. Hot-rolled shapes: ASTM A 36 or ASTM A 992, minimum yield of 36 ksi (248 MPa) or 50 ksi (345 MPa).
 - 3. Built-up sections:
 - a. Webs:

- 1) ASTM A 1011 or ASTM A1018, SS or HSLAS, Grade 55 (380) for webs 3/16 inch (4.76 mm) thick and thinner.
 - 2) ASTM A 572 Grade 50 (340) or ASTM A572 Grade 55 (380) or ASTM A 529 Grade 55 for webs thicker than 3/16 inch (4.76 mm).
 - b. Flanges: ASTM A 529 Grade 55 (380) or ASTM A 572 Grade 50 (340) or 55 (380).
 4. Round tube: ASTM A 500, Grade B or C with minimum yield strength of 42 ksi (290 MPa).
 5. Square and rectangular tube: ASTM A 500, Grade B or C, minimum yield strength of 42 ksi (290 MPa).
 6. Cold-formed C sections: ASTM A 1011, Grade 55 (380), or ASTM A 653, Grade 55 (380).
 7. X-bracing: ASTM A 529 or A 572 for rod bracing 36 ksi (248 MPa) or 50 ksi (345 MPa), ASTM A 36 for angle bracing or ASTM A 475 for cable bracing.
 8. Finish: G-90 Pre-galvanized Shop Coat. Shop coat only intended to provide temporary protection during transportation and erection. Painted in accordance with Specification Section 09900.
- C. Secondary Framing Steel:
1. Purlins, girts, and eave struts: ASTM A 1011 Grade 55 (380), or ASTM A 653, Grade 55 (380).
 2. Recycled Content: Post-consumer recycled content plus one-half of pre-consumer recycled content not less than 25 percent.
 3. Thickness:
 - a. 16 gauge: 0.056 inch (1.421 mm) minimum uncoated thickness.
 - b. 14 gauge: 0.067 inch (1.689 mm) minimum uncoated thickness.
 - c. 13 gauge: 0.081 inch (2.051 mm) minimum uncoated thickness.
 - d. 12 gauge: 0.100 inch (2.534 mm) minimum uncoated thickness.
 4. Finish: G-90 Pre-galvanized Shop Coat. Shop coat only intended to provide temporary protection during transportation and erection. Painted in accordance with Specification Section 09900.
- D. Roof Panels:
1. The grid core may be aluminum or a thermally broken composite of aluminum and fiberglass.
 2. Materials:
 - a. Exposed Fastener Panel
 - 1) Mega-Rib by McElroy Metal, Hefti-Rib by Corrugated Metal Inc., or 7.2 Panel by Pac-Clad.
 - 2) 24 gauge Galvalume.
 - 3) 0.032 Aluminum.
 - 4) 1-1/2" tall x 36" wide panel.
 - 5) Minimum slope: 1:12
 - 6) Optional perforations
 - 7) 30 year finish warranty
 - b. Standing Seam Metal Panels:
 - 1) Mfr.: McElroy Metals (or approved equal).
 - 2) Maxima
 - 3) Seam Height: 1.5", 2", or 3".
 - 4) Panel Width: 12", 16", or 18"
 - 5) Striated or Minor Ribs
 - 6) Substrate – Metal Deck, or Open Framing.

3. Canopy System shall meet the fall through requirements of OSHA 1910.23 as demonstrated by testing in accordance with ASTM E 661, thereby not requiring supplemental screens or railings.

E. Finishes:

1. Galvalume: Aluminum-Zinc Alloy Coating, 55% Aluminum, 50% Zinc coated steel per ASTM A 792 AZ55.
2. Galvalume® Plus: Acrylic-Coated Aluminum-Zinc Alloy Coating, 55% Aluminum, 50% Zinc coated steel per ASTM A 792 AZ55 with acrylic finish with no added lubricant.
3. Exterior Paint:
 - a. Modified Silicone-Polyester Two-Coat System (SMP): 0.20 – 0.25 mil primer with 0.7 – 0.8 mil color coat. Basis of Design: Signature 200.
 - b. Fluoropolymer Two-Coat System (PVDF): 0.2 – 0.3 mil primer with 0.7 - 0.8 mil 70 percent PVDF fluoropolymer color coat. Basis of Design: Signature 300.
 - c. Fluoropolymer Two-Coat Metallic System (PVDF Metallic): 0.2 – 0.3 mil primer with 0.7 - 0.8 mil 70 percent PVDF metallic fluoropolymer color coat. Basis of Design: Signature 300 Metallic.
 - d. Manufacturer's factory applied finish, which meets the performance requirements of AAMA 2605.
 - e. Color to be selected by the Owner during submittal review.
4. Interior Paint: 0.5 mil total dry film thickness consisting of primer coat and wash coat of manufacturer's standard light-colored acrylic or polyester backer finish.

F. Fasteners:

1. Through-fastened panels: Self-drilling with sealing washer.
2. Standing seam panels: Long life self-drilling with sealing washer.
3. Ridge: Long-life self-drilling with sealing washer.
4. Clips to purlin or bar joists: Long-life self-drilling with hex washer head and washer.
5. Various series stainless steel screws for aluminum closures, excluding final fasteners to the building
6. Bolts:
 - a. Rigid Frame Connections: Provide High Strength Bolts, Nuts and Washers:
 - b. Bolts: ASTM F 3125 Grade A325 Heavy Hex Structural Type I.
 - c. Washers: ASTM F 436 Type 1 Hardened Steel.
 - d. Nuts: ASTM A 563 Grade C Heavy Hex. Nuts shall be wax coated by emulsion such that the torque required to complete a Rotational Capacity (RC) test shall be reduced by 40% from the un-waxed state.
 - e. Coating: Hot-Dipped Galvanized.

G. Clips:

1. Low or high fixed clips: Use where moderate thermal expansion and contraction in roof panel is expected.
2. Low or high sliding clips: Provide 2 to 4 inches of travel for panel thermal expansion and contraction.

H. Sealants and closures:

1. Side-laps: Factory applied, hot melt, foamable mastic.
2. End-laps, eave, ridge assembly, gable flashings: Field-applied non-skinning sealant.
3. Closure system: Extruded aluminum 6063-T6 and 6063-T5 alloy and temper clamp-tite screw type closure system.

4. Sealing tape: Manufacturer's standard, pre-applied to closure system at the factory under controlled conditions
5. Standing Seam Roof Closures:
 - a. Outside closures: 24 gauge steel sheet.
 - b. Inside closures: 18 gauge Galvalume or G-40 galvanized coated steel complying with ASTM A 653/A 653M.

2.3 ALUMINUM CANOPY PRODUCTS

A. Panel Components

1. Face Sheets:

- a. Translucent faces: Manufactured from glass fiber reinforced thermoset resins, formulated specifically for architectural use.
 - 1) Thermoplastic (e.g. polycarbonate, acrylic) faces are not acceptable.
 - 2) Face sheets shall not deform, deflect, or drip when subjected to fire or flame.
- b. Interior face sheets:
 - 1) Flame spread: Underwriters Laboratories (UL) listed, which requires periodic unannounced retesting, with flame spread rating no greater than 10 and smoke developed no greater than 350-400 when tested in accordance with UL 723.
 - 2) Burn extent by ASTM D 635 shall be no greater than 1".
- c. Exterior face sheets:
 - 1) Color stability: Full thickness of the exterior face sheet shall not change color more than 3 CIE Units DELTA E by ASTM D 2244 after 3 years outdoor South Florida weathering at 5° facing south, determined by the average of at least three white samples with and without a protective film or coating to ensure long-term color stability. Color stability shall be unaffected by abrasion or scratching.
 - 2) Strength: Exterior face sheet shall be uniform in strength, impenetrable by hand held pencil and repel an impact minimum of 70 ft. lbs. without fracture or tear when impacted by a 3-1/4" diameter, 5 lb. free-falling ball per UL 972.
 - 3) Erosion Protection: Integral, embedded-glass erosion barrier.
- d. Appearance:
 - 1) Exterior face sheet: Smooth, .070" thick. Color to be selected from manufacturer's standards
 - 2) Interior face sheet: Smooth, .045" thick. Color to be selected from manufacturer's standards
 - 3) Face sheets shall not vary more than ± 10% in thickness and be uniform in color.

2. Grid Core:

- a. Aluminum I-beam grid core shall be of 6063-T6 or 6005-T5 alloy and temper with provisions for mechanical interlocking of muntin-mullion and perimeter. Width of I-beam shall be no less than 7/16".
- b. I-beam Thermal break: Minimum 1", thermoset fiberglass composite.

3. Laminate Adhesive:

- a. Heat and pressure resin type adhesive engineered for structural sandwich panel use, with minimum 25-years field use. Adhesive shall pass testing requirements specified by the International Code Council "Acceptance Criteria for Sandwich Panel Adhesives".
- b. Minimum tensile strength of 750 PSI when the panel assembly is tested by ASTM C 297 after two exposures to six cycles each of the aging conditions prescribed by ASTM D 1037.

- c. Minimum shear strength of the panel adhesive by ASTM D 1002 after exposure to four separate conditions:
 - 1) 50% Relative Humidity at 68° F: 540 PSI
 - 2) 182° F: 100 PSI
 - 3) Accelerated Aging by ASTM D 1037 at room temperature: 800 PSI
 - 4) Accelerated Aging by ASTM D 1037 at 182° F: 250 PSI

B. Panel Construction

- 1. Provide sandwich panels of flat fiberglass reinforced translucent face sheets laminated to a grid core of mechanically interlocking I-beams. The adhesive bonding line shall be straight, cover the entire width of the I-beam and have a neat, sharp edge.
 - a. Thickness: 2 3/4" or 4"
- 2. Standard panels shall withstand 1200° F fire for minimum one hour without collapse or exterior flaming.
- 3. Canopy System:
 - a. Canopy system shall pass Class A Roof Burning Brand Test by ASTM E 108.
 - b. Roof system shall be UL listed as a Class A Roof by UL 790, which requires periodic unannounced factory inspections and retesting by Underwriters Laboratories.
- 4. Canopy System shall meet the fall through requirements of OSHA 1910.23 as demonstrated by testing in accordance with ASTM E 661, thereby not requiring supplemental screens or railings.

C. Batten and Perimeter Closure System

- 1. Closure system: Extruded aluminum 6063-T6 and 6063-T5 alloy and temper clamp-tite screw type closure system.
- 2. Sealing tape: Manufacturer's standard, pre-applied to closure system at the factory under controlled conditions.
- 3. Fasteners: Various series stainless steel screws for aluminum closures, excluding final fasteners to the building.
- 4. Finish: Manufacturer's factory applied finish, which meets the performance requirements of AAMA 2604. Color to be selected from manufacturer's standards.

D. Superstructure

- 1. The superstructure shall be pre-fabricated of extruded aluminum alloy 6005-T5, 6005A-T61 or 6061-T6 box beams. Ferrous metals shall not be allowed. All parts shall be pre-assembled at the factory and knocked down for shipment. System shall be a Rigid Frame design.
- 2. Finish: Manufacturer's factory applied finish, which meets the performance requirements of AAMA 2604. Color to be selected from manufacturer's standards.
- 3. Aluminum structural system design and calculations must be furnished in accordance with the Aluminum Association "Specifications for Aluminum Structures" and the applicable building code. Design calculations must be prepared and stamped by a Licensed Professional Engineer.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Installer shall examine substrates, supporting structure and installation conditions.

- B. Do not proceed with structural canopy installation until unsatisfactory conditions have been corrected by the general contractor.

3.2 PREPARATION

- A. Metal Protection:
 - 1. Where aluminum will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape recommended by manufacturer for this purpose.
- B. The general contractor shall install foundations, curbs, footings and/or lintels designed to withstand the thrust generated by the canopy.
- C. Anchor Bolts shall be supplied and installed by the general contractor. Canopy anchoring system will be per manufacturer's requirements.
- D. The general contractor shall provide temporary enclosures required.

3.3 INSTALLATION

- A. Install the canopy system in accordance with the manufacturer's installation recommendations and approved shop drawings.
- B. After other trades have completed work on adjacent material, carefully inspect installation, and make adjustments necessary to ensure proper installation.

3.4 CLEANING

- A. Clean the canopy system immediately after installation.
- B. Refer to manufacturer's written recommendations.

END OF SECTION