SECTION 10 73 39 - METAL SHELTERS

1. GENERAL
	1. ADMINISTRATIVE REQUIREMENTS
		1. Pre-Installation Conference:
			1. Attendance: [Architect,] [Owner,] [Contractor,] [Construction Manager,] [Design/Builder] installer, and related trades.
			2. Review: Project conditions, manufacturer requirements, delivery and storage, staging and sequencing, and protection of completed work.
	2. SUBMITTALS
		1. Action Submittals:
			1. Shop Drawings: Illustrate products, installation, and relationship to adjacent construction.
			2. Product Data: Manufacturer’s descriptive data and product attributes.
			3. Samples: [Selection samples.] [Verification samples.]
		2. Informational Submittals:
			1. Certificate of Compliance: Certification that installed products meet specified design and performance requirements.
	3. QUALITY ASSURANCE
		1. Installer Qualifications:
			1. Minimum [2] [\_\_] years’ experience in work of this Section.
			2. Approved by manufacturer.
	4. WARRANTY
		1. Manufacturer’s warranties as follows:
			1. Aluminum: Lifetime against material failure and corrosion.
			2. Steel: 25 years against material failure and defects.
			3. Surface Finish of Aluminum Roof Panels: 10-year limited warranty against peeling, cracking, blistering, or crazing of the surface finish.
			4. Powder Coat Finish: 10-year limited warranty.
			5. All Products: 1 year against defects in materials and workmanship.
2. PRODUCTS
	1. MANUFACTURERS
		1. Contract Documents are based on products by Americana Outdoors, PO Box 1290, Salem, IL 62881; 800-851-0865, Fax: 618-548-2890; [www.Americana.com](http://www.Americana.com).
		2. Substitutions: [Refer to Division 01.] [Not permitted.]
	2. MANUFACTURED UNITS
		1. Description, General: Provide free-standing, post-supported metal shelters consisting of metal tube roof framing and support posts, interlocking roof decking, extruded aluminum gutters and fascia, and accessory items to provide a complete system. Rain water shall drain from deck [into downspouts] [to edge scuppers].
		2. Design Requirements:
			1. System design shall be performed by Professional Structural Engineer licensed in State in which Project is located.
			2. Design Wind Loads: [As indicated on Drawings.] [In accordance with ASCE 7.]
			3. Rain, Snow, and Ice Loads: In accordance with ASCE 7 based on a [1:12] [1/2:12] roof slope.
			4. Thermal Movement: Allow for ambient temperature range of [120] [\_\_] degrees F and a surface temperature range of [180] [\_\_] degrees F without damage or detrimental effects.
		3. Rectangular Flat Shelter:
			1. Model: Algonquin Shelter.
			2. Shelter Width: [\_\_\_\_] feet.
			3. Shelter Length: [\_\_\_\_] feet.
			4. Post Supports: [Four.] [\_\_\_\_.]
			5. Fascia Gutter Height and Style: [6][8] inch with [straight][crown molding] profile [and [6” ][12”] gutter extension].
		4. Hexagonal Gazebo Shelter:
			1. Model: Apache Shelter with [cupola][double-tier roof][hand railings on [4][5][\_\_\_] sides].
			2. Shelter Diameter: [\_\_\_\_] feet.
			3. Roof Pitch: [\_\_\_\_]
			4. Post Supports: Six.
			5. Fascia Gutter Height and Style: [6][8] inch with [straight][crown molding] profile [and [6” ][12”] gutter extension].
		5. Octagonal Gazebo Shelter:
			1. Model: Aztec Shelter with [cupola][double-tier roof][hand railings on [4][5][\_\_\_] sides].
			2. Shelter Diameter: [\_\_\_\_] feet.
			3. Roof Pitch: [\_\_\_\_]
			4. Post Supports: Six.
			5. Fascia Gutter Height and Style: [6][8] inch with [straight][crown molding] profile [and [6” ][12”] gutter extension].
		6. Pyramid Hip Shelter:
			1. Model: [Mojave Shelter] [Navajo Shelter] with [cupola][double-tier roof][hand railings on [1][2][3] sides].
			2. Shelter Width: [\_\_\_\_] feet.
			3. Shelter Length: [\_\_\_\_] feet.
			4. Post Supports: Four.
			5. Fascia Gutter Height and Style: [6][8] inch with [straight][crown molding] profile [and [6” ][12”] gutter extension].
		7. Open Gable Shelter:
			1. Model: [Cherokee Shelter] [Illini Shelter] [Meramec Shelter] with [cupola][double-tier roof][hand railings on [1][2][3] sides].
			2. Shelter Width: [\_\_\_\_] feet.
			3. Shelter Length: [\_\_\_\_] feet.
			4. Post Supports: [Two][Four][As required by design].
			5. Fascia Gutter Height and Style: [6][8] inch with [straight][crown molding] profile [and [6” ][12”] gutter extension].
		8. Box Gable Shelter:
			1. Model: Colonial Shelter with gable fill panels.
			2. Shelter Width: [\_\_\_\_] feet.
			3. Shelter Length: [\_\_\_\_] feet.
			4. Post Supports: [Four][As required by design].
			5. Fascia Gutter Height and Style: [6][8] inch with [straight][crown molding] profile [and [6” ][12”] gutter extension].
		9. Pergola Shelter:
			1. Model: [Artisan Pergola] [Round Lattice Pergola] in [straight][curved] plan configuration.
			2. [Lattice][Infill]: [Square tubes.][Rectangular tubes.][Round tubes.][Shade panels.]
			3. Shelter Width: [\_\_\_\_] feet.
			4. Shelter Length: [\_\_\_\_] feet.
			5. Post Supports: [Two][Four][As required by design] with [cantilevered][butterfly] headers.
			6. Fascia Gutter Height and Style: [6][8] inch with [straight][crown molding] profile [and [6” ][12”] gutter extension].
	3. COMPONENTS
		1. Structural Framework: Fabricated from manufacturer's standard [extruded aluminum] [Steel] shapes.
		2. Roof Panels: Exposed-fastener, lap-seam, aluminum panels; stucco embossed surface; “W” profile tapered-rib, formed with raised, symmetrically spaced, trapezoidal ribs.
			1. Major-Rib Spacing: 8 inches o.c.
			2. Panel Coverage: 24 inches.
			3. Panel Height: 2-5/8 inches.
			4. Panel Thickness: 0.038 inch.
			5. Panel Finish: Silicone-modified polyester (SMP) coating

\*\*\*\* OR \*\*\*\*

* + 1. Roof Panels: Concealed-fastener, standing-seam-profile, interlocking aluminum, extruded flat panels.
			1. Panel Coverage: 6 inches.
			2. Panel Height: 2-7/8 inches.
			3. Panel Thickness: [0.024 inch.] [0.032 inch.] [0.040 inch.]
			4. Panel Finish: Super durable powder coat finish

\*\*\*\* OR \*\*\*\*

* + 1. Roof Panels: Exposed-fastener, snap-lock-profile, interlocking aluminum; stucco embossed; "V" panels.
			1. Panel Coverage: 10 inches.
			2. Panel Height: 2-3/4 inches.
			3. Panel Thickness: [0.024 inch.] [0.032 inch.] [0.040 inch.]
			4. Panel Finish: Silicone polyester (SM) coating

\*\*\*\* OR \*\*\*\*

* + 1. Roof Panels: Concealed-fastener, standing-seam-profile, interlocking aluminum; smooth surface; structural flat panels.
			1. Panel Coverage: 8 inches.
			2. Panel Height: 2-5/8 inches.
			3. Panel Thickness: [0.024 inch.] [0.032 inch.] [0.040 inch.]
			4. Panel Finish: Silicone polyester (SM) coating

\*\*\*\* OR \*\*\*\*

* + 1. Roof Panels: Insulated aluminum foam-core sandwich panel; faced both surfaces with 0.024 aluminum sheets; stucco embossed surface.
			1. Panel Width: [24] [48] inches.
			2. Panel Thickness: 3 inches.
			3. Panel Finish: Polyester coating, white color.

\*\*\*\* OR \*\*\*\*

* + 1. Roof Decking: Tongue and groove [southern yellow pine.] [western red cedar.]
			1. See Division 07 Section "Asphalt Shingles" for roof covering applied over decking.
		2. Pergola Lattice Tubes: [Square][Round][extruded aluminum] [steel] tubes; [\_\_x\_\_] size; [\_\_\_\_] inch wall thickness spaced at [\_\_\_] inch centers.
		3. Shade Panels: [Celtic][Mosaic][Mosaic 2][Mosaic 3][Star Burst][Organic] pattern stamped aluminum sheet; [\_\_\_] inch thickness.
		4. Decorative Railings: [8][12] inches high; [standard][classic][circle][diamond] style.
		5. Hand Railings: 42 inches high; [standard][classic][circle][diamond] style.
		6. Cupolas: [Louvered][Railed][Open] style; [2x2][4x4][5x12] foot size.
		7. Scuppers: manufacturer's standard device to deflect water away from structure.

\*\*\*\* OR \*\*\*\*

* + 1. Downspouts: Standard manufactured rectangular profile to match SMACNA Fig. 1-31.
			1. Hangers: U-shaped with concealed wall fasteners SMACNA Fig. 1-35A
	1. MATERIALS
		1. Steel Tubing: ASTM A1065, cold-formed HSS tubing.
		2. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.
			1. Sheet and Plate: ASTM B 209.
			2. Extruded Bars, Rods, Profiles, and Tubes: ASTM B 221.
			3. Extruded Structural Pipe and Tubes: ASTM B 429.
			4. Structural Profiles: ASTM B 308/B 308M.
		3. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.
	2. ACCESSORIES
		1. Steel Bolts and Nuts: ASTM A325, Grade A regular hexagon-head bolts; with ASTM A563 hex nuts; and, where indicated, flat washers.
		2. Anchor Bolts: ASTM F1554, Grade 36, hot-dip galvanized, of dimensions indicated; with nuts, ASTM A563; and, where indicated, flat washers.
		3. Deck Screws (rivets not permitted): Type 18-8 non-magnetic stainless steel sealed with a neoprene “O” ring beneath 5/8 inch outside dimension, conical washer.
		4. Fascia Rivets: Size 3/16 inch by 1/2 inch grip range high-strength aluminum rivets with aluminum mandrel.
			1. Finish exposed rivets used to fasten bottom of fascia to match fascia.
		5. Nonshrink, Nonmetallic Grout: ASTM C 1107; recommended by manufacturer for exterior applications.
		6. Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with water at Project site to create pourable anchoring, patching, and grouting compound.
			1. Provide formulation that is resistant to erosion from water exposure without needing protection by a sealer or waterproof coating and that is recommended by manufacturer for exterior use.
	3. FABRICATION
		1. Fit and assemble metal-frame in manufacturer's plant. Disassemble and mark to ensure proper field assembly before shipment.
	4. FINISHES
		1. Steel Frame: Manufacturer's [standard] [500 anti-graffiti] TGIC polyester powder coat, comparable in performance to AAMA 2605 coatings.
			1. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions to achieve 6 to 9 mil DFT finish coat [over a 2 to 3 mil thick zinc-rich primer].
			2. Color: [As indicated.] [As selected from manufacturer's full range.] [Match Architect's sample.] [\_\_\_\_\_.]
			3. Gloss/Sheen: [As selected.] [\_\_\_\_\_.]
		2. Aluminum Frame: Manufacturer's [standard] [500 anti-graffiti] TGIC polyester powder complying with AAMA 2604 (SMP), minimum 3.0 mil DFT finish coat. Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.
			1. Color: [As indicated.] [As selected from manufacturer's full range.] [Match Architect's sample.] [\_\_\_\_\_.]
			2. Gloss/Sheen: [As selected.] [\_\_\_\_\_.]
1. EXECUTION
	1. ERECTION
		1. Comply with manufacturer's written installation instructions and recommendations and approved submittals.
		2. Set columns [into blockouts in footings to required elevations] [on concrete foundations], aligned plumb and level, and grout in place with [nonshrink grout] [or] [anchoring cement] filling voids and column anchors.
		3. Install roof deck sections, accessories and flashing in accordance with manufacturer’s instructions. Provide roof slope for rain drainage without ponding water. Align and anchor roof deck units to structural support frames.
		4. Downspouts: Join telescoping joint sections with upper sections inserted into lower sections allowing for thermal expansion.
			1. Install hangers with appropriate fasteners and wall anchors designed to hold downspouts securely to walls at top and bottom and at approximately 60 inches o.c.
	2. CLEANING
		1. Clean as recommended by manufacturer. Do not use materials or methods which may damage finish surfaces.

END OF SECTION