SECTION 10 75 00
FLAGPOLES

SPEC WRITER NOTE: Delete text between // // not applicable to project. Edit remaining text to suit project.

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Fixed high dimensional, ground set, uniform conical taper, seamless tube flag pole.

1.2 RELATED WORK

SPEC WRITER NOTE: Update and retain references only when specified elsewhere in this section.

A. Section 03 30 00, CAST-IN-PLACE CONCRETE: Concrete for Ground Set Flagpole.
B. Section 09 06 00, SCHEDULE FOR FINISHES: Flagpole Finish Color:
C. Section 31 20 00, EARTHWORK: Excavation and Backfill.

1.3 APPLICABLE PUBLICATIONS

A. Comply with references to extent specified in this section.
B. American Society of Civil Engineers/Structural Engineering Institute (ASCE/SEI):
C. ASTM International (ASTM):
   A240/A240M-20.............Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
   B209-14..................Aluminum and Aluminum-Alloy Sheet and Plate.
   B209M-14...............Aluminum and Aluminum-Alloy Sheet and Plate (Metric).
   B241/B241M-16...........Aluminum and Aluminum-Alloy Seamless Pipe and Seamless Extruded Tube.
   C33/C33M-18............Concrete Aggregates.
   C920-18.................Elastomeric Joint Sealants.
D. Master Painters Institute (MPI):
   No. 35(2020)............Bituminous Coating.
E. National Architectural Metal Manufacturers (NAAMM):
   AMP 500-06..............Metal Finishes Manual.
Guide Specifications for Design of Metal Flagpoles.

1.4 SUBMITTALS
A. Submittal Procedures: Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
B. Submittal Drawings:
   1. Show size and installation details for flagpole, base, and finial ball.
C. Manufacturer's Literature and Data:
   1. Description of each product.
   2. Installation instructions.
D. Qualifications: Substantiate qualifications comply with specifications.
   1. Installer // with project experience list //.
E. Delegated Design Drawings and Calculations: Signed and sealed by responsible design professional.

1.5 QUALITY ASSURANCE
A. Installer Qualifications:
   1. Installed specified products with satisfactory service on five similar installations for minimum five years.
      a. // Project Experience List: Provide contact names and addresses for completed projects. //

1.6 DELIVERY
A. Deliver products in manufacturer's original sealed packaging.
B. Before installation, return or dispose of products within distorted, damaged, or opened packaging.

1.7 WARRANTY
SPEC WRITER NOTE: Always retain construction warranty. FAR includes Contractor's one year labor and material warranty.

A. Construction Warranty: FAR clause 52.246-21, "Warranty of Construction."

PART 2 - PRODUCTS
2.1 SYSTEM PERFORMANCE
A. Delegated Design: Prepare submittal documents including design calculations and drawings signed and sealed by registered design professional, licensed in state where work is located.
B. Design flagpole assemblies complying with specified performance:

SPEC WRITER NOTE: Make material requirements agree with applicable requirements specified in the referenced Applicable Publications. Update and specify only that which applies to the project.

2.2 MATERIALS
C. Stainless Steel: ASTM A240/A240M, Type 304.

2.3 PRODUCTS - GENERAL
A. Basis of Design: Section 09 06 00, SCHEDULE FOR FINISHES.

2.4 FABRICATION

SPEC WRITER NOTE: Coordinate flagpole height with the number of sections required for fabrication and shipping. Between 9 m and 12 m (30 feet and 40 feet), flagpoles can be one or two pieces. Two-pieces are easier to ship but there may be a preference for one piece. Over 12 m (40 feet), flagpoles are two pieces and over 15 m (50 feet), they are three pieces.

A. Fabricate flagpole of seamless extruded aluminum tube, uniform conical taper of approximately 1 in 70 (1 inch in every 72 inches).
1. Maximum Taper: 50 percent of flagpole outside base diameter.
2. Sectional Flagpoles: Provide self-aligning sleeves for field joint.
B. Base: Aluminum plate or stainless steel, of stock design as indicated on drawings.
C. Finial Ball: 2 mm (0.08 inch) thick spun aluminum sphere, with seams welded flush and watertight. Mount ball on threaded rod to fit truck.
1. Ball Diameter: Match flagpole butt diameter.

SPEC WRITER NOTE: Truck, halyards, and cleats in the following paragraphs are for an external system, which is most common.

D. Truck: Equip pole with extra heavy, revolving, non-fouling, ball bearing type truck with cast aluminum body. Fit truck with two cast aluminum, nylon bushed sheaves on stainless steel axles.
E. Halyards: Two sets of 9 mm (3/8 inch) diameter, nylon braided rope with minimum two bronze swivel snaps for each halyard.

F. Cleats: Two aluminum cleats minimum 225 mm (9 inches) long. Secure cleats to pole with two 9 mm (3/8 inch) flat head aluminum machine screws.

G. Foundation Sleeve: Galvanized, corrugated steel, length as indicated on drawings, welded to steel base plate.
   1. Weld lightning ground rod of 19 mm (3/4 inch) diameter galvanized steel to base plate at bottom of sleeve.

H. Flashing Collar: Material and finish to match flagpole.

2.5 FINISHES

A. Finish flagpole exposed surfaces.
B. Stainless Steel: NAAMM AMP 500; No. 4 polished finish.
C. Aluminum Anodized Finish: NAAMM AMP 500.
   1. Color Anodized Finish: AA-C22A42 or AA-C22A44; Class I Architectural, 0.018 mm (0.7 mil) thick.
D. Aluminum Satin Finish: NAAMM AMP 500.
E. Flagpole Shaft: Satin aluminum finish, then heavily waxed.
F. Finial Ball: Gold color anodized aluminum, then heavily waxed.
G. Base and Cleats: Finish to match flagpole.

2.6 ACCESSORIES

A. Sand: ASTM C33/C33M.
B. Sealant: ASTM C920, elastomeric type recommended by flagpole manufacturer.
C. Bituminous Paint: MPI No. 35.

PART 3 - EXECUTION

3.1 PREPARATION

A. Examine and verify substrate suitability for product installation.
B. Excavate flagpole foundations as specified in Section 31 20 00, EARTHWORK.
C. Provide foundation tube for installation as work of Section 03 30 00, CAST-IN-PLACE CONCRETE for installation in flagpole footing.
D. Place concrete as specified in Section 03 30 00, CAST-IN-PLACE CONCRETE.
3.2 INSTALLATION

A. Install products according to manufacturer's instructions // and approved submittal drawings //.
   1. When manufacturer's instructions deviate from specifications, submit proposed resolution for Contracting Officer's Representative consideration.

B. Coat flagpole section within foundation sleeve with bituminous paint.

C. Install flagpoles centered in foundation sleeve.

D. Fill space between pole and metal sleeve to within 50 mm (2 inches) of top with sand and compact.

E. Fill remainder of space with sealant and install flashing collar as indicated on drawings.

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