

**SECTION 10 14 00
EXTERIOR SIGNAGE**

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This Section specifies the work required to furnish and install the indicated and specified exterior cemetery site signage systems, including posts. The signage systems to be provided include all those shown on the Drawing including: bronze designation plaques, warning/informational signs like "DO NOT DRINK" and "COLUMBARIUM COURT B" and traffic control signs like "STOP" and "DO NOT ENTER".
- B. Signs shall be products of manufacturers regularly engaged in manufacturing signs of types specified.

1.2 RELATED WORK

- A. Site Furnishings, Section 32 30 00.

1.3 MANUFACTURER'S QUALIFICATIONS

- A. Sign manufacturer shall regularly and presently manufacture signs similar to those specified as one of their principal products. Sign manufacturer shall submit qualifications demonstrating a minimum of three years of experience manufacturing the qualifying signs and shall, if possible, demonstrate the successful manufacturing of exterior site signs installed at one or more State or National Veteran Cemeteries.

1.4 SUBMITTALS

- A. Submit in accordance with Section 01 33 23.
- B. Samples: Submit three sets. One set to the Contractor, one set to the Owner and one set to the Engineer.
 - 1. Aluminum samples showing full range of finish colors available.
 - 2. Color samples of each color, 150 by 150 mm (6 by 6 inches). Show anticipated range of color and texture.
 - 3. Sample of typeface, arrow and symbols in a typical full size layout.
 - 4. Samples of bronze designation plaque:
 - a. Two (2) full-size samples of columbarium row and column markers
- C. Shop Drawings: All signs showing material, finish, colors, size of members, details of construction, letter spacing, size and type, numbers, symbols or image details, and mounting

details. Identify materials, show joints, welds, anchorage, accessory items, mounting and finishes.

- D. Manufacturer's Literature and Data (Mark literature to indicate items proposed to be furnished): Signs, each type. Manufacturer's printed Specifications, anchorage details, installation and maintenance instructions. Manufacturer's recommendations for mounting the Sign Panels shall be provided.
- E. Manufacturer's Certificates: Provide certification from the coating installer, that they prepared the aluminum and applied the coating(s) to the specified thickness (es).

1.5 DELIVERY AND STORAGE

- A. Package to prevent damage or deterioration during shipment, handling, storage and installation. Maintain protective covering in place and in good repair until removal is necessary.
- B. Deliver signs only when the site, mounting materials, and equipment are ready for installation work to proceed.
- C. Store products in dry condition inside enclosed facilities.

1.6 Warranty

- A. Sign Manufacturer shall guarantee text and symbols application to aluminum for an extended warranty period of five years.

1.7 APPLICABLE PUBLICATIONS

- A. The publications listed below form a part of this Specification to the extent referenced. The publications are referenced in the text by the basic designation only.
- B. Americans with Disabilities Act - 1990
- C. Federal Highway Administration
Manuals on Uniform Traffic Control Devices for Street and Highways. Single Post Traffic Regulatory Signs:
- D. American Society for Testing and Materials (ASTM):
B209-07 Aluminum and Aluminum-Alloy Sheet and Plate
B221-07 Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes and Tubes.
B449-93(2004) Standard Specification for Chromates on Aluminum
- E. American Architectural Manufacturer's Association (AAMA):

AAMA 2604Performance Requirements and Test Procedures for High
Performance Organic Coatings on Aluminum extrusions and
Panels.

F. Federal Specifications (Fed. Spec.):

MIL-P-8184E Plastic Sheet, Acrylic, Modified.

MIL-P-46144C Plastic Sheet, Polycarbonate

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Aluminum, Extruded: Fed. Spec. QQA-200-9, alloy 6063-T5, applicable as material.
- B. Aluminum, Sheet and Plate: ASTM B209
- C. Aluminum, Extrusions and Tubing: ASTM B221
- D. Zinc Chromate Primer: Fed. Spec. TT-P-645.
- E. Bronze Designation Plaques: Lead free tin bronze, alloy C90300 (Navy "G" bronze).

2.2 GENERAL

- A. Signs shall be of type, size and design shown on the Drawing and as specified.
- B. Signs shall be complete with lettering, framing, and related components for a complete sign installation.
- C. Provide graphics items as completed units produced by a single manufacturer, including necessary mounting accessories, fittings and fastenings.
- D. Do not scale Drawing for dimensions. Contractor to verify and be responsible for all dimensions and conditions shown by these Drawing. Owner to be notified of any discrepancy in drawing, in field directions or conditions, and/or of any changes required for all such construction details.
- E. The Sign Contractor, by commencing work of this Section, assumes overall responsibility, as part of his warranty of work, to assure that assemblies, components and parts shown or required within the work of the Section, comply with the Contract Documents. The Contractor shall further warrant: That all components, specified or required to satisfactorily complete the installation are compatible with each other and with conditions of installations.

2.3 SIGN STANDARDS

- A. Typography:
 - 1. Type Style: Helvetica Medium with Initial caps or and lower case as indicated in Site Signage Plan for all aluminum signs. Times New Roman for stone and bronze plaques.

2. Arrow: See graphic standards in Drawing.
3. Letter spacing: See graphic standards on Drawing.
4. All text, arrows, and symbols to be provided in size, colors, typefaces and letter spacing shown. Text shall be a true, clean, accurate reproduction of typeface(s) shown. Text shown in Drawing are for layout purposes only; final text for signs shall be as approved in the shop Drawing.

B. Sign Colors and Finishes: As specified and approved in the Shop Drawing & Submittal process.

2.3 SIGNS TYPES

A. General: The exterior sign system shall be comprised of sign type families that are identified by a letter and number which identify a particular group of signs. An additional number identifies a specific type of sign within that family, as indicated below:

1. Bronze Designation Plaques: Cast bronze, bas-relief.
2. 'DO NOT DRINK' and 'NON-POTABLE WATER' sign panels shall be coated aluminum signs with lettering and/or graphic symbol as shown on the drawing details. The graphic (if applicable) shall be a universal symbol, if possible. The Engineer, upon request, will provide a copy of the electronic drawing image, from the contract Drawing, in DWG or PDF electronic file format. This file shall be modified as required by the sign manufacturer in his development of the final approved graphic for the sign.

B. Text and Graphics:

1. Types warning, informational, and traffic control signs:
 - a. Surface applied reflective white opaque vinyl letters, numbers and graphics shall be of a quality and life expectancy equal to or exceeding that for Engineering Grade 3M Scotchlite, unless otherwise noted. Color shall match existing. Font Type Style shall be Helvetica Medium, unless otherwise approved during design review for the specific project.

2.4 FABRICATION

A. Design components to allow for expansion and contraction for a minimum material temperature range of 56 °C (100 °F), without causing buckling, excessive opening of joints or over stressing of adhesives, welds and fasteners.

- B. Form work to required shapes and sizes, with true curve lines and angles. Provide necessary rebates, lugs and brackets for assembly of units. Use concealed fasteners whenever and wherever possible.
- C. Shop fabricate so far as practicable. Joints fastened flush to conceal reinforcement, or welded where thickness or Section permits.
- D. Contact surfaces of connected members are true. Assembled so joints shall be tight and practically unnoticeable, without use of filling compound.
- E. Signs shall have fine, even texture and be flat and sound. Lines and miters sharp, arises unbroken, profiles accurate and ornament true to pattern. Plane surfaces be smooth flat and without oil-canning, free of rack and twist. Maximum variation from plane of surface plus or minus 0.3 mm (0.015 inches). Restore texture to filed or cut areas.
- F. Level or straighten wrought work. Members shall have sharp lines and angles and smooth surfaces.
- G. Extruded members to be free from extrusion marks. Square turns and corners sharp, curves true.
- H. Drill holes for bolts and screws. Conceal fastenings where possible. Exposed ends and edges mill smooth, with corners slightly rounded. Form joints exposed to weather to exclude water.
- I. All painted surfaces properly primed. Finish coating of paint to have complete coverage with no light or thin applications allowing substrate or primer to show. Finished surface smooth, free of scratches, gouges, drips, bubbles, thickness variations, foreign matter and other imperfections.
- J. Movable parts, including hardware, are be cleaned and adjusted to operate as designed without binding or deformation of members. Doors and covers centered in opening or frame. All contact surfaces fit tight and even without forcing or warping components.
- K. Pre-assemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for re-assembly and coordinated installation.
- L. Aluminum plate recesses and all exposed surfaces shall receive the acid etch finish. Aluminum plates installed in post recesses shall be installed prior to delivery to the site. Protect all surfaces from damage.
- M. No signs are to be manufactured until final sign message schedule and location review has been completed by the Owner & forwarded to contractor.

- N. Bronze Designation Plaques background shall be chemically oxidized to statuary medium color. Letters/logos shall be satin polished and the entire plaques finished with two coats of clear exterior metal lacquer.
 - 1. Standard commercial tempers and hardness as required for fabrication, strengths and durability.
 - 2. Comply with NAAMM APM 500 for finish recommendations.

2.5 PROTECTION OF ALUMINUM

- A. Isolate aluminum in contact with or fastened to dissimilar metals other than stainless steel, white bronze or other metals compatible with aluminum by one of the following:
 - 1. Painting the dissimilar metal with a prime coat of zinc-chromate or other suitable primer, followed by two coats of aluminum paint.
 - 2. Placing an approved caulking compound, or a non-absorptive tape, or gasket between the aluminum and the dissimilar metal.
- B. Paint aluminum in contact with or built into mortar, concrete, or other masonry materials with bituminous paint or zinc chromate primer.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Set work accurately, in alignment and where shown. Signs shall be plumb, level, free of rack and twist and set parallel or perpendicular as required to line and plane the surface.
- B. Signs shall be installed with direct burial of post into concrete as shown on the Drawings.
- C. Protect aluminum in contact with dissimilar metals or mortar as specified.
- D. Furnish setting drawing and instructions for installation of anchors and for the positioning of items having anchors or sleeves to be built into construction. Provide temporary bracing for such items until permanent anchors are set.
- E. Provide anchoring devices and fasteners as shown and as necessary for securing signs and plaques to construction as specified.
- F. Contractor shall be responsible for verifying that behind each sign location there are no utility lines that will be affected by installation of signs. Any damage during installation of signs to utilities shall be the sole responsibility of the Contractor to correct and repair.

- G. Furnish inserts and anchoring devices which must be set in concrete or other material for installation of signs. Provide setting Drawing, templates, instructions and directions for installation of anchorage devices which may involve other trades.

3.2 CLEANING

- A. After installation, all items shall be cleaned as recommended by the manufacturer.

3.3 PROTECTION

- A. Protect finished surfaces from damage during fabrication, erection and until completion of the Project.

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