

POST AND PANEL SIGNAGE

PART 1 - GENERAL

1.01 QUALITY ASSURANCE

- A. Manufacturers and Installers Qualifications
 - 1. The signage manufacturer shall have a minimum of five consecutive years in the manufacturing of signage of the particular type specified and shall have been responsible for manufacturing signage for projects of similar scope.
 - 2. The signage installer shall have a minimum of three consecutive years of installing signage of similar types specified on projects of similar scope.
 - 3. The signage manufacturer shall include references for three projects utilizing similar materials, fabrication technologies and installation practices. The references shall include the name of the project, general description of work performed, location, date and client contact information.
- B. Reference Standards
 - 1. American Society of Testing and Materials (ASTM)
 - a. ASTM B 221-75, Aluminum alloy extruded bars, rods, wires, shapes and tubes.

1.02 SUBMITTAL REQUIREMENTS

- A. Shop Drawings
 - 1. Indicate details of fabrication and installation or all materials including colors.
- B. Product Data
 - 1. Submit complete technical data for all sign types.
- C. Samples:
 - 1. Submit samples of the following
 - a. Type (Fill in category) Post and Panel Section
 - b. Type (Fill in category) Phenolic Graphic Panel sample minimum 8" x 8" to include predominant panel field color and sampling of graphics/text from project signage.
(Use sentence above only if Phenolic panels are specified)
 - c. Full size samples of typography in style specified on Detail Drawings. Provide three blueline prints from original drawings. Do not use alphatype, letraset or similar typesetting methods.

POST AND PANEL SIGNAGE

- d. Sample of each color indicated in Color Code
- e. Full-scale prints of all graphic elements or artwork to be used on signage. Designs shall be optically correct and enlarged prior to submission.

D. Contractor's Responsibilities

- 1. Review Shop Drawings, product data, and samples prior to submission and stamp with approval.
- 2. Submittals without Contractor's stamp of approval will not be considered and will be returned for resubmission.
- 3. Verify:
 - a. Field measurements
 - b. Field construction criteria
 - c. Catalog Numbers and similar data
 - d. Quantities
- 4. Coordinate each submittal with requirements of work and of Contract Documents.
- 5. Contractor's responsibility for errors and omissions in submittals is not relieved by Owner's review of submittals.
- 6. Contractor's responsibility for deviations in submittals from requirements of Contract Documents is not relieved by Owner's review of submittals, unless Owner gives written acceptance of specific deviations.
- 7. Notify Owner, in writing at the time of submission, of deviations in submittals from requirements of Contract Documents.
 - a. If Submittals deviate from the Contract Documents and Owner is not notified in writing of such deviation, then review is invalid.
 - b. When work is directly related and involves more than one trade, Shop Drawings shall be coordinated by the Contractor and submitted under one cover.
 - c. After a Shop Drawing base has been submitted for review, no changes may be made to that Drawing other than changes resulting from corrections made by the Owner unless such changes are clearly identified and circled before being resubmitted to the Owner. Any failure to comply with this requirement shall nullify and invalidate the Owner's review.

E. Submission Requirements:

- 1. Quantity:
 - a. Shop Drawings: 1 sepia transparency and 2 blue line Prints

POST AND PANEL SIGNAGE

- b. Product Data: 6 copies
 - c. Samples: 2 each unless otherwise indicated in Specification Sections
- 2. Accompany submittals with transmittal letter, in duplicate, containing:
 - a. Date
 - b. Project Title and Number
 - c. Contractor's Name and Address
 - d. The number of each Shop Drawing, product data, and sample submitted
 - e. Notification of deviations from Contract Documents
 - f. Other pertinent data
- 3. Submittals shall include:
 - a. Date and Revision Dates
 - b. Project Title and Number
 - c. The Names of Owner, Contractor, Subcontractor, Supplier, and Manufacturer
 - d. Identification of Product or Material
 - e. Relation to Adjacent Structure or Materials
 - f. Field Dimensions, clearly identified as such
 - g. Specification Section Number
 - h. Applicable standards, such as ASTM number or Federal Specification
 - i. A blank space, 4" x 4" for the Owner's stamp
 - j. Identification of Deviations from Contract Documents
 - k. Contractor's stamp, initialed or signed, certifying review of submittal, verification of field measurements, and compliance with Contract Documents

F. Review Procedure:

- 1. Stamped **No Exception Taken**.
 - a. No corrections or resubmissions required, fabrication may proceed.
- 1. Stamped **Make Corrections Noted**.
 - a. If Contractor complies with noted corrections, fabrication may proceed. Submit corrected print for final review.
 - b. If for any reason the Contractor cannot comply with the noted corrections, fabrication shall not proceed and Contractor shall resubmit, following procedures outlined hereinbefore.
- 3. Stamped **Revise and Resubmit or Rejected**
 - a. Contractor shall revise and resubmit for review, fabrication shall not proceed.

G. Resubmission Requirements:

POST AND PANEL SIGNAGE

1. Shop Drawings
 - a. Revise initial drawings as required and resubmit as specified for initial submittal.
 - b. Indicate on Drawings any changes which have been made.
 2. Product Data and Samples:
 - a. Submit new data and samples as required for initial submittal.
- H. Distribution of Submittals after Review by Contractor:
1. Distribute copies of Shop Drawings and product data which carry Owner's stamp, to:
 - a. Contractor's File
 - b. Job-Site File (Record Copy)
 - c. Other Contractors
 - d. Subcontractors
 - e. Supplier
 2. Distribute Samples as Directed
 - a. Shop drawings, product data, and samples which do not have the Owner's stamp **No Exceptions Taken** or **Make Corrections Noted** will not be permitted on the project site.
- I. Owner's Duties:
1. Review submittals with reasonable promptness.
 2. Review for:
 - a. Design concept of project.
 - b. Information given in Contract Documents.
 3. Review of separate item does not constitute review of an assembly in which item functions.
 4. Affix stamp and initials or signature certifying review of submittal.
 5. Return submittals to Contractor for distribution.
- J. Delivery, Storage, and Handling
1. Exterior signage components will be accepted under the following conditions:
 - a. Deliver materials with manufacturers tags and labels intact. Store in original packaging, off the ground, and under protective covers.
 - b. Handle so as to prevent damage.
- K. Job Conditions
1. Examination of Base Surfaces
 - a. Examine the base surfaces and conditions under which their materials are to be installed and verify all dimensions in the field.
 - b. Notify the General Contractor in writing, with copy to Owner, if conditions are detrimental to the proper and timely

POST AND PANEL SIGNAGE

completion of the work. Do not proceed with work until unsatisfactory conditions have been corrected. Commencement of installation constitutes acceptance of base surfaces and the cost of any corrective work due to faulty base surfaces shall be born by the Contractor.

2. Protection
 - a. Preserve and protect all existing site features, including by not limited to pavements, curbs, lawn, plantings. Preserve and protect all portions of the existing building(s).
3. Restoration
 - a. If damage is caused to interior finishes or buildings as a result of the work under this Contract, it shall be corrected to the satisfaction of the Owner at the expense of the Contractor. Correction shall be by restoration or replacement, as determined by the Owner.

PART 2 - PRODUCTS**2.01 ACCEPTABLE MANUFACTURERS**

- A. SignArt
- B. Architectural Graphics Inc.
- C. ASI Sign Systems
- D. Park Place Inc.
- E. Signmatic Systems Inc.

2.02 MATERIALS

- A. Aluminum Post and Panel Signs
 1. Sign Panels to be fabricated from 5052H38 sheet aluminum around aluminum framing to form smooth non-lipped finish.
 2. Posts to be 4" or 6" square or as specified on the Detail Drawings. Post wall thickness to be as required to meet wind load specification.
 3. Aluminum panels will be degreased, immersed in a chromate conversion solution and hot water rinse.
 4. Size, finish, color and typeface will be as shown on Detail Drawings. The minimum thickness for all sign panel faces, corners and edges and aluminum posts will be .125" throughout.

(Use the section below only if phenolic graphic panels are used on the post and panel signs being specified)

- B. Tourist Information, Directional and Map Graphics

POST AND PANEL SIGNAGE

1. The solid composite phenolic graphic panels on sign types (Fill in categories specified) shall meet the following material and manufacturing specifications:

Thickness: 1/8" (0.125" / 3mm)
Approx. Weight/SF: 0.91 lbs.
Surface Finish: Textured semi-matte or semi-gloss outdoor finish
Compressive Strength: M.D. 193,064 Kpa (31,000 PSI)
C.D. 172,378 Kpa (25,000 PSI)
Tensile Strength: M.D. 151,693 Kpa (22,000 PSI)
C.D. 110,322 Kpa (16,000 PSI)
Flexural Strength: M.D. 158,588 Kpa (23,000 PSI)
C.D. 103,427 Kpa (15,000 PSI)
Impact (Edgewise): M.D. 0.6 FT/LBS/IN
C.D. 0.5 FT/LBS/IN
Rockwell Hardness M Scale: 95 to 115
Flammability ASTM E-162: Flame propagation index of 10
Radiant Panel: to 15 without drip of flame; 1/10" to 1/2" thickness
Water Absorbption: 1/4":0.9% - 1/2":-0.6% - 1":0.35%
Toxicity Test: LC50 Pittsburgh Protocol Toxicity test. Equal to and no more toxic than wood or paper.
UV Resistance: Exterior Grade with 20 year warranty: based on ASTM G26/A, no changes after 3000 hrs.
Frost Resistance: No change after 15 cycles (16 hrs ice at -20o C and 8 hrs thawing in air)
Pollution Resistance: DIN 50018 No change after 20 cycles
Coefficient of Thermal Expansion:
DIN 51045 (-20oC to +80oC temp. Range) Longitudinal 9x10-6 per oC Transverse 16x10-6 per oC

2.03 FABRICATION

- A. Panel Fabrication
 1. Aluminum panels to be attached to internal aluminum framing with structural adhesive to form shapes as shown on detail drawings. Structural adhesive to be as manufactured by:
 - a. Lord Corporation
111 Lord Drive
Cary, NC 27512-7923
 - b. 3M Corporation
3M Center
St. Paul MN 55144-1000
 - c. Master Bond Inc.
154 Hobart Street

POST AND PANEL SIGNAGE

Hackensack, NJ 07601

2. All seams will be filled, ground smooth and painted.

B. Graphics Application

(Use the sentence below if phenolic graphic panels are being specified)

1. Pedestrian categories (fill in categories used) will utilize .125" thick digitally-printed solid composite phenolic graphics panels. Electronic art for all standard graphics, including maps, timelines and tourist information will be provided to fabricator in Corel Draw Version 10 format.

(Use the sentence below if MUTCD Directional Signage is being specified)

2. Vehicular and regulatory categories (fill in categories used) will utilize retroreflective graphics, fields, borders and dividers in accordance with MUTCD Version 2009 Section 2D-50. Typography shall be four inch upper case and 3 inch lower case copy. Line spacing, letter spacing, and dimensioning between graphic components shall be as per MUTCD Version 2009 and Standard Highway Signs and Marking (FHWA). Logos will developed from electronic art furnished by Owner.

(Use the sentence below if MUTCD Directional Signage is being specified)

3. Categories (Fill in Categories specified) Typography to be Standard Alphabet Series C in accordance with MUTCD Version 2009 and Standard Highway Signs and Marking (FHWA).

(Use the sentence below if Vehicular categories are specified and will utilize reflective vinyl graphics)

4. Categories (Fill in Categories specified) to utilize reflective SCOTCHLITE vinyl graphics.

C. Post and Panel Painting

1. Prime aluminum posts and panels with primer coat as manufactured by:
 - a. Akzo Nobel Decorative Coatings Ltd.
Rijksstraatweg 31
Sassenheim, 2171 AJ
NETHERLANDS

POST AND PANEL SIGNAGE

- b. Matthews Paint Company
760 Pittsburg Drive
Delaware, Ohio 43015
 - c. PPG
One PPG Place
Pittsburg, PA 15272
 2. Paint aluminum posts and panels with two-part acrylic urethane enamel in semi-gloss finish as manufactured by:
 - a. Akzo Nobel Decorative Coatings Ltd.
Rijksstraatweg 31
Sassenheim, 2171 AJ
NETHERLANDS
 - b. Matthews Paint Company
760 Pittsburg Drive
Delaware, Ohio 43015
 - c. PPG
One PPG Place
Pittsburg, PA 15272
- D. Wind Load Requirements:
 1. Fabricate signs to withstand a wind load of 35 pounds per square foot or a direct wind force of 90 miles per hour.
 2. Signage manufacturer will provide engineering specifications that identifies the sizing of all footings and hardware, to confirm that anchor depths and connections satisfy wind load requirements. This information will include engineering calculations that support the wind load specifications.
- E. Proof-Reading
 1. Fabricator will be responsible for proof-reading all completed signs for message accuracy.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Manufacturers Directions
 1. All work will be installed in accordance with manufacturer's printed instructions and the approved shop drawings.
 2. All manufactured articles, materials, and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned, as directed by the manufacturer, unless otherwise specified.

POST AND PANEL SIGNAGE

B. Mounting

1. Signage contractor will be responsible to for development of concrete signage anchors and coordination of all hardware requirements for installation of signs.
2. The signage in this package will include the following installation surfaces:
(Fill in all that apply)
 - a. (Quantity and categories) Ground Mount in undisturbed soil
 - b. (Quantity and categories) Ground Mount on asphalt
 - c. (Quantity and categories) Ground Mount on concrete
 - d. (Quantity and categories) Ground Mount on pavers
 - e. (Quantity and categories) Mount on existing stone or brick wall)
3. See Detail Drawings for determination of installation methods for all post and panel signs.
3. The Owner will meet with the Signage Contractor in the field to confirm the precise location of each sign. The Signage Contractor will be responsible to confirm that sign locations are free and clear of underground utilities by consulting with local authorities prior to excavating for signage anchors. Should there be any conflicts with preferred signs locations, the Owner will identify and document alternate locations and convey these to the Signage Contractor.
4. All work will be installed plumb, level and in true alignment.
5. All components will be securely attached.
6. All above-grade connections of separate or moveable components will be water-tight.

C. Permits

1. Sign Permits for all components in this program will be procured by the Owner and forwarded to the Installer.
2. The installer will be responsible to obtain any Registration or Licenses necessary to install signage in the municipalities involved in this contract.

END OF SECTION