SECTION 101423 - PANEL SIGNAGE

Revise this Section by deleting and inserting text to meet Project-specific requirements.

Verify that Section titles referenced in this Section are correct for this Project's Specifications; Section titles may have changed.

1. GENERAL
	* + 1. RELATED DOCUMENTS
				1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
			2. SUMMARY
				1. Section Includes:

Panel signs.

Illuminated panel signs.

Field-applied, vinyl-character signs.

* + - * 1. Related Requirements:

Retain Subparagraphs below to cross-reference requirements Contractor might expect to find in this Section but are specified in other Sections.

Section 015000 "Construction Facility and Temporary Controls" for temporary Project identification signs and for temporary informational and directional signs.

Section 101300 "Directories" for building directories.

Section 101423.16 "Room-Identification Panel Signage" for room-identification signs that are directly attached to the building.

Section 101426 "Post and Panel/Pylon Signage" for freestanding signs.

Section 220553 "Identification for Plumbing Piping and Equipment" for labels, tags, and nameplates for plumbing systems and equipment.

Section 230553 "Identification for HVAC Piping and Equipment" for labels, tags, and nameplates for HVAC systems and equipment.

Section 260553 "Identification for Electrical Systems" for labels, tags, and nameplates for electrical equipment.

Section 265213 "Emergency and Exit Lighting" for illuminated, self-luminous, and photoluminescent exit sign units.

* + - 1. DEFINITIONS

Retain terms that remain after this Section has been edited for a Project.

* + - * 1. Accessible: In accordance with the accessibility standard.
				2. Illuminated: Illuminated by lighting source integrally constructed as part of the sign unit.
			1. REFERENCES
				1. Americans with Disabilities Act - 1990.
				2. ICC/ANSI A-117.1 - Specifications for Sign Requirements for the Physically Handicapped.

Retain Paragraph below for OMH and DOOCS hospital projects.

* + - * 1. JCAHO (Joint Commission of Accreditation of Healthcare Organizations) Plant Technology and Safety Management Standards.

Retain Paragraph below for projects with wood or steel floor or roof trusses.

* + - * 1. 19 NYCRR Part 1264 – Identification of Building Utilizing Truss Type Construction.
			1. COORDINATION

Retain this article if signs are mounted on permanent construction with preinstalled anchors or electrical service; delete article if signs are installed using field-drilled anchorage methods and have no electrical service.

Retain first Paragraph below for signs that require installation of anchorage devices embedded in permanent construction by other installers.

* + - * 1. Furnish anchorage materials and templates for placement of sign-anchorage devices embedded in permanent construction by other installers.

Retain Paragraph below for illuminated signs that require accurate installation of electrical service embedded in permanent construction by other installers.

* + - * 1. Furnish templates for placement of electrical service embedded in permanent construction by other installers.
			1. SUBMITTALS
				1. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.
				2. Manufacturer’s installation instructions shall be provided along with product data.
				3. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).
				4. Product Data: For each type of product.
				5. Sustainable Design Submittals:
				6. Shop Drawings: For panel signs.

Include fabrication and installation details and attachments to other work.

Show sign mounting heights, locations of supplementary supports to be provided by other installers, and accessories.

Show message list, typestyles, graphic elements, including raised characters and Braille, and layout for each sign at least half size.

Retain two Subparagraphs below if signs are electrically powered.

Show locations of electrical service connections.

Include diagrams for power, signal, and control wiring.

Retain "Samples for Initial Selection" and "Samples for Verification" Paragraphs below for two-stage Samples.

* + - * 1. Samples for Initial Selection: For each type of sign assembly, exposed component, and exposed finish.

Retain subparagraph below if typestyle has not been previously selected.

Include representative Samples of available typestyles and graphic symbols.

* + - * 1. Samples for Verification: For each type of sign assembly showing all components and with the required finish(es), in manufacturer's standard size unless otherwise indicated and as follows:

Revise list below to suit Project. Insert specific sign samples and sizes if required.

Panel Signs: Full-size Sample.

Field-Applied, Vinyl-Character Signs:

Variable Component Materials: Full-size Sample of each base material, character (letter, number, and graphic element) in each exposed color and finish not included in Samples above.

Exposed Accessories: Full-size Sample of each accessory type.

Retain subparagraph below if applicable; revise to suit Project.

Full-size Samples, if approved, will be returned to Contractor for use in Project.

* + - * 1. Product Schedule: For panel signs. Use same designations indicated on Drawings or specified.

Coordinate "Qualification Data" Paragraph below with qualification requirements in "Quality Assurance" Article.

* + - * 1. Qualification Data: For Fabricator.
				2. Sample Warranty: For special warranty.
			1. CLOSEOUT SUBMITTALS
				1. Maintenance Data: For signs to include in maintenance manuals.
			2. MAINTENANCE MATERIAL SUBMITTALS
				1. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

Variable Component Materials: 12 replaceable text inserts and interchangeable characters (letters, numbers, and graphic elements) of each type.

Tools: One set(s) of specialty tools for assembling signs and replacing variable sign components.

* + - 1. QUALITY ASSURANCE
				1. Fabricator Qualifications: The firm manufacturing the signs shall have been regularly producing signs similar to those specified for the Work, for a minimum of 5 years. The firm shall also have sufficient production capacity to produce the quantity of sign units required without causing delay in the Work.
			2. FIELD CONDITIONS

Retain "Field Measurements" Paragraph below for signs that require installation of anchorage devices, electrical service, or both, embedded in permanent construction by other installers. Anchorage devices embedded in permanent construction by other installers are uncommon.

* + - * 1. Field Measurements: Verify locations of [**anchorage devices**] [**and**] [**electrical service**] embedded in permanent construction by other installers by field measurements before fabrication and indicate measurements on Shop Drawings.
			1. WARRANTY

When warranties are required, verify with Director’s Representative counsel that warranties stated in this article are not less than remedies available to Director’s Representative under prevailing local laws.

* + - * 1. Special Warranty: Manufacturer agrees to repair or replace components of signs that fail in materials or workmanship within specified warranty period.

Failures include, but are not limited to, the following:

Deterioration of finishes beyond normal weathering.

Deterioration of embedded graphic image.

Separation or delamination of sheet materials and components.

Verify available warranties and warranty periods for units and components.

Warranty Period: Five years from date of Substantial Completion.

1. PRODUCTS

Manufacturers and products listed in SpecAgent and Masterworks Paragraph Builder are neither recommended nor endorsed by the AIA or Deltek. Before inserting names, verify that manufacturers and products listed there comply with requirements retained or revised in descriptions and are both available and suitable for the intended applications.

* + - 1. PERFORMANCE REQUIREMENTS

Generally, retain "Thermal Movements" Paragraph below for exterior signs.

* + - * 1. Thermal Movements: For exterior signs, allow for thermal movements from ambient and surface temperature changes.

Differential values in "Temperature Change" Subparagraph below (for aluminum in particular) are suitable for most of the United States.

Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

* + - * 1. Accessibility Standard: Comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design" and ICC A117.1.

Retain "Electrical Components, Devices, and Accessories" Paragraph below for illuminated signs.

* + - * 1. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

Retain Paragraph below for Projects with new wood or steel floor or roof trusses.

* + - * 1. Floor or Roof Truss Identification Signs: Conform to the requirements of 19 NYCRR Part 1264 – Identification of Building Utilizing Truss Type Construction.
			1. PANEL SIGNS

Retain this article for panel signs consisting of flat or curved surfaces bearing multiple characters.

Copy "Panel Sign" Paragraph below and re-edit for each product.

Insert drawing designation. Use these designations on Drawings to identify each product.

* + - * 1. Panel Sign <**Insert drawing designation**>: Sign with smooth, uniform surfaces; with message and characters having uniform faces, sharp corners, and precisely formed lines and profiles; and as follows:

Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

Fossil Industries, Inc.

Mohawk Sign Systems.

Seton Identification Products; a Brady Corporation company.

Signs & Decal Corp.

Approved equivalent.

Retain "Illuminated Panel Sign" Subparagraph below if required.

Illuminated Panel Sign: [**Backlighted**] [**Edgelighted**] construction with [**fluorescent tube**] [**fiber-optic**] [**LED**] [**neon tube**] lighting including transformers, insulators, and other accessories for operability, with provision for servicing and concealing connections to building electrical system. Use tight or sealed joint construction to prevent unintentional light leakage. Space lamps apart from each other and away from sign surfaces as needed to illuminate evenly.

Retain "Power" Subparagraph below to suit Project. Consult manufacturer for power requirements and coordinate with Project Electrical Engineer. A group of small signs or each sign separately may require a power supply.

Power: [**As indicated on electrical Drawings**] [**120 V, 60 Hz, 1 phase, 15 A**].

Retain "Weeps" Subparagraph below to suit Project. Manufacturers generally provide weeps for exterior signs; baffles are uncommon but may be important where overhead, backlighted signs are close to the viewer. Consult manufacturer for recommendations.

Weeps: Provide weep holes to drain water at lowest part of exterior signs.[**Equip weeps with permanent baffles to block light leakage without inhibiting drainage.**]

Available sign materials, constructions, and assemblies vary with manufacturer; most offer custom signage, and many offer materials and processes they claim are unique. Materials listed in Subparagraphs below are examples of those available and are sometimes combined in a single sign assembly. Retain required materials for each panel-sign type; insert additional materials to suit Project; delete Subparagraphs not required. Consult manufacturers for materials suitable for the exposure and required performance. Insert requirements for sign returns or edges and back if required and different than sign face.

Solid-Sheet signs are suitable for ADA, room signage, and wayfinding signage.

Solid-Sheet Sign: [**Aluminum**] [**Brass**] [**Bronze**] [**Copper**] [**Steel**] [**Stainless-steel**] [**Acrylic**] [**Fiberglass**] [**PVC**] sheet with finish specified in "Surface Finish and Applied Graphics" Subparagraph and per the MESSAGE SCHEDULE.

Thickness: 0.125 inch.

Paragraph below is suitable for NYS truss identification signs to be wall mounted.

Laminated Aluminum-Sheet Sign: Aluminum sheet laminated to [**one side** ][**both sides** ]of phenolic core sheet.

Composite-Sheet Thickness: 0.25 inch.

Retain "Surface-Applied, Flat Graphics" or "Surface-Applied, Raised Graphics" Subparagraph below, or both, to suit Project.

Surface-Applied, Flat Graphics: Applied vinyl film or paint.

Laminated-Sheet Signs are suitable for ADA and room signage. Various polymer materials can be sandblasted to form raised graphics; insert specific polymer material if required.

Laminated-Sheet Sign: Sand blasted polymer face sheet with raised graphics laminated to acrylic backing sheet to produce composite sheet with finish specified in "Surface Finish and Applied Graphics" Subparagraph and per the MESSAGE SCHEDULE.

Composite-Sheet Thickness: 0.125 inch.

Products in "Composite Phenolic-Core Sign" Subparagraph below are made by Fossil Industries and perhaps other manufacturers.

Composite Phenolic-Core Sign: Solid phenolic panel core with integral subsurface graphic image covered with integral, polymeric face layer.

Composite-Sheet Thickness: 0.5 inch.

Laminated Polycarbonate-Sheet Sign: Polycarbonate face sheet laminated to each side of phenolic base sheet to produce composite sheet with finish specified in "Surface Finish and Applied Graphics" Subparagraph and per the MESSAGE SCHEDULE

Composite-Sheet Thickness: 0.125 inch.

Engraved Plastic-Laminate Sign: Plastic-laminate face laminated to contrasting phenolic core to produce composite sheet with finish specified in "Surface Finish and Applied Graphics" Subparagraph and per the MESSAGE SCHEDULE

Composite-Sheet Thickness: 0.125 inch.

Plastic-Laminate Color and Pattern: [**As indicated by manufacturer's designation**] [**As selected by Director’s Representative from manufacturer's full range**].

"Dark color" option in "Core Color" Subparagraph below is standard; verify availability with manufacturers before inserting other core colors.

Core Color: Manufacturer's standard.

Generally, retain "Sign-Panel Perimeter" or "Frame" Subparagraph below; retain both if sign panel is partially framed with horizontal or vertical retainers. Include requirements only to the extent that they are not indicated on Drawings or scheduled; delete others.

Sign-Panel Perimeter: Finish edges smooth.

Edge Condition: [**As indicated on Drawings**] [**Square cut**] [**Beveled**] [**Bullnosed**].

Corner Condition in Elevation: [**As indicated on Drawings**] [**Square**] [**Rounded to radius indicated**].

Revise "Frame" Subparagraph below if sign panel Projects from wall and is secured with only one vertical retainer.

Frame: [**Entire perimeter**] [**Horizontal retainers**] [**Vertical retainers**] [**to hold changeable sign panel**].

Material: [**Aluminum**] [**Brass**] [**Bronze**] [**Steel**] [**Stainless steel**] [**PVC**].

Material Thickness: <**Insert dimension**>.

Frame Depth: [**As indicated on Drawings**] <**Insert dimension**>.

Profile: [**Square**] [**Beveled**] [**Rounded**].

Corner Condition in Elevation: [**Square**] [**Mitered**] [**Rounded to radius indicated**].

Finish and Color: [**Mill**] [**Painted, matte black color**] [**Match Director’s Representative's sample**] [**As selected by Director’s Representative from manufacturer's full range**].

Mounting: [**As indicated on Sign Schedule**] [**Manufacturer's standard method for substrates indicated**] [**Surface mounted to wall**] [**Projecting from wall**] [**Suspended**] [**Aluminum bracket**] [**Stainless-steel bracket**] .

Mounting Methods:

Retain only the mounting methods below that are used in the Project.

Mechanical Mounting (MM): Sign manufacturer’s standard or recommended full threaded screws with tamper resistant heads.

Tape Mounting (TM): Sign manufacturer’s standard or recommended double sided foam tape intended for substrates involved.

Sealant Mounting (SM): Sign manufacturer’s standard or recommended acrylic or silicone sealant type adhesive intended for substrates involved.

Plate Mounting (PM): Minimum 1/8 inch acrylic or styrene plate with predrilled holes, full threaded, Phillips flat or oval headed screws, plastic anchors, and double-sided foam tape or sealant adhesive.

Retain "Surface Finish and Applied Graphics" Subparagraph below if this information is not fully indicated on Drawings. Consider using Drawings except for the simplest signs.

Surface Finish and Applied Graphics: See sign Types [**at the end of this Section**][**on Drawings**].

Retain first eight Subparagraphs below as required to coordinate with required sign materials and graphics. Delete Subparagraphs not required.

Retain "Integral Metal Finish" Subparagraph below for integral finishes on metals other than aluminum and stainless steel.

Integral Metal Finish: [**Mill**] [**Antique oxidized**] [**As indicated by manufacturer's designation**] [**Match Director’s Representative's sample**] [**As selected by Director’s Representative from full range of industry finishes**].

Retain "Integral Aluminum Finish" Subparagraph below for integral finishes on aluminum.

Integral Aluminum Finish: [**Clear anodized**] [**Light bronze anodized**] [**Medium bronze anodized**] [**Match Director’s Representative's sample**] [**Anodized color as selected by Director’s Representative from full range of industry colors and color densities**].

Retain "Integral Stainless-Steel Finish" Subparagraph below for integral finishes on stainless steel.

Integral Stainless-Steel Finish: [**No. 4**] [**No. 8**] [**Match Director’s Representative's sample**] [**As selected by Director’s Representative from full range of industry finishes**].

Retain the Paragraph below for commonly used ADA complaint signage used on OGS Projects.

Integral Acrylic Sheet Color: [**As indicated by manufacturer's designation**] [**Match Director’s Representative's sample**] [**As selected by Director’s Representative from full range of industry colors**].

Retain "Baked-Enamel or Powder-Coat Finish and Graphics," "Painted Finish and Graphics," and "Photo-Image Graphics" Subparagraphs below for applied finish and graphics; revise to suit Project. If required, insert color(s) from color-matching system, such as Pantone. Revise text if multicolored image is required.

Baked-Enamel or Powder-Coat Finish and Graphics: Manufacturer's standard, in color [**as indicated by manufacturer's designation**] [**matching Director’s Representative's sample**] [**as selected by Director’s Representative from manufacturer's full range**].

Painted Finish and Graphics: Manufacturer's standard, factory-applied [**exterior-grade sign paint**] [**acrylic polyurethane**], in color [**as indicated by manufacturer's designation**] [**matching Director’s Representative's sample**] [**as selected by Director’s Representative from manufacturer's full range**].

Photo-Image Graphics: Manufacturer's standard [**black-and-white**] [**multicolor**], [**600-dpi**] halftone or dot-screen image.

Retain "Overcoat" Subparagraph below if required. Overcoat is a topcoat used to protect interior finishes and reduce color change.

Overcoat: Manufacturer's standard baked-on clear coating.

Text and Typeface: Accessible raised characters and Braille [**and**] [**variable content as scheduled**]. Finish raised characters to contrast with background color, and finish Braille to match background color.

Retain "Flatness Tolerance" Subparagraph below if required, usually for suspended or projection-mounted larger signs; revise to suit Project.

Flatness Tolerance: Sign shall remain flat or uniformly curved under installed conditions as indicated on Drawings and within a tolerance of plus or minus 1/16 inch measured diagonally from corner to corner.

* + - 1. FIELD-APPLIED, VINYL SIGNS

Retain this article for cut-out, vinyl-sheet signs directly applied to a variety of substrates. This process cannot produce tactile signs. Thickness in option in "Field-Applied, Vinyl-Character Sign" Paragraph below is durable but difficult to peel off, making sign resistant to vandalism. These sign types are suitable for NYS Truss Identification signs that are to be mounted to sidelights.

Copy "Field-Applied, Vinyl Sign" Paragraph below and re-edit for each product.

Insert drawing designation. Use these designations on Drawings to identify each product.

* + - * 1. Field-Applied, Vinyl Sign <**Insert drawing designation**>: 3- to 3.5-mil thick, weather-resistant vinyl film with release liner on the back and carrier film on the front for on-site alignment and application.

Size: [**As indicated on Drawings**] [**As scheduled**].

Substrate: [**As indicated on Drawings**] [**As scheduled**] [**Glass**] [**Doors**] [**Walls**].

Text and Font: [**As indicated on Drawings**] [**As scheduled**].

* + - 1. PANEL-SIGN MATERIALS

Retain materials in this article that are referenced in other articles under specific signage requirements. Revise to suit Project.

Material in "Aluminum Sheet and Plate" Paragraph below is generally used as sign facing material.

* + - * 1. Aluminum Sheet and Plate: ASTM B209, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.

Material in "Aluminum Extrusions" Paragraph below is generally used for panel frames and internal stiffeners, caps, or other supporting elements.

* + - * 1. Aluminum Extrusions: ASTM B221, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.

Metals in "Brass Sheet (Yellow Brass)," "Bronze Plate," and "Copper Sheet" Paragraphs below are seldom used for exterior signs.

Alloy UNS No. C26000 (yellow brass) in "Brass Sheet (Yellow Brass)" Paragraph below has maximum 0.07 percent lead content. Verify availability of lead-free alloy with sign manufacturer before retaining second option.

* + - * 1. Brass Sheet (Yellow Brass): ASTM B36, [**alloy recommended by manufacturer and finisher for finish indicated**] [**lead-free alloy recommended by manufacturer and finisher for finish indicated**] [**Alloy UNS No. C26000 (yellow brass)**][**Copper alloy UNS C83000, Muntz metal, 60 percent copper**].

Alloy UNS No. C22000 in "Bronze Plate" Paragraph below has a maximum 0.05 percent lead content. Verify availability of lead-free alloy with sign manufacturer before retaining second option.

* + - * 1. Bronze Plate: ASTM B36, [**alloy recommended by manufacturer and finisher for finish indicated**] [**lead-free alloy recommended by manufacturer and finisher for finish indicated**] [**Alloy UNS No. C22000 (commercial bronze)**].
				2. Copper Sheet: ASTM B152.

Generally, retain one option in "Stainless-Steel Sheet" Paragraph below. Type 316 is more corrosion resistant and more expensive than Type 304.

* + - * 1. Stainless-Steel Sheet: ASTM A240 or ASTM A666, [**Type 304,**] [**Type 316,**] stretcher-leveled standard of flatness.

Retain "Acrylic Sheet" Paragraph below if using acrylic sheet for sign message panels, cutout dimensional characters, or characters on illuminated signs.

* + - * 1. Acrylic Sheet: ASTM D4802, category as standard with manufacturer for each sign, Type UVF (UV filtering).

Material in "Fiberglass Sheet" Paragraph below is generally used for sign message panels.

* + - * 1. Fiberglass Sheet: Multiple laminations of glass-fiber-reinforced polyester resin with UV-light stable, colorfast, nonfading, weather- and stain-resistant, colored polyester gel coat, and with manufacturer's standard finish.

Retain "Polycarbonate Sheet" Paragraph below if using polycarbonate sheet for sign message panels or for characters on illuminated signs.

* + - * 1. Polycarbonate Sheet: ASTM C1349, Appendix X1, Type II (coated, mar-resistant, UV-stabilized polycarbonate), with coating on both sides.

Material in "PVC Sheet" Paragraph below is generally used for sign message panels.

* + - * 1. PVC Sheet: Manufacturer's standard, UV-light stable, PVC plastic.

Revise "Plastic-Laminate Sheet" Paragraph below if flame-retardant HGF grade is required for surface-burning characteristics and is acceptable to authorities having jurisdiction; verify availability with sign manufacturer.

* + - * 1. Plastic-Laminate Sheet: NEMA LD 3, general-purpose HGS grade, 0.048-inch nominal thickness.

Retain "Vinyl Film" Paragraph below for field-applied, vinyl-character signs and for surface-applied, vinyl-character components of other sign types.

* + - * 1. Vinyl Film: UV-resistant vinyl film of nominal thickness indicated, with pressure-sensitive, permanent adhesive on back; die cut to form characters or images as indicated on Drawings and suitable for exterior applications.
				2. Paints and Coatings for Sheet Materials: Inks, dyes, and paints that are recommended by manufacturer for optimum adherence to surface and are UV and water resistant for colors and exposure indicated.
			1. ACCESSORIES
				1. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signs, noncorrosive and compatible with each material joined, and complying with the following unless otherwise indicated:

Use exposed fasteners and anchors unless indicated to be concealed.

For exterior exposure, furnish nonferrous-metal, stainless-steel, or hot-dip galvanized devices unless otherwise indicated.

Exposed Metal-Fastener Components, General:

Fabricated from same basic metal and finish of fastened metal unless otherwise indicated.

Fastener Heads: For nonstructural connections, use flathead or oval countersunk screws and bolts with tamper-resistant one-way-head slots unless otherwise indicated.

Sign Mounting Fasteners:

Through Fasteners: Exposed metal fasteners, with type of head indicated, and installed in predrilled holes.

Retain "Inserts" Subparagraph below only for signs that require installation of anchorage devices embedded in permanent construction by other installers.

Inserts: Furnish inserts to be set by other installers into concrete or masonry work.

* + - * 1. Adhesive: As recommended by sign manufacturer.

Adhesives to have a VOC content of 250 g/L or less.

Use materials in "Two-Face Tape," "Hook-and-Loop Tape," and "Magnetic Tape" Paragraphs below for small signs only; they are suitable for smooth, nonporous surfaces. Two-face tape is generally 3M brand's "VHB Heavy Duty Mounting Tape."

* + - * 1. Two-Face Tape: Manufacturer's standard high-bond, foam-core tape, 0.045 inch thick, with adhesive on both sides.
				2. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D1187.
			1. FABRICATION
				1. General: Provide manufacturer's standard sign assemblies according to requirements indicated.

Preassemble signs in the shop to greatest extent possible. Disassemble signs and assemblies only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation; apply markings in locations concealed from view after final assembly.

Mill joints to a tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.

Conceal connections if possible; otherwise, locate connections where they are inconspicuous.

Provide rabbets, lugs, and tabs necessary to assemble components and to attach to existing work. Drill and tap for required fasteners.

Engraved copy in "Surface-Engraved Graphics" Paragraph below does not leave raised text and is not ADA compliant. May be used for directional and informational signs.

* + - * 1. Surface-Engraved Graphics: Machine engrave characters and other graphic devices into indicated sign surface to produce precisely formed copy, incised to uniform depth.

Engraved Metal (EM): Fill engraved graphics with manufacturer's standard baked enamel.

Engraved Opaque Acrylic Sheet (EOA): Fill engraved graphics with manufacturer's standard enamel.

Face-Engraved Clear Acrylic Sheet (ECA): Fill engraved copy with manufacturer's standard enamel. Apply manufacturer's standard opaque background color coating to back face of acrylic sheet.

Engraved Plastic Laminate (EPL): Engrave through exposed face ply of plastic-laminate sheet to expose contrasting core ply.

Sand carved (sand blasted) process is ADA compliant for room identification signs. Sand carved (sand blasted) process may be used for directional and informational signs.

* + - * 1. Sand Carved (Sand Blasted) Process (SC): Sand carved (sand blasted) letters, numbers, symbols, Grade 2 Braille, and other graphic devices to produce precisely formed copy raised to a uniform height of 1/32 inch with sharply formed edges.

Dimensional process is ADA compliant for room identification signs. Dimensional process may be used for directional and informational signs. Dimensional process not recommended in areas subject to vandalism.

* + - * 1. Dimensional Process (D): Machine cut letters, numbers, symbols, and other graphic devices to produce precisely formed copy raised to a uniform height of 1/8 inch with sharply formed edges. Chemically weld copy to sign panel face.

Retain "Subsurface-Applied Graphics" Paragraph below if graphics are applied to the back of clear face sheet. Sub-surface process is not ADA compliant for room identification signs. Sub-surface process may be used for directional and informational signs.

* + - * 1. Subsurface-Applied Graphics (SSA): Apply graphics to back face of clear face-sheet material to produce precisely formed image. Image shall be free of rough edges.

Retain "Subsurface-Engraved Graphics" Paragraph below if graphics are reverse engraved on the back of clear face sheet. Sub-surface process is not ADA compliant for room identification signs. Sub-surface process may be used for directional and informational signs.

* + - * 1. Subsurface-Engraved Graphics (SSE): Reverse engrave back face of clear face-sheet material. Fill resulting copy with manufacturer's standard enamel. Apply opaque manufacturer's standard background color coating over enamel-filled copy.

Retain "Shop- and Subsurface-Applied Vinyl" Paragraph below for applied-copy process. Applied Vinyl process is not ADA compliant for room identification signs. Applied Vinyl process may be used for directional and informational signs.

* + - * 1. Shop- and Subsurface-Applied Vinyl (AV): Align vinyl film in final position and apply to surface. Firmly press film from the middle outward to obtain good bond without blisters or fishmouths.

Revise "Signs with Changeable Message Capability" Paragraph below to suit Project. Changeable messages after the initial sign message are usually provided by the Director’s Representative.

* + - * 1. Signs with Changeable Message Capability: Fabricate signs to allow insertion of changeable messages as follows:

For snap-in changeable inserts beneath removable face sheet, furnish one suction or other device to assist in removing face sheet. Furnish initial changeable insert. [**Subsequent changeable inserts are by the Facility**] [**Furnish two blank inserts for each sign for Facility’s use**].

For slide-in changeable inserts, fabricate slot without burrs or constrictions that inhibit function. Furnish initial changeable insert. [**Subsequent changeable inserts are by the Facility**] [**Furnish two blank inserts for each sign for Facility’s use**].

For frame to hold changeable sign panel, fabricate frame without burrs or constrictions that inhibit function. Furnish initial sign panel. [**Subsequent changeable sign panels are by the Facility**].

Revise "Brackets" Paragraph below to suit Project. Some manufacturers offer standard brackets for wall, railing, ceiling, and earth-stake applications.

* + - * 1. Brackets: Fabricate brackets, fittings, and hardware for bracket-mounted signs to suit sign construction and mounting conditions indicated. Modify manufacturer's standard brackets as required.

Aluminum Brackets: Factory finish brackets with baked-enamel or powder-coat finish [**to match sign-background color**] [**to match Director’s Representative's sample**] color unless otherwise indicated.

Stainless-Steel Brackets: Factory finish brackets [**to match sign background**] [**to match Director’s Representative's sample**] [**with No. 4**] finish unless otherwise indicated.

Edit Paragraph below for Project requirements. Styles 1, 2, 3, and 4 are ADA compliant. Add other styles if required. Confirm ADA compliance if required.

* + - * 1. Copy Style:

Style 1: Helvetica Medium, upper case, 3/4 inch height, with Grade 2 Braille below copy.

Style 2: Helvetica Medium, upper case, 3/4 inch height, with appropriate pictogram to match lettering and Grade 2 Braille below copy.

Style 3: Helvetica Medium, upper case, 3/4 inch height, with appropriate pictogram to match lettering, NYS handicapped accessibility pictogram, and Grade 2 Braille below copy.

Style 4: Helvetica Medium, upper case, 3/4 inch height, with handicapped accessibility pictogram and Grade 2 Braille below copy.

Style 5: Helvetica Medium, upper case, 3/4 inch height.

Style 6: Helvetica Regular, upper case, 3/4 inch height.

Style 7: Sans Serif, upper case, 3/4 inch height.

Style 8: Simple Serif, upper case, 3/4 inch height.

Use the subparagraph below on Projects with wood or steel floor or roof trusses.

Signs must be affixed where a building or a portion of the building is classified as Group A, B, E, F, H, I, M, or S occupancy, and in hotels and motels classified as Group R-1 or R-2 occupancy, in accordance with the provisions for the classification of buildings set forth in Chapter 3 of the Building Code of New York State (see 19 NYCRR Part 1221).

Signs must be provided in newly constructed buildings that utilize truss type construction and in existing buildings where an addition that extends or increases the floor area of the building utilizes truss type construction. Signs must be affixed prior to the issuance of a certificate of occupancy or a certificate of compliance.

Style 9 (Truss Identification Sign): Roman Alphanumeric designation of the construction type of the building and alphabetic designation for the structural components. Comply with requirements of NEW YORK STATE DEPARTMENT OF STATE, DIVISION OF CODE ENFORCEMENT AND ADMINISTRATION “EXAMPLE TRUSS IDENTIFICATION SIGN” at the end of this Section.

Signs Applied to Doors or Sidelights: Field-Applied, Vinyl Sign.

Signs not Directly Applied to Doors or Sidelights: Laminated Aluminum-Sheet Sign.

Place the construction type designation at the twelve o’clock position over the structural component designation. Place the structural component designation at the six o’clock position.

* + - * 1. Copy Position: Copy shall be as stated in MESSAGE SCHEDULE [**in the drawings**][**at the end of this Section**]. Confirm “To Be Determined” information before fabrication.

CC: Centered.

CB: Center bottom

CT: Center top.

LC: Left center.

LB: Left bottom.

LT: Left top.

RC: Right center.

RB: Right bottom.

RT: Right top.

* + - 1. GENERAL FINISH REQUIREMENTS
				1. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
				2. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

Retain first Paragraph below for directional finishes; revise to suit Project.

* + - * 1. Directional Finishes: Run grain with long dimension of each piece and perpendicular to long dimension of finished trim or border surface unless otherwise indicated.
				2. Organic, Anodic, and Chemically Produced Finishes: Apply to formed metal after fabrication but before applying contrasting polished finishes on raised features unless otherwise indicated.
			1. ALUMINUM FINISHES

Generally, retain one of two options in "Clear Anodic Finish" Paragraph below. Verify availability with manufacturers. If retaining both options, indicate location of each on Drawings or by inserts in sign-description Paragraphs retained in Part 2.

* + - * 1. Clear Anodic Finish: AAMA 611, or thicker.

Generally, retain one of two options in "Color Anodic Finish" Paragraph below. Verify availability with manufacturers. If retaining both options, indicate location of each on Drawings or by inserts in sign-description Paragraphs retained in Part 2.

* + - * 1. Color Anodic Finish: AAMA 611, Class I, 0.018 mm or thicker.

"Baked-Enamel or Powder-Coat Finish" Paragraph below references AAMA standard for pigmented organic coating on extrusions and panels.

* + - * 1. Baked-Enamel or Powder-Coat Finish: AAMA 2603 except with a minimum dry film thickness of 1.5 mils. Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.

For exact finish, insert names of coating manufacturers and products in sign-description Paragraphs retained in Part 2.

* + - 1. STAINLESS-STEEL FINISHES
				1. Surface Preparation: Remove tool and die marks and stretch lines, or blend into finish.
				2. Polished Finishes: Grind and polish surfaces to produce uniform finish, free of cross scratches.

When polishing is completed, passivate and rinse surfaces. Remove embedded foreign matter and leave surfaces chemically clean.

Choose one of the following 4 finishes.

Directional Satin Finish: No. 4.

Dull Satin Finish: No. 6.

Reflective, Directional Polish: No. 7.

Mirrorlike Reflective, Nondirectional Polish: No. 8.

1. EXECUTION
	* + 1. EXAMINATION
				1. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
				2. Verify that sign-support surfaces are within tolerances to accommodate signs without gaps or irregularities between backs of signs and support surfaces unless otherwise indicated.

Retain first Paragraph below if signs are mounted with preinstalled anchors; delete if signs are installed using drilled-in-place-anchor methods.

* + - * 1. Verify that anchorage devices embedded in permanent construction are correctly sized and located to accommodate signs.

Retain first Paragraph below for internally illuminated signs.

* + - * 1. Verify that electrical service is correctly sized and located to accommodate signs.
				2. Proceed with installation only after unsatisfactory conditions have been corrected.
			1. INSTALLATION

Retain mounting methods in this article that coordinate with mounting requirements in sign-description Paragraphs retained in Part 2.

* + - * 1. General: Install signs using mounting methods indicated and according to manufacturer's written instructions.

Coordinate sign units with MESSAGE SCHEDULE prior to installation.

Install signs level, plumb, true to line, and at locations and heights indicated, with sign surfaces free of distortion and other defects in appearance.

Install signs so they do not protrude or obstruct according to the accessibility standard.

Before installation, verify that sign surfaces are clean and free of materials or debris that would impair installation.

Corrosion Protection: Coat concealed surfaces of exterior aluminum in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.

* + - * 1. Mounting Locations: Accessible Signage: Install in locations on walls as indicated on Drawings and according to the accessibility standard.

Location A: Latch side of door, sign unit center 60 inches above finished floor and near edge of sign unit 2 inches from outside edge of door frame.

Location B: Hinge side of door, sign unit center 60 inches above finished floor and near edge of sign unit 2 inches from outside edge of door frame.

Location C: (Truss Identification Sign): Locate sign units in accordance with 19 NYCRR Part 1264, Table I-1264.

Location D: Center of door, sign unit center 60 inches above finished floor and centered on width of door.

Location E: Specific location indicated, sign unit center 60 inches above finished floor.

Location F: Specific location indicated, sign unit center at specific location above finished floor.

* + - * 1. Mounting Methods:

Through Fasteners: Drill holes in substrate using predrilled holes in sign as template. Countersink holes in sign if required. Place sign in position and flush to surface. Install through fasteners and tighten.

Brackets: Remove loose debris from substrate surface and install backbar or bracket supports in position so that signage is correctly located and aligned.

Adhesive: Clean bond-breaking materials from substrate surface and remove loose debris. Apply linear beads or spots of adhesive symmetrically to back of sign and of suitable quantity to support weight of sign after cure without slippage. Keep adhesive away from edges to prevent adhesive extrusion as sign is applied and to prevent visibility of cured adhesive at sign edges. Place sign in position and push to engage adhesive. Temporarily support sign in position until adhesive fully sets.

Two-Face Tape: Clean bond-breaking materials from substrate surface and remove loose debris. Apply tape strips symmetrically to back of sign and of suitable quantity to support weight of sign without slippage. Keep strips away from edges to prevent visibility at sign edges. Place sign in position and push to engage tape adhesive.

Retain "Shim-Plate Mounting" Subparagraph below if signs are to be applied to irregular surfaces. Indicate locations on Drawings or by inserts in sign-description Paragraphs retained in Part 2.

Shim-Plate Mounting: Provide 1/8-inch- thick, concealed aluminum shim plates with predrilled and countersunk holes, at locations indicated, and where other direct mounting methods are impractical. Attach plate with fasteners and anchors suitable for secure attachment to substrate. Attach signs to plate using method specified above.

* + - * 1. Field-Applied, Vinyl Signs: Clean and dry substrate. Align sign in final position before removing release liner. Remove release liner in stages and apply and firmly press characters into final position. Press from the middle outward to obtain good bond without blisters or fishmouths. Remove carrier film without disturbing applied vinyl film.

Retain "Signs Mounted on Glass" Paragraph below if applicable. These can be field-applied, vinyl or other thin signs.

* + - * 1. Signs Mounted on Glass: Provide opaque sheet matching sign material and finish onto opposite side of glass to conceal back of sign.
			1. ADJUSTING AND CLEANING
				1. Remove and replace damaged or deformed signs and signs that do not comply with specified requirements. Replace signs with damaged or deteriorated finishes or components that cannot be successfully repaired by finish touchup or similar minor repair procedures.
				2. Remove temporary protective coverings and strippable films as signs are installed.
				3. On completion of installation, clean exposed surfaces of signs according to manufacturer's written instructions and touch up minor nicks and abrasions in finish. Maintain signs in a clean condition during construction and protect from damage until acceptance by the Director’s Representative.

Insert a sign schedule here or on Drawings to list each sign type by drawing designation, text, and quantity, coordinated with Drawings. Also include sign size, font, colors, and locations to the extent that these items are not indicated on Drawings. See the Evaluations for an example of a sign schedule.

* + - 1. MESSAGE SCHEDULE

Building No. <**insert value**> - <**insert value**> Floor

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Door****#** | **Copy Style** | **Copy Position** | **Graphic Process** | **Sign****Type** | **Message (Copy)** | **Mounting Location** | **Mounting Method** |
| N140 | 1 | CC | SC |  | N140Central Pharmacy Entrance | A | PM |
| N140A | 2 | LC | ESP |  | N140AConsultation Room | A | PM |
| N130 | 1 | CC | SC |  | MEN(Men, H/C Pictogram) | C | TM |
|  |  |  |  |  |  |  |  |

* + - 1. SIGN TYPES

END OF SECTION 101423