

SECTION 00940 - SIGNS

(Follow all instructions and make all edits with "Track Changes" turned on. If there are no instructions [purple text] above a subsection, paragraph, sentence, or bullet, then include it in the Project. Delete all purple text before preparing the final document. All other modifications to this Section will require ODOT Technical Resource and State Specifications Engineer approval.)

Comply with Section 00940 of the Standard Specifications modified as follows:

00940.03 Drawings - Replace this subsection, except for the subsection number and title, with the following:

Copies of Working Drawings for non-standard signs are made available to the Contractor by the Engineer. Construct standard signs called for in the Contract Documents using drawings available in FHWA's *Standard Highway Signs* (FHWA English Version) or ODOT's *Sign Policy and Guidelines for the State Highway System*. The ODOT sign policy is available on the ODOT Traffic Roadway Section website.

~~*(Use the following subsection .10 when Oregon Trail or California Trail route markers, Oregon Scenic Byway signs, Oregon State Park shields or Oregon Tour Route signs are required. Delete "(c)" or parentheses as appropriate, and delete sign types that are not applicable.)*~~

00940.10 Materials - Replace the paragraph that begins "Use sign sheeting colors..." with the following paragraph:

Use sign sheeting colors according to the Federal Highway Administration *Color Specifications for Retroreflective Sign and Pavement Marking Materials*. The Engineer will visually determine if all panels in any one sign match the specified color(s).

~~*(Use the following subsection .10 paragraphs and bullets when Oregon Trail or California Trail route markers, Oregon Scenic Byway signs or Oregon State Park shields or Oregon Tour Route signs are required. Delete "(s)" or parentheses as appropriate, and delete sign types that are not applicable.)*~~

Add the following paragraph and bullet(s) to the end of this subsection:

Digital graphic files for the following sign type(s) may be available from the State Sign Engineer. Find more on the ODOT Sign Design information website at:

<https://www.oregon.gov/ODOT/Engineering/Pages/Signing.aspx>

- Oregon Trail or California Trail route markers

• ~~Oregon Tour Route signs~~

- Oregon Scenic Byway signs
- Oregon State Parks shields

(Use the following lead-in paragraph and subsection .12 when sign panels require anti-graffiti coating.)

Add the following subsection:

00940.12 Sign Coatings -

(Use only one of the following options as instructed below. Delete the option that does not apply.)

[Option 1 - Use the following paragraph when every sign on the project will receive anti-graffiti coating.]

Furnish all signs on the Project with a shop-applied anti-graffiti coating on both the background and legend sheeting according to 02910.70, regardless of substrate material.

[Option 2 - Use the following paragraph when only select signs will receive anti-graffiti coating and will be shown on the plans.]

Where shown, furnish signs with a shop-applied anti-graffiti coating on both the background and legend sheeting according to 02910.70, regardless of substrate material.

~~*(Use the following subsection .40 when sign panels require anti-graffiti coating.)*~~

00940.40 General - Replace the paragraph that begins "Finished signs shall..." with the following paragraph:

Construct finished signs to the designs shown or specified.

~~*(Use the following subsection .40two paragraphs when sign panels require anti-graffiti coating.)*~~

Add the following sentence to the end of the paragraph that begins "Fabricate all components...":

For signs that require anti-graffiti coating, fabricate all components of each individual sign with sheeting and anti-graffiti coating from the same supplier to ensure that all components are compatible and are warrantable by the manufacturer.

00940.41(a) General - Replace this subsection, except for the subsection number and title, with the following:

Fabricate aluminum panel signs as shown or specified. Do not round corners of panels outside the border. Reinforced sheet aluminum signs are not allowed. Furnish new Material for all aluminum used for sign panels.

00940.41(b) Extruded Aluminum - Replace this subsection, except for the subsection number and title, with the following:

Furnish a continuous section for each panel of extruded aluminum panel signs. Apply the sign sheeting to the extrusion a sufficient distance around the edge to ensure that no aluminum surface is visible on the face of the sign.

00940.41(c) Sheeting - Replace this subsection, except for the subsection number and title, with the following:

Apply the sign sheeting background color of the sign to the extrusions.

00940.42(a) General - Replace the paragraph that begins "Cut the sheet..." with the following paragraph:

Cut the sheet aluminum sign to size and shape as shown or specified. Furnish signs free of buckles, warps, dents, cockles, burrs and defects resulting from fabrication.

00940.42(b)(1) On Posts - Replace this subsection, except for the subsection number and title, with the following:

Signs having a vertical dimension of less than 48 inches and mounted on wood or metal posts are required to have at least two mounting holes. Signs having a vertical dimension of 48 inches or greater are required to have three mounting holes. Place the third mounting hole near the center of the sign. Locate mounting holes so the mounting hardware will not cover any portion of the legend unless otherwise shown.

00940.44 Retroreflective, Reflective, or Nonreflective Sheeting Application - Replace this subsection, except for the subsection number and title, with the following:

Apply the sheeting according to the sheeting manufacturer's recommendations on extruded aluminum panel signs. Up to 25 percent of the extruded aluminum panel signs required in the Plans are allowed one manufacturer's splice for each sign. One patch is allowed for each 50 square feet of sign to a maximum of three patches for each sign. Furnish patches that are between 3/4 inches and 3 3/8 inches in diameter. Contractor splices are not allowed.

On all other signs, manufacturer's splices are not allowed except as noted on approved shop drawings, or when sign dimensions exceed the sheeting manufacturer's capabilities. Make these splices horizontal with the upper section of sheeting overlapping the lower by a minimum of 3/8 inch on encapsulated lens sheeting, and butt splice prismatic lens sheeting with no appreciable substrate visible. The use of overlaid transparent paste or electronic cuttable film is not allowed on overlapped splices. Contractor splices are not allowed.

00940.45(a) General - Replace the paragraph that begins "Spacing between letters or ..." with the following paragraph:

Ensure spacing between letters or numbers meet the requirements of the FHWA *Standard Alphabets for Highway Signs manual*.

Replace the paragraph that begins "Spacing between words for Series..." with the following paragraph:

Spacing between words for Series "E" (modified) legend are 1.5 times the upper case letter height. Spacing between words for other fonts is as tabulated below unless otherwise shown:

Replace the paragraph that begins "Spacing between symbols ..." with the following paragraph:

Follow the FHWA *Standard Highway Signs* for spacing between symbols, unless otherwise shown.

00940.45(b) Attachment - Replace this subsection, except for the subsection number and title, with the following:

Attach removable legend to aluminum panels using aluminum, domed head, 1/8-inch diameter, self-plugging blind rivets. Remove aluminum shavings from the sign face before attaching the legend. The entire sign is rejected if any shavings are left beneath the legend. Drill 0.128-inch diameter holes in the removable legend and sign panel as shown on the *Mounting Details for Removable Legend* Standard Drawings.

Apply screened legend according to the sheeting manufacturer's recommendations. Apply cut-out legend according to 00940.44.

Attach 1-inch retroreflective removable border sections by placing two rivets 1/2 inch from the end of each border section with additional rivets spaced at a maximum of 6 inches apart, centered in the section. Attach corner border sections with a minimum of five rivets, two rivets 1/2 inch from each end, and the remaining rivet centered in the middle of the section.

Attach 2-inch retroreflective removable border sections by placing two rivets 1/2 inch from the end of each border section with additional rivets spaced at a maximum of 6 inch apart, along the top and bottom edge of the section. Attach corner border sections with a minimum of five rivets, two rivets 1/2 inch from each end, and the remaining rivet centered in the section.

00940.46 Inspection - Replace this subsection, except for the subsection number and title, with the following:

The Engineer will inspect signs at the fabrication shop or at the Project Site or both. Inspection is for conformance to the Plans and Specifications, for conformance to nighttime visibility, and for rejectable defects. Rejectable defects include scratches, scuffs, tears, or any defect that impacts reflectiveness, readability, or performance. Signs not meeting inspection criteria are to be replaced at no additional cost to the Agency. The Contractor's expense for sign inspection is according to 00165.91.

00940.47 Sign Erecting - Replace the paragraph that begins "The closest edge of any..." with the following paragraph:

The closest edge of any column or overhead sign Structures is as shown.

Add the following paragraph to the end of this subsection:

Trim and remove branches, vegetation, or other materials obstructing the visibility of signs by Public Traffic, as directed.

(Use the following lead-in paragraph and subsection .48 when backs of aluminum substrate signs are coated. Obtain color number from Designer.)

Add the following subsection:

00940.48 Coating - Prepare and powder coat the backs of aluminum substrate signs according to the applicable portions of Section 00593 or prepare and coat according to the applicable portions of Section 00594.

Provide SAE AMS-STD-595 Color Number _____.

00940.90 Payment - Add the following paragraph(s) to the end of this subsection:

Trimming and removal of branches, vegetation, or other materials will be paid for according to 00320.90.

(Use the following subsection .90 when sign panels require anti-graffiti coating.)

No separate or additional payment will be made for anti-graffiti coating of signs.

Replace the paragraph that begins "Payment will be payment in full..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.