

Amend **Section 621 - Traffic Control Signs** to read as follows:

"SECTION 621A - TRAFFIC CONTROL GUIDE SIGNS

621A.01 Description. This section describes furnishing and installing guide signs, sign structures, overhead signs, and foundations.

Guide signs include freeway, expressway, destination, street name signs, and route markers.

621A.02 Materials.

Structural Concrete	601
Zinc Paints	708.02
Dark Green Enamel Paint	708.03
Paint Thinner	708.04
Signs	712.20
Sign Posts	713.11
Fasteners for Signs	713.12
Ground Mounted Destination and Expressway Sign Supports	713.13
Overhead Expressway Sign Supports	713.14

Certification and Mill Test Reports for overhead sign support materials shall be submitted with the following information:

(1) List of component parts showing:

(a) Description of each part,

(b) Source of fabrication of material (including ASTM numbers where applicable) and

(c) Certificate of compliance to the material specification.

(2) Complete and detailed engineering computations accompanying shop drawings that justify selection of dimensions and materials. Certify computations and drawings by structural engineer licensed in State of Hawaii.

48 **(3)** Copy of Mill Test Report for structural members (posts and beams)
49 including physical and chemical descriptions of material incorporated.

50
51 Retroreflective sheeting shall conform to ASTM D 4956 or as amended in
52 accordance with Subsection 712.20.

53
54 **621A.03 Construction Requirements.**

55
56 **(A) Destination and Expressway Sign Supports.**

57
58 **(1) Alternate Designs.** Conform alternate designs for
59 overhead expressway sign supports of either steel or aluminum to
60 the following by:

61
62 **(a)** Making similar in appearance and construction detail
63 to those shown in contract documents;

64
65 **(b)** Employing most current AASHTO Publication
66 "Standard Specifications for Structural Supports for Highway
67 Signs, Luminaires and Traffic Signals". Base design on
68 wind speed, 50-year mean recurrence interval, of 80 miles
69 per hour. Set wind pressure not less than 30 pounds per
70 square foot;

71
72 **(c)** Not changing foundations or other anchorages,
73 including anchor bolt details;

74
75 **(d)** Designing load carrying capacities at least equal to
76 those shown in contract; documents and

77
78 **(e)** Providing vandal resistance similar or at least equal to
79 those shown in contract documents.

80
81 Submit shop drawings, specifications, and structural
82 calculations for alternate designs of overhead sign supports to
83 Engineer for acceptance within 60 calendar days after Notice to
84 Proceed. Stamp and sign drawings and structural calculations by
85 structural engineer licensed in State of Hawaii. Identify on
86 drawings ASTM designated alloy and temper materials. When
87 using stock or standard items, catalog cuts may be submitted
88 instead of shop drawings.

89
90 **(2) Shop Drawings.** Submit shop drawings for acceptance
91 before assembling, in accordance with Section 501 - Steel
92 Structures.

93
94 **(3) Welds.** Make welds continuous in accordance with Section
95 501 - Steel Structures.

96 Extend weld metal at transverse joints to sleeve, making
97 sleeve an integral part of joint. Make longitudinal welds by
98 submerged arc process. Grind welds, flush with base material.
99

100 **(4) Zinc-Coating.** Hot-dip zinc-coat exposed surfaces including
101 inner portion of tubular posts and arms after fabrication. Hot-dip
102 zinc-coat upper 10-1/4 inches of anchor bolts. Conform
103 zinc-coating shall to Subsection 501.03(G) - Zinc-Coating.
104

105 **(5) Painting.** Paint ground mounted destination and
106 expressway sign supports and overhead expressway sign posts,
107 crossarms and panel frames at work site after proper preparation of
108 zinc-coated surfaces, in accordance with Subsection 501.03 -
109 Painting. Alternatively, include one prime coat of zinc-dust
110 zinc-oxide primer followed by two coats of dark green enamel paint.
111

112 Conform aluminum sign supports to Subsection 713.14(B) -
113 Aluminum Supports.
114

115 **(6) Miscellaneous Destination Sign Posts.** Furnish and
116 install zinc-coated steel posts, flanged channel posts, or 12 or 14
117 gage square tube posts.
118

119 **(B) Exit Number Panel Mounting.** Submit specifications and shop
120 drawings of exit number panel mounting and support attachments to
121 expressway signs. Submit specifications and shop drawings to Engineer
122 for acceptance before 20 calendar days after notice to proceed date.
123

124 Specify and identify materials used in shop drawings in accordance
125 with ASTM standards. Submit catalog cuts instead of shop drawings
126 when using stock or standard items.
127

128 Relocate or furnish and install exit number panel mounting and
129 support attachments to right or left edge of expressway or destination
130 signs.
131

132 **(C) Destination And Expressway Signs.**
133

134 **(1) Shop Drawings.** Submit shop drawings of destination and
135 expressway signs.
136

137 **(2) Assembly.** Assemble and check panels in shop for
138 straightness, alignment, and dimensions. Correct deviations from
139 contract documents.
140

141 **(3) Installation.** Install sign panels carefully and securely.
142 Replace chipped or bent signs.
143

144 **(D) Splicing of Reflective Sheeting Material.** Do not splice legends
145 when using reflecting material as background for signs with sheet
146 aluminum backing. Make reflecting material one piece whenever the
147 sign dimensions are 4 feet by 6 feet or less.
148

149 **(E) Labeling of Signs.** Label back of each new sign with legible
150 block print, 1-inch high numbers using black permanent felt-tipped marker
151 and the following information:
152

153 (1) Route Number,
154

155 (2) Mile Post (same as existing sign), and
156

157 (3) Date sign installed.
158

159 **(F) Sign Lighting System.** Conform sign lighting systems in
160 accordance with Section 622 - Roadway Lighting System.
161

162 **(G) Refurbishing Sign Panel.** Complete each sign panel within one
163 working day. Exception to this requirement will be contingent upon safety
164 considerations, equipment, and provisions for protection of public and
165 acceptance of the Engineer.
166

167 (1) **Shop Drawings.** Submit shop drawings at least 10 working
168 days before doing work for refurbishing sign panels
169

170 (2) **Overlay Panels.** Refurbish signs with overlay panels.
171 Conform messages, shields, arrows, and borders to the latest
172 edition and amendments of 'Manual on Uniform Traffic Control
173 Devices' (MUTCD), and as specified herein.
174

175 Reflectorize overlay panels of aluminum sheets in
176 accordance with Subsection 712.20 - Signs. Reflectorize
177 messages, arrows, and border with Type III or IV retroreflective
178 sheeting or acrylic plastic reflex reflectors. Reflectorize shield
179 symbol with Type III or IV retroreflective sheeting. Conform
180 aluminum sheet with ASTM B 209 / B 209M, alloy 6061-T6 flat
181 sheet, and make sheet minimum 0.1-inch thick.
182

183 Verify sizes of sign panels and sizes, shape and format of
184 letters, numerals, symbols, and borders before fabrication.
185 Inform Engineer immediately of discrepancies. Correct
186 discrepancies. Submit final design of sign for acceptance before
187 fabrication.
188

189 Fabricate and install overlay panels in accordance with
190 manufacturer's instructions and as specified by Engineer. Submit
191 splices for acceptance before fabrication.

Remove existing letters, numerals, symbols, and borders.
Clean and prepare sign panel for overlaying, as recommended by
panel manufacturer and as accepted by Engineer.

The Contractor may install prefabricated overlay panels with
existing sign panel remaining in place as accepted by Engineer.
Protect and restore damages to public property including vehicles in
accordance with Subsection 107.16 – Protection of Persons and Property.

(H) Removal of Existing Signs. Remove, clean, and store
expressway and destination signs that will not be used in project. The
contract documents will determine which items are for disposal or storage.
The disposed signs will become the property of the Contractor.

**(I) Street Name Sign on Traffic Signal Mast Arm or on Regulatory
Sign.** Install signs on mast arm with brackets.

621A.04 Method of Measurement.

- (1)** The Engineer will measure panel per square foot in accordance
with the contract documents.
- (2)** Route markers and signs will be paid on a lump sum basis.
Measurement for payment will not apply.
- (3)** The Engineer will not measure zinc-coated steel posts, flanged
channel posts and square tube posts.

621A.05 Basis of Payment. The Engineer will pay for the accepted pay
items listed below at the contract price per pay unit, as shown in the proposal
schedule. Payment will be full compensation for the work prescribed in this
section and the contract documents.

The Engineer will pay for each of the following pay items when included in
the proposal schedule:

Pay Item	Pay Unit
Panel for _____	Square Foot

The Engineer will pay for:

- (1)** 80 percent of the contract bid price upon completion of furnishing
and installing a complete sign panel
- (2)** 20 percent of the contract bid price upon completion of labeling the
sign panel.

240
241 Type _____ Route Marker Assembly Lump Sum
242
243 Street Name Sign on Regulatory Sign Lump Sum
244

245 The Engineer will pay:
246

247 (A) Excavation for footing under Section 206 - Structure or Trench
248 Excavation and Backfill.
249

250 (B) Concrete in footings under Section 503 - Concrete Structures.
251

252 (C) Reinforcing steel under Section 602 - Reinforcing Steel.
253

254 The Engineer will not pay for removing, cleaning, storing and/or disposing
255 of expressway and destination signs that will not be used in project. The
256 Engineer will consider the removal, cleaning, storing and/or disposing of existing
257 signs as included in the bid price of the various contract items for traffic control
258 guide signs.
259

260 The Engineer will not pay for zinc-coated steel posts, flanged channel
261 posts and square tube posts. The Engineer will consider the costs for them as
262 included in the bid price of the various contract items for traffic control guide
263 signs.
264

265 The Engineer will pay for the accepted quantities of additional contract
266 items required for alternate design at the contract unit price per pay units, as
267 specified in contract change order. Payment will be full compensation for
268 furnishing all labor, materials, tools, equipment, and incidentals necessary to
269 complete work, including additional labor, materials, tools, equipment, and
270 other incidentals that might become necessary to complete alternate design
271 work."
272
273
274

275 **END OF SECTION 621A**