

1 Amend **Section 613 - Centerline and Reference Survey Monuments** to read
2 as follows:

3
4 **"SECTION 613 - CENTERLINE AND REFERENCE SURVEY MONUMENTS**

5
6 **613.01 Description.** This section describes constructing, adjusting, and
7 reconstructing centerline and reference survey monuments.

8
9 **613.02 Materials.**

10
11 Concrete, Class A 601

12
13 Reinforcing Steel 709.01

14
15 Adhesives for Pavement Markers 712.41

16
17 Structural Steel 713.01

18
19 Use brass plug for marking centerline point. Burr or feather plug for
20 anchorage in concrete.

21
22 Use 2-inch, gage no. 9 concrete nails for pipe sleeve and plate.

23
24 **613.03 Construction Requirements.**

25
26 **(A) Initial Installation.** Cut holes in completed medians and
27 shoulders. Cut holes to required depth, or to solid rock, whichever is
28 less. Fill hole with concrete. Place the 4 #4 x 20-inch bars as shown on
29 the plans when curing the concrete. Install brass plug in required
30 position after concrete has sufficiently set. After curing concrete at least
31 7 days, restore edge of pavement surrounding monument to the original
32 condition.

33
34 **(B) First Pavement Resurfacing Adjustment.** Adjust centerline and
35 reference survey monuments before the paving operations.

36
37 Cover bottom of plate and sleeve assembly with adhesive and
38 press assembly into place over the existing monument.

39
40 Align assembly so that the monument pin is in center of the sleeve.
41 Maintain this alignment and fasten plate to existing concrete by driving
42 concrete nails through predrilled holes. Drive nails until head of each
43 nail is flush with plate. Complete these operations within five minutes of
44 mixing the adhesive.
45

46 **(C) Second and Third Pavement Resurfacing Adjustments.**
47 Adjust centerline and reference survey monuments before paving
48 operations.
49

50 Epoxy contact surfaces between sleeves and weld entire
51 circumference. Fill sleeve with newspaper or similar material to prevent
52 existing monument from being affected by tack coat or paving operations.
53 After laying pavement but before compaction, remove pavement material
54 directly above sleeve, and remove newspaper or similar material from
55 sleeve. After compaction of pavement, clean area enclosed by sleeve
56 so pin and concrete are clearly visible.
57

58 **(D) Reconstruction.** Reference existing monument with cross nails
59 after laying and compacting new pavement. Construct new monument.
60

61 **(E) Reference Survey Data.** Provide the following reference survey
62 data to the Engineer for all new monuments by qualified personnel under
63 the direct supervision of a surveyor licensed in the State of Hawaii with
64 experience in construction surveying of the work:
65

66 (1) Stationing and offset
67

68 (2) Local trig station north-south coordinates.
69

70 The Engineer may check the Contractor's survey work. The
71 Engineer will inform the Contractor of the results of these checks. Such
72 checks shall not relieve the Contractor of its responsibility for the
73 accuracy of the layout work.
74

75 Furnish personnel, engineering equipment and supplies,
76 transportation, and material necessary to complete the survey work.
77

78 **613.04 Method of Measurement.**
79

80 **(A) New Centerline and Reference Survey Monument.** Not
81 applicable.
82

83 **(B) Reconstructing Centerline and Reference Survey Monument.**
84 Not applicable.
85

86 **(C) Adjusting Centerline and Reference Survey Monument.** The
87 Engineer will measure adjusting centerline and reference survey
88 monument per each.
89
90

91 **613.05 Basis of Payment.**

92
93 **(A) New Centerline and Reference Survey Monument.** The
94 Engineer will pay for the accepted new centerline and reference survey
95 monument on a contract lump sum basis. Payment will be full
96 compensation for the work prescribed in this section and the contract
97 documents.

98
99 **(B) Reconstructing Centerline and Reference Survey Monument.**
100 The Engineer will pay for the accepted reconstructing centerline and
101 reference survey monument on a contract lump sum basis. Payment will
102 be full compensation for the work prescribed in this section and the
103 contract documents.

104
105 **(C) Adjusting Centerline and Reference Survey Monument.** The
106 Engineer will pay for the accepted adjusting centerline and reference
107 survey monument at the contract unit price per each. Payment will be full
108 compensation for the work prescribed in this section and the contract
109 documents

110
111 The Engineer will pay for 100% of the contract bid price upon
112 completion of adjusting the centerline and reference survey monument.

113
114 The Engineer will pay for the following pay item when included in the
115 proposal schedule:

116	Pay Item	Pay Unit
117		
118		
119	Centerline and Reference Survey Monuments	Lump Sum
120		
121	Reconstructing Centerline and Reference Survey Monuments	Lump Sum
122		
123	Adjusting Centerline and Reference Survey Monuments	Each"
124		
125		
126		
127		

128 **END OF SECTION 613**