

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
29 on 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
35 and 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 nail
43 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 accuracy
73 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.** New
81 centerline and reference survey monuments will be paid on a lump sum
82 basis. Measurement for payment will not apply.
83

84 **(B) Reconstructing Centerline and Reference Survey Monument.**
85 Reconstructing centerline and reference survey monuments will be paid
86 on a lump sum basis. Measurement for payment will not apply.
87

88 **(C) Adjusting Centerline and Reference Survey Monument.** The
89 Engineer will measure adjusting centerline and reference survey
90 monument per each.
91
92

613.05 Basis of Payment.

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

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

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

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

Pay Item	Pay Unit
Centerline and Reference Survey Monuments	Lump Sum
Reconstructing Centerline and Reference Survey Monuments	Lump Sum
Adjusting Centerline and Reference Survey Monuments	Each

The Engineer will pay for:

(1) 80 percent of the contract bid price upon completion of adjusting the centerline and reference survey monument;

(2) 20 percent of the contract bid price upon completion of providing reference survey data to the Engineer for all new monuments."

END OF SECTION 613