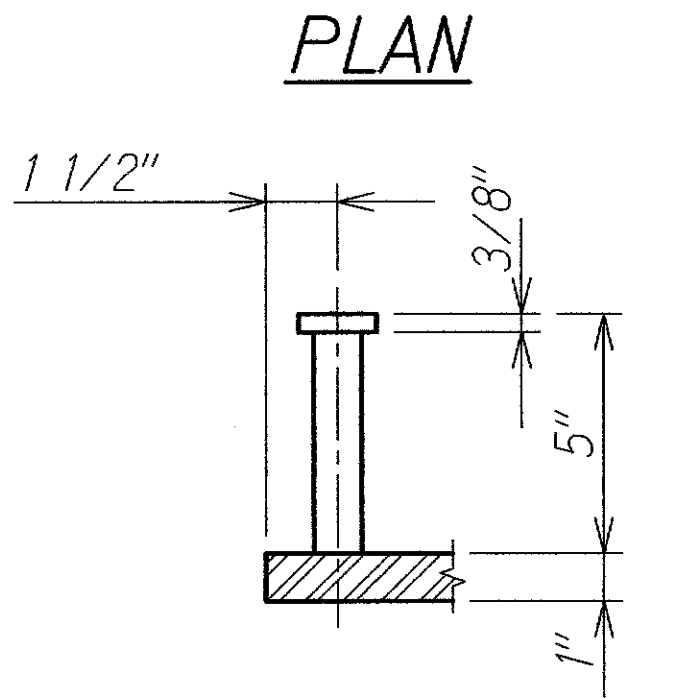
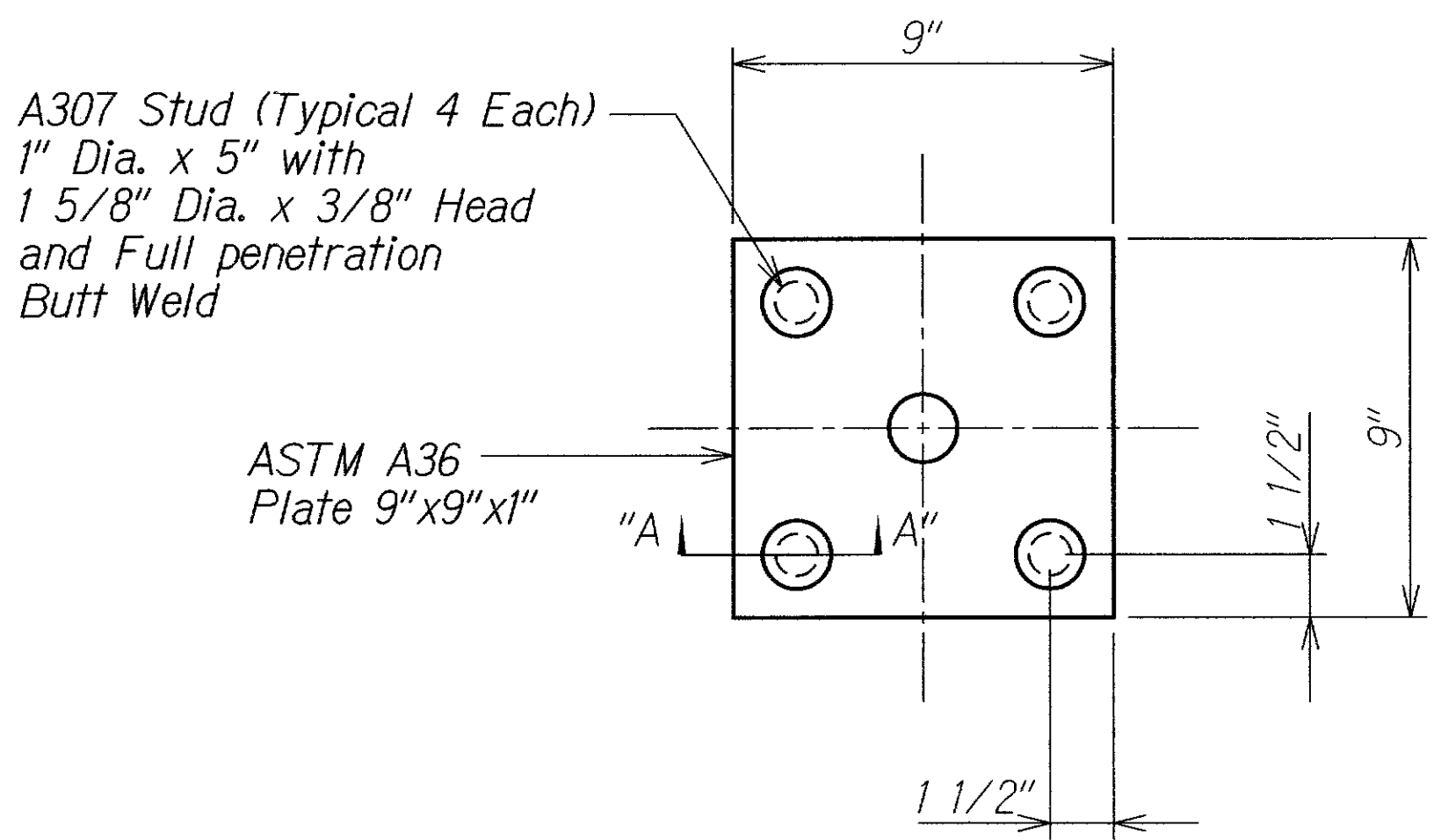


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-16(004)	2012	4	5

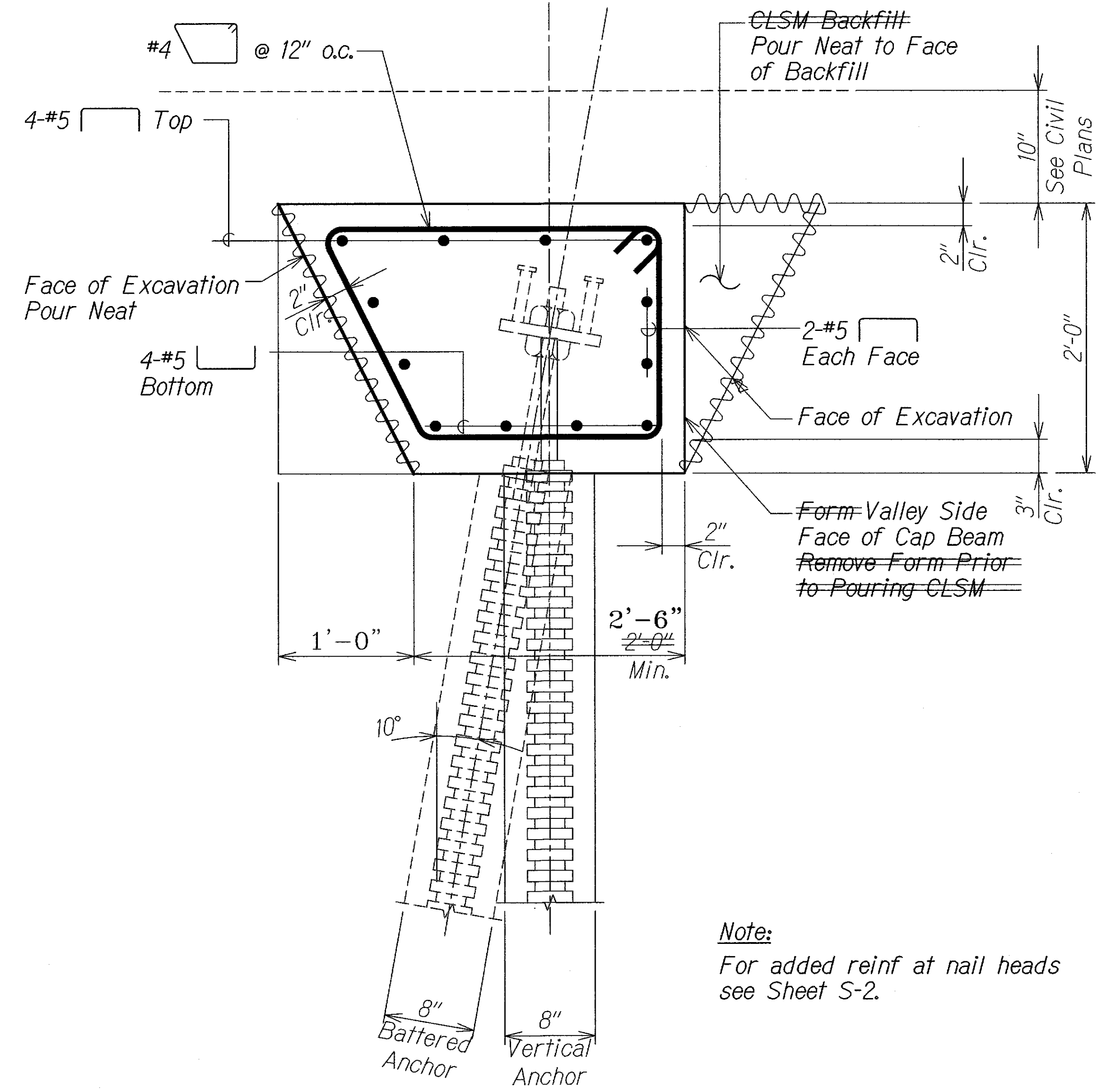
STRUCTURAL NOTES

- General Specifications:** Standard Specifications for Road and Bridge Construction, 2005.
- Design Specifications:**
 - AASHTO 2010 LRFD Bridge Design Specifications (Fifth Edition) and its subsequent interim specifications with interim supplements and modifications by the Highways Division, Department of Transportation, State of Hawaii.
 - HDOT "Design Criteria for Bridges and Structures" dated October 20, 2010.
- Materials:**
 - All concrete strengths shall develop a minimum 28-day Compressive Strength of 4,000 psi and have a maximum 0.45 Water to Cement Ratio.
 - All reinforcing steel shall be ASTM A615 Grade 60 unless otherwise noted.
- Reinforcement:**
 - The minimum covering measured from the surface of the concrete to the face of any reinforcing bars shall be as follows, except as otherwise shown:
 - Concrete poured against earth = 3"
 - All others = 2"
 - Reinforcing bars shall be detailed in accordance with the latest edition of the Design Specification, unless otherwise noted.
 - Minimum clear spacing between parallel bars shall be 1 1/2 times the diameter of bars (for non-bundled bars). In no case shall the clear distance between the bars be less than 1 1/2 times the maximum size of the coarse aggregate or 1 1/2" (except at Approach Slab dowel).
 - All dimensions relating to reinforcing bars are to centers of bars unless otherwise noted.
 - Reinforcing bars shall be securely tied at all intersections and lap splices except where the spacing of intersections is less than one foot in each direction, in which case alternate intersections shall be tied.
- Construction Notes:**
 - Except as otherwise noted, all vertical dimensions are measured plumb.
 - The Contractor shall verify all site conditions and not rely upon these plans for stream location, etc.. Conditions may differ from those shown.
 - The Contractor shall verify the location of all utility lines and notify the respective owners before commencing with excavation, and any temporary piling or sheeting.
 - The Contractor shall be solely responsible for the protection of adjacent properties, utilities and existing and new structures from damage due to construction. Repairing any damage shall be at the Contractor's own expense, to the satisfaction of the Engineer.
 - Bottom of footing or slab excavation shall be thoroughly cleaned of loose material prior to placement of reinforcing steel and concrete.



CONNECTION PLATE WITH STUD DETAIL
Scale: 3" = 1'-0"

NOTE:
All nuts, washers, plates and studs shall be hot dip galvanized after fabrication.



SOIL NAIL VERTICAL/BATTERED ANCHOR CAP BEAM
Scale: 1 1/2" = 1'-0"

Note:
For added reinf at nail heads see Sheet S-2.

LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
SOIL NAIL ANCHOR CAP BEAM AND STRUCTURAL NOTES
KUHIO HIGHWAY (ROUTE 560) EMERGENCY SLOPE STABILIZATION IN HANAIEI AT M.P. 1
Federal Aid Proj. No. ER-16(004)
Scale: As Shown Date: April 2, 2012
SHEET No. S-1 OF 2 SHEETS

"AS-BUILT"