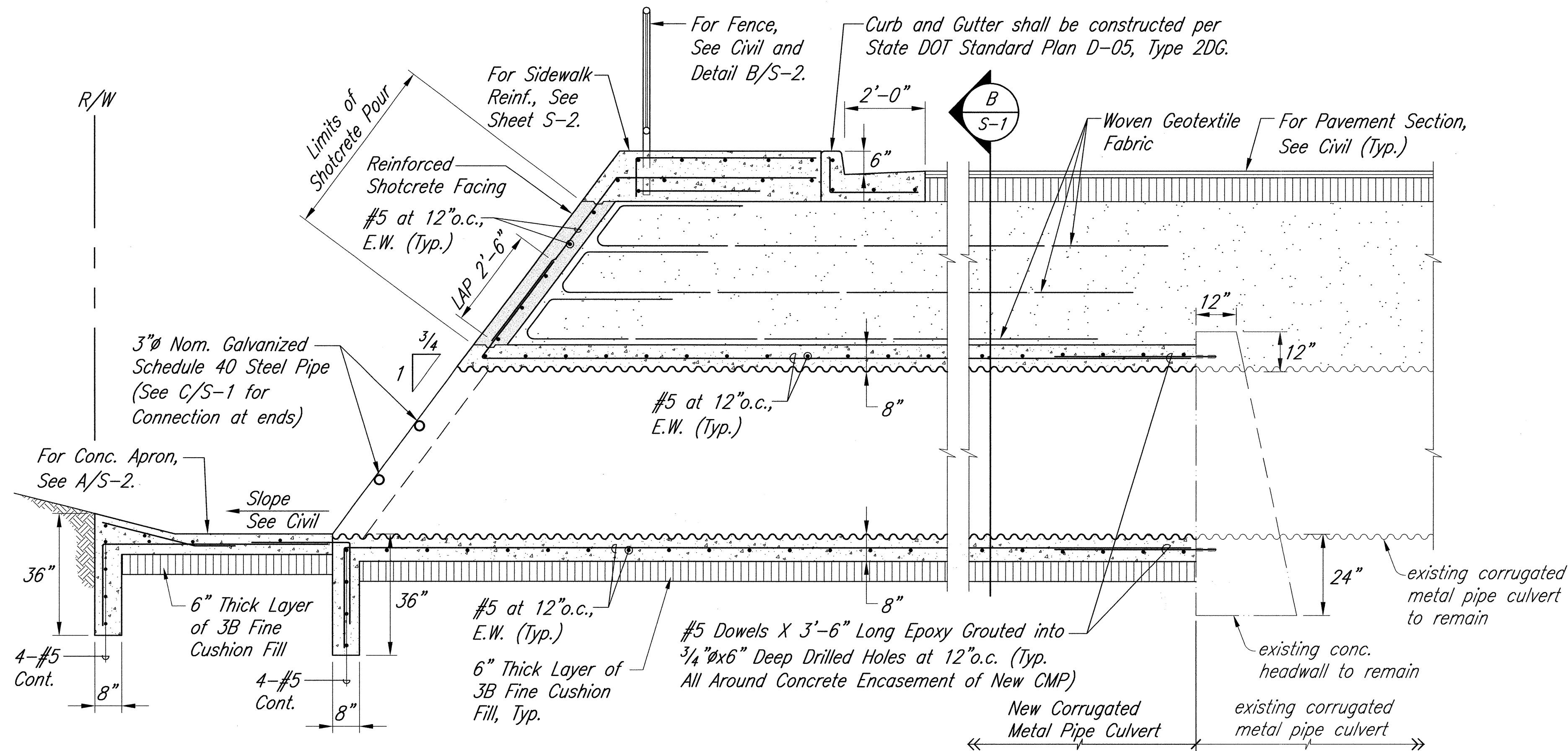
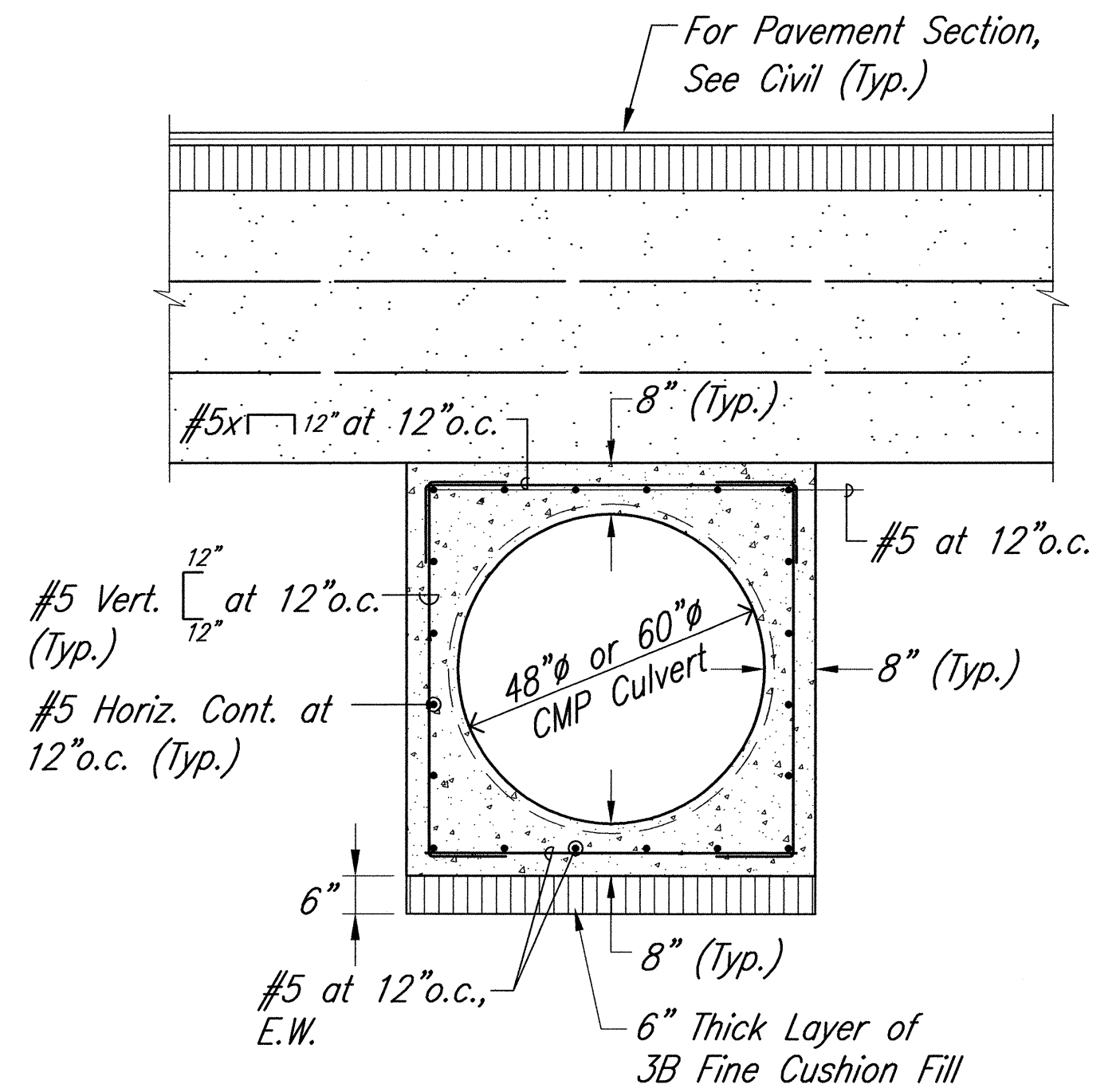


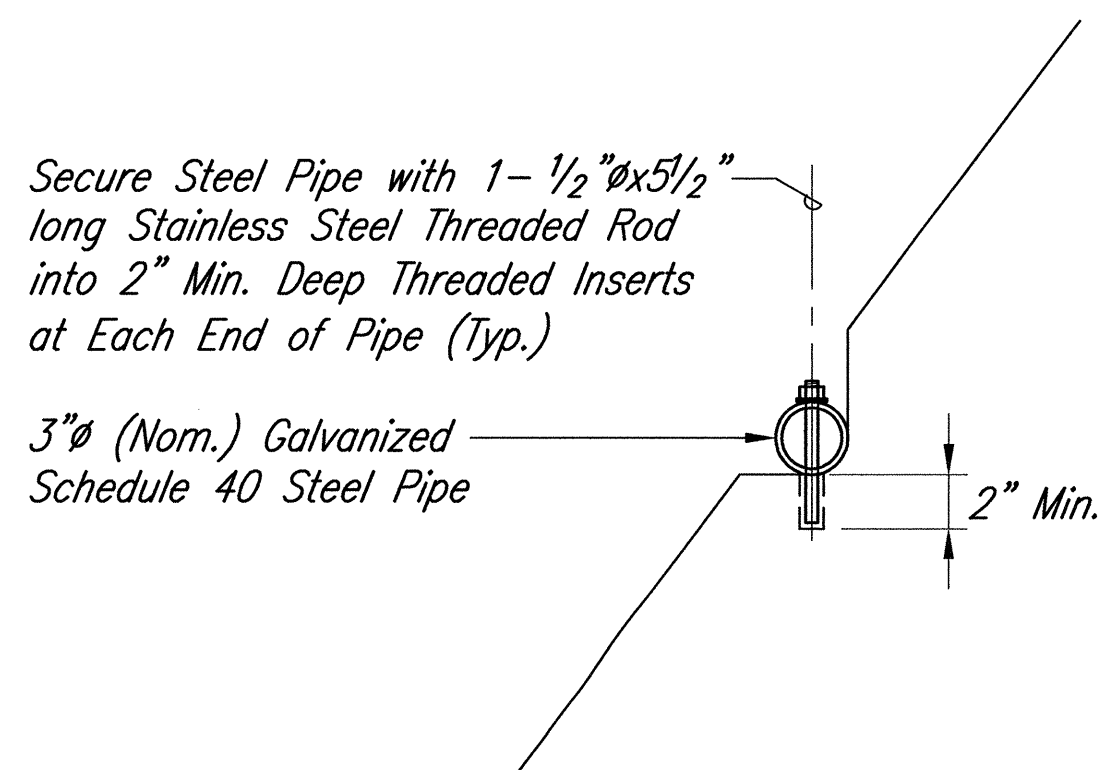
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-0130(031)	2014	79	108



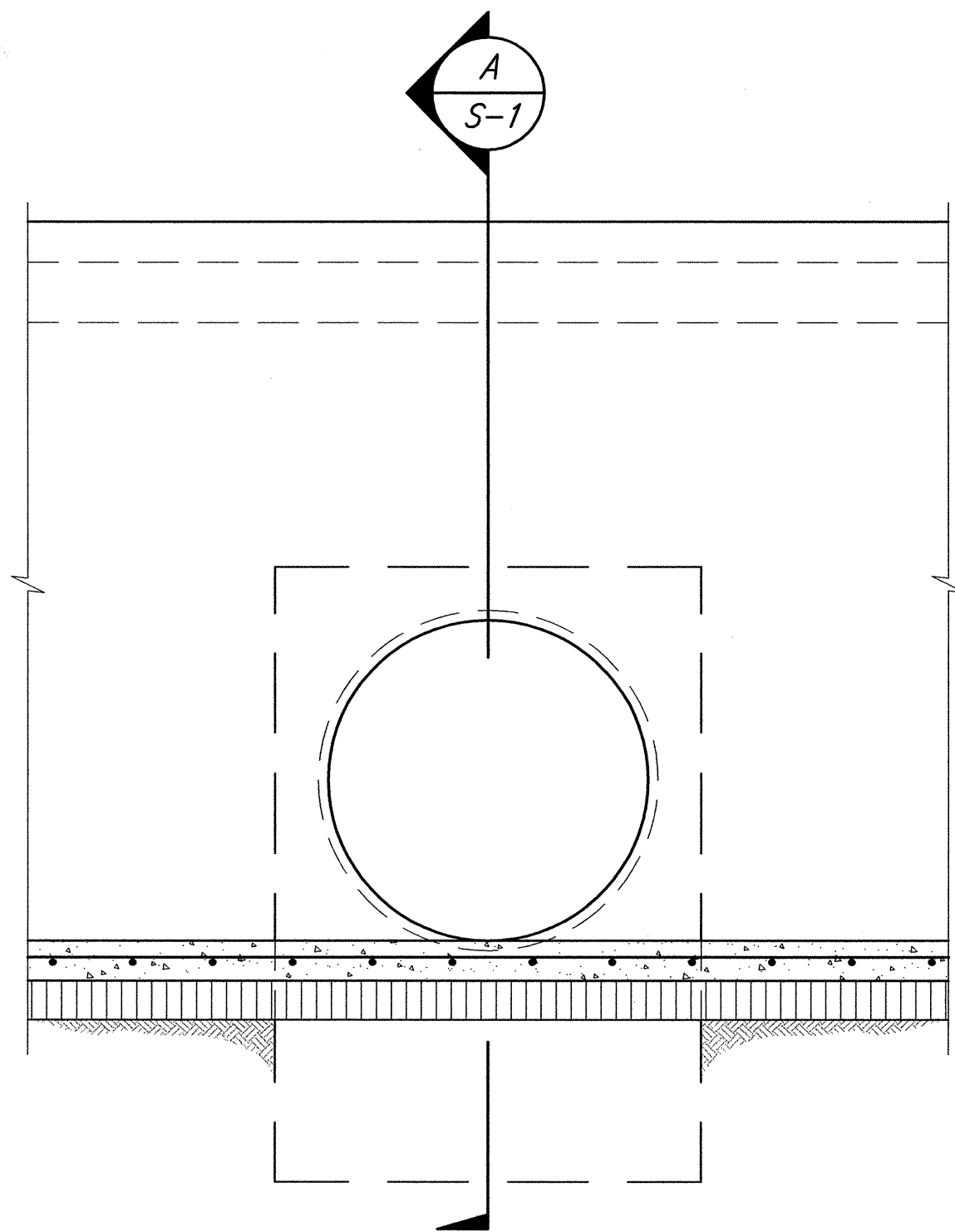
A 48"Ø & 60"Ø CORRUGATED METAL PIPE CULVERT EXTENSION AND HEADWALL SECTION
S-1 SCALE: 1/2" = 1'-0"



B SECTION THRU
CMP CULVERT & CONC. JACKET
S-1 SCALE: 1/2" = 1'-0"

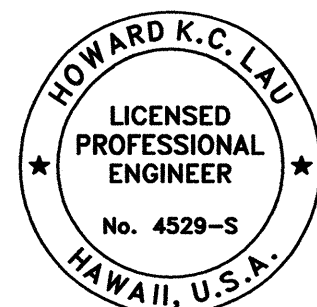


C END OF PIPE
FASTENING DETAIL
S-1 SCALE: 1 1/2" = 1'-0"



D HEADWALL ELEVATION DETAIL
S-1 SCALE: 1/2" = 1'-0"

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	



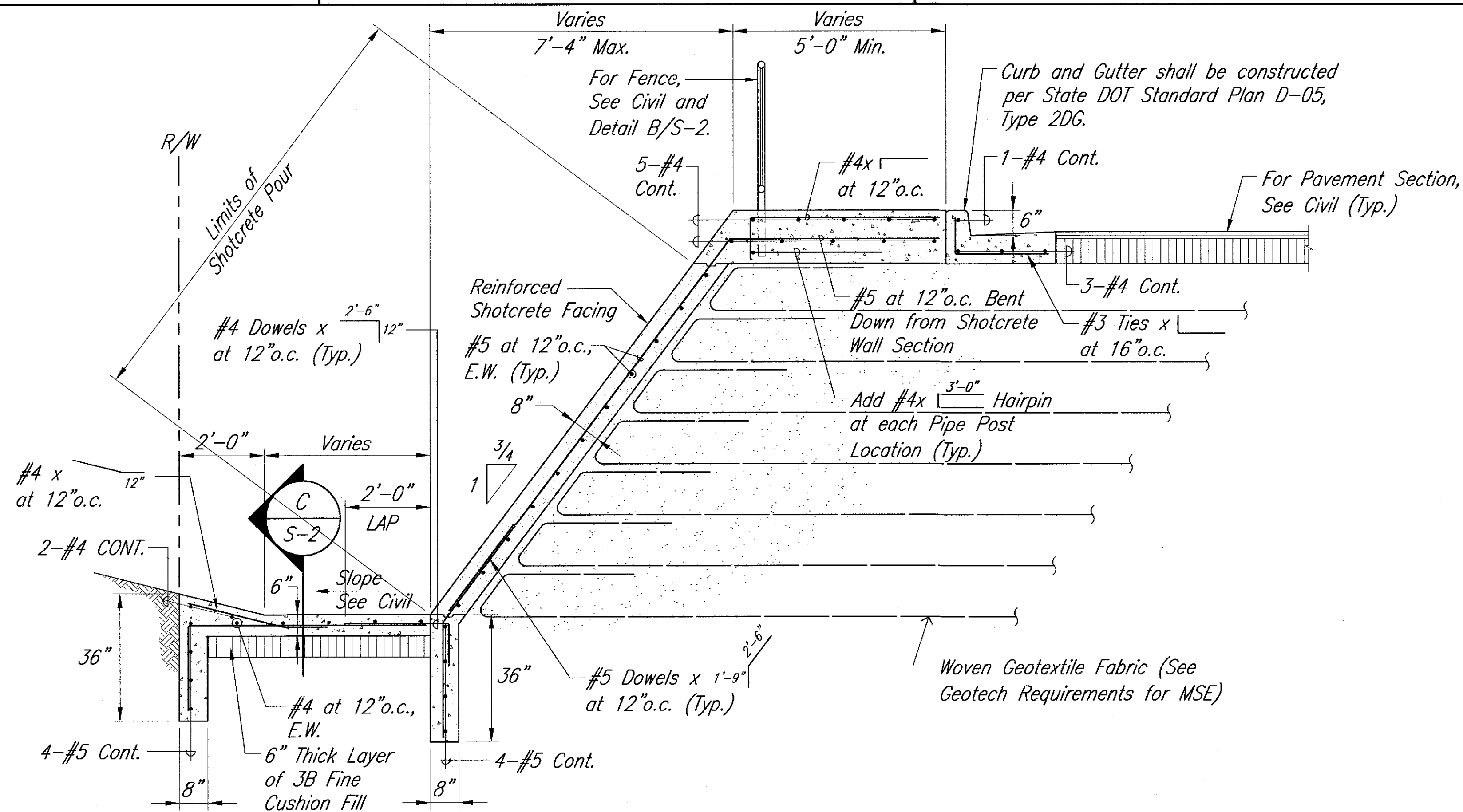
LICENSE EXPIRES 4/30/14
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

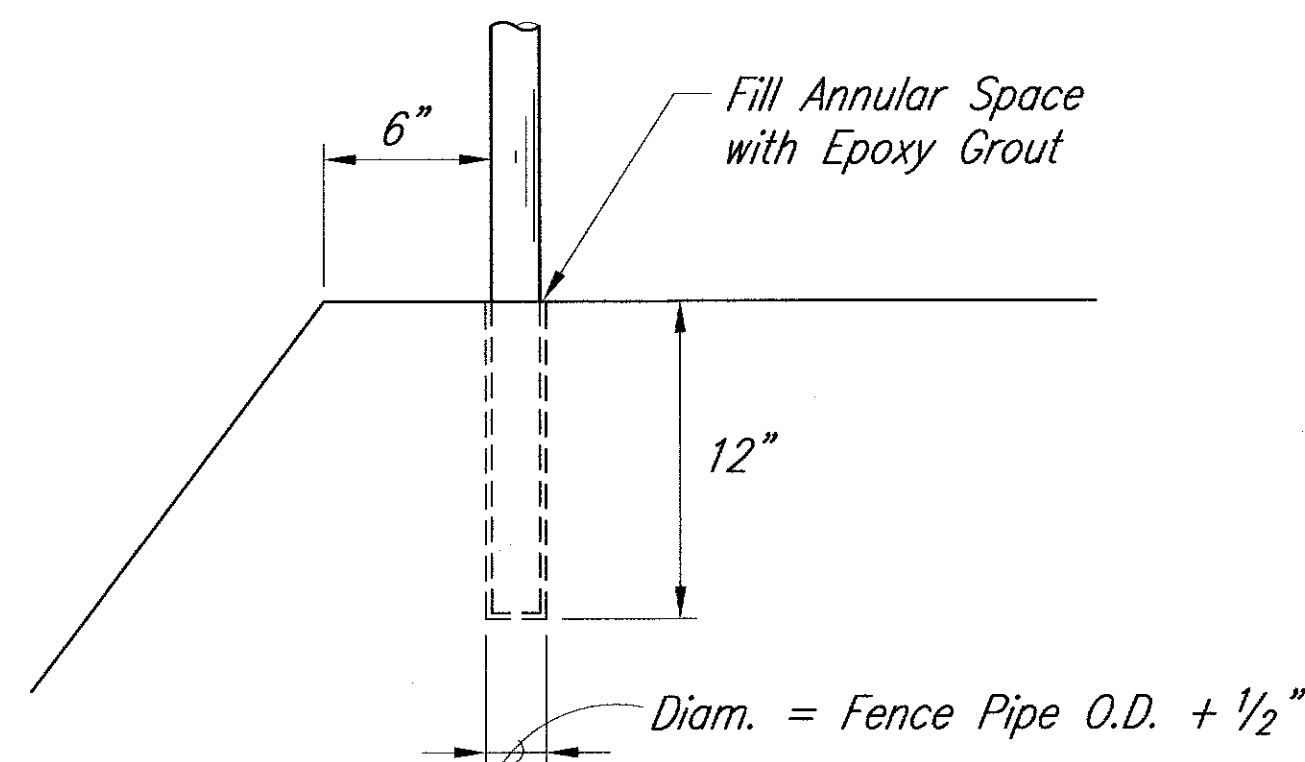
**Culvert Extension, Headwall and
Lightpole Foundation Details**

Keaau-Pahoa Road Intersection
Improvements at Old Government Road
Federal-Aid Project No. HSIP-0130(031)
Scale: As Noted Date: August 2013

SHEET No. 9-1 OF 2 SHEETS



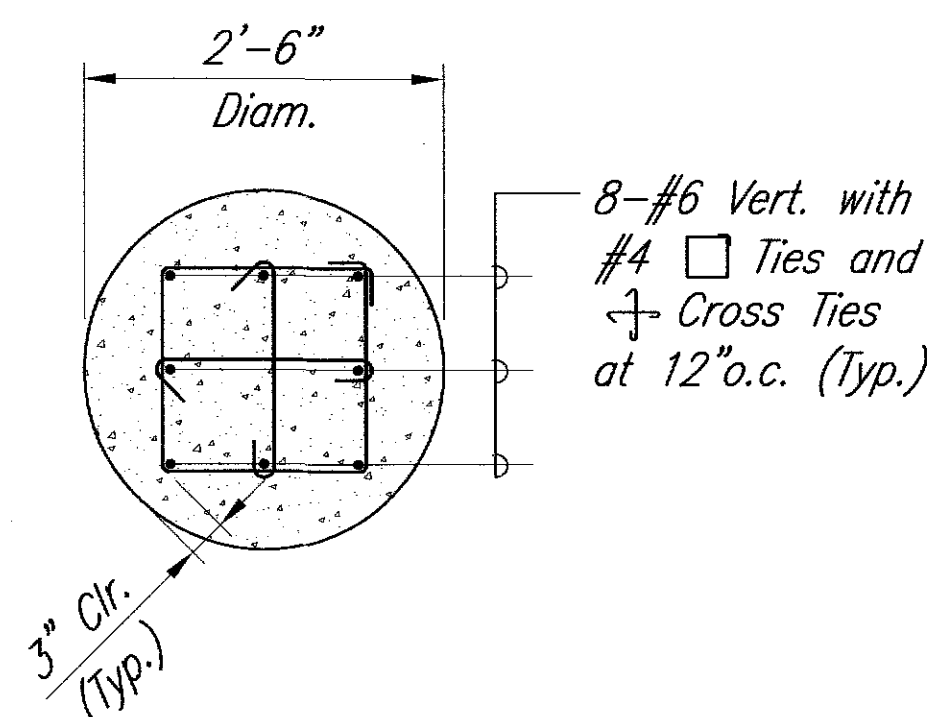
A **TYPICAL SECTION**
S-2 SCALE: 1/2" = 1'-0"



B **FENCE POST DETAIL**
S-2 NOT TO SCALE

FOUNDATION NOTES:

- At Contractor's option a 2'-6" square cast-in-place or precast foundation may be substituted in lieu of the 2'-6" diameter round augered concrete foundation. However, either CLSM or properly compacted granular structural backfill shall be placed in the annular space between the excavation and the concrete foundation. Only CLSM will be allowed at the shallower embedded footings that will be socketed into the basalt subgrade material. Either material will be allowed in the compacted fill areas.
- All concrete used for foundation shall have a minimum 28-day compressive strength of 4,500 psi.
- If foundations are precast, manufacturer and materials supplier shall provide all work in compliance with the most current edition of the Hawaii Standard Specifications for Road, Bridge and Public Works Construction and, where applicable, the National Precast Concrete Association.
- Each foundation shall not be handled or transported until at least 80% of the 28-day compressive strength has been reached.
- Each foundation shall not be installed until the 28-day compressive strength has been reached.



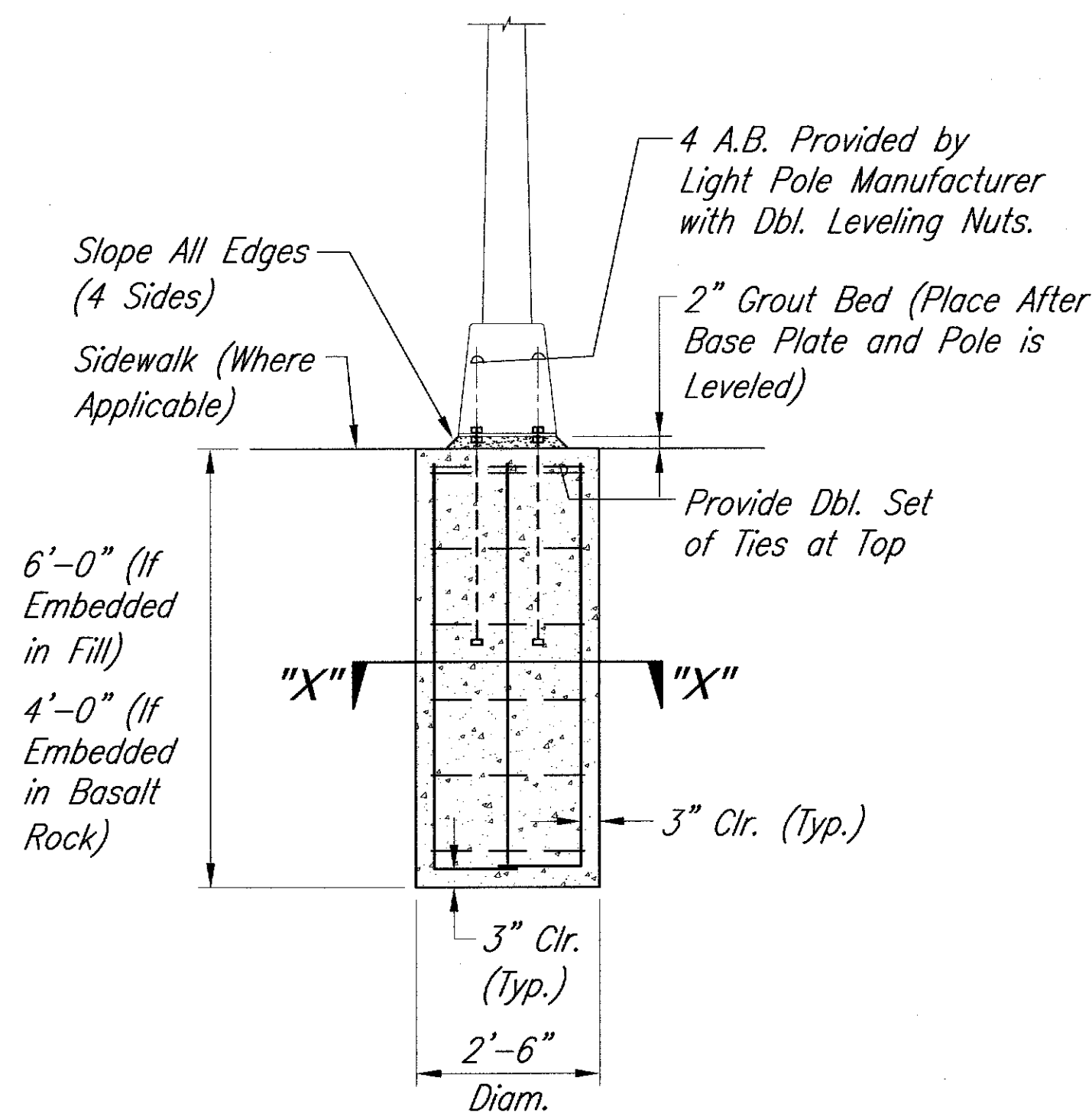
SECTION "X"-"X"
SCALE: 3/4" = 1'-0"

LEGEND FOR AS-BUILT POSTINGS

~~~~~ Squiggly line for as-built deletion

==== Double line for as-built deletion

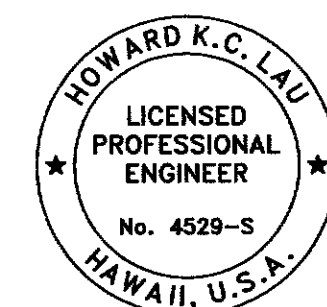
Roadway Text for as-built posting



**C** **STREET LIGHT POLE FOUNDATION DETAIL**  
S-2 SCALE: 1/2" = 1'-0"

| Light Pole I.D. No. | Roadway           | Station No.       | Embedment Material *  | Drilled Shaft Length (feet)* |
|---------------------|-------------------|-------------------|-----------------------|------------------------------|
| P1                  | Keaau-Pahoa       | 13+20R            | Basalt Rock           | 4                            |
| P2                  | Keaau-Pahoa       | <del>14+50R</del> | Basalt Rock           | 4                            |
| P3                  | Keaau-Pahoa       | 15+80R            | <del>14+45</del> Fill | 6                            |
| P4                  | Old Government Rd | 0+80R             | Fill                  | 6                            |
| P5                  | Old Government Rd | 1+95L             | Basalt Rock           | 4                            |
| P6                  | Old Government Rd | 1+10L             | Basalt Rock           | 4                            |
| P7                  | Keaau-Pahoa       | 17+90R            | Basalt Rock           | 4                            |
| P8                  | Keaau-Pahoa       | 19+70R            | Basalt Rock           | 4                            |
| P9                  | Keaau-Pahoa       | 13+90L            | Basalt Rock           | 4                            |
| P10                 | Keaau-Pahoa       | 15+50L            | Basalt Rock           | 4                            |
| P11                 | Keaau-Pahoa       | <del>16+50L</del> | <del>16+32</del> Fill | 6                            |
| P12                 | Keaau-Pahoa       | 17+70L            | Fill                  | 6                            |
| P13                 | Keaau-Pahoa       | 18+30L            | Fill                  | 6                            |
| P14                 | Keaau-Pahoa       | 20+10L            | Fill                  | 6                            |

\*Note: Embedment Material and Lengths of Shafts will still need to be verified in the field. Should differing Material be encountered, Drilled Shaft Lengths may need to be adjusted per direction from the Geotechnical Engineer.



LICENSE EXPIRES 4/30/17  
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**Typical Section**

Keaau-Pahoa Road Intersection  
Improvements at Old Government Road  
Federal-Aid Project No. HSIP-0130(031)

Scale: As Noted Date: August 2013

SHEET No. S-2 OF 2 SHEETS

"AS-BUILT"

80