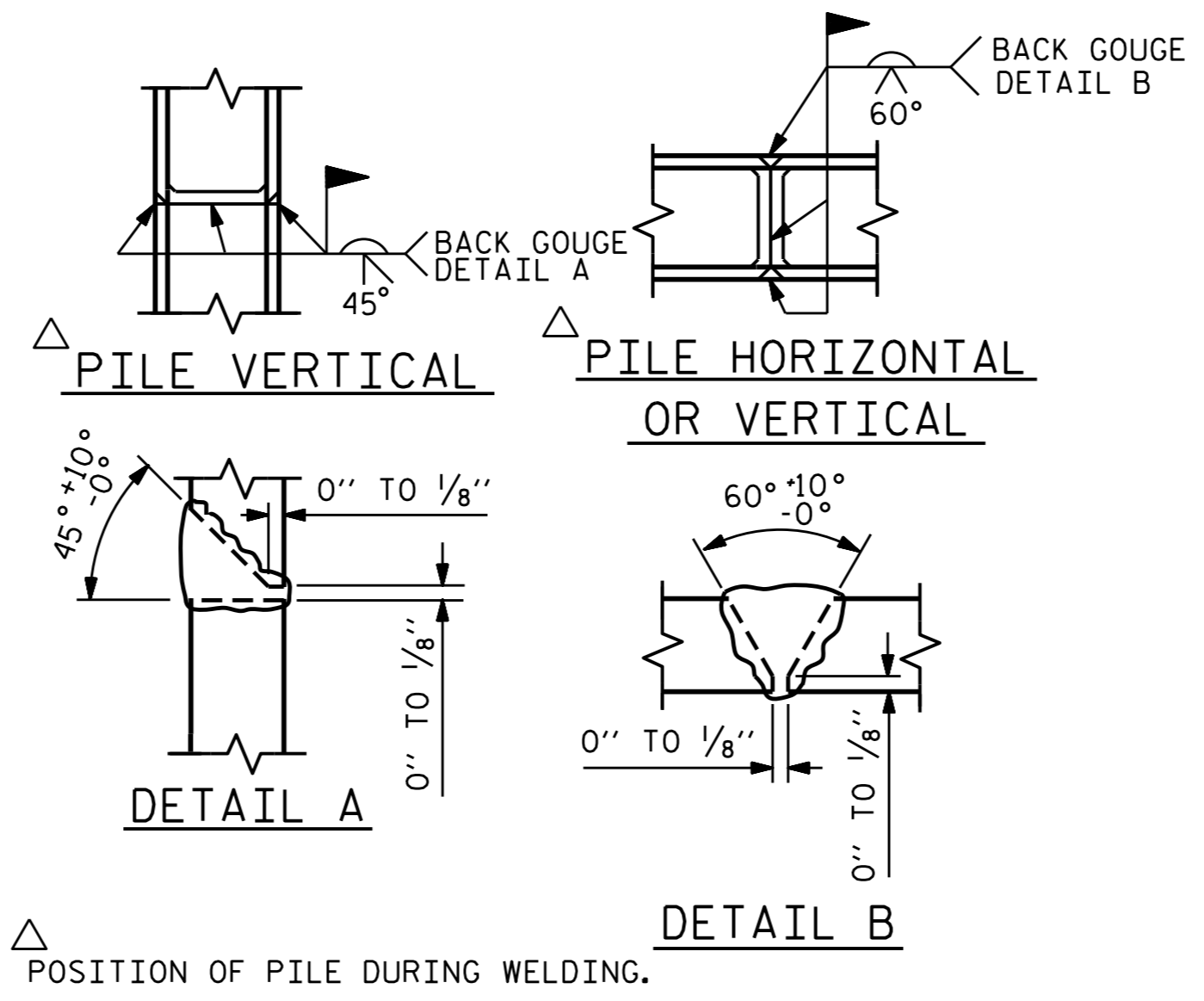


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR EFFECTIVENESS.

NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

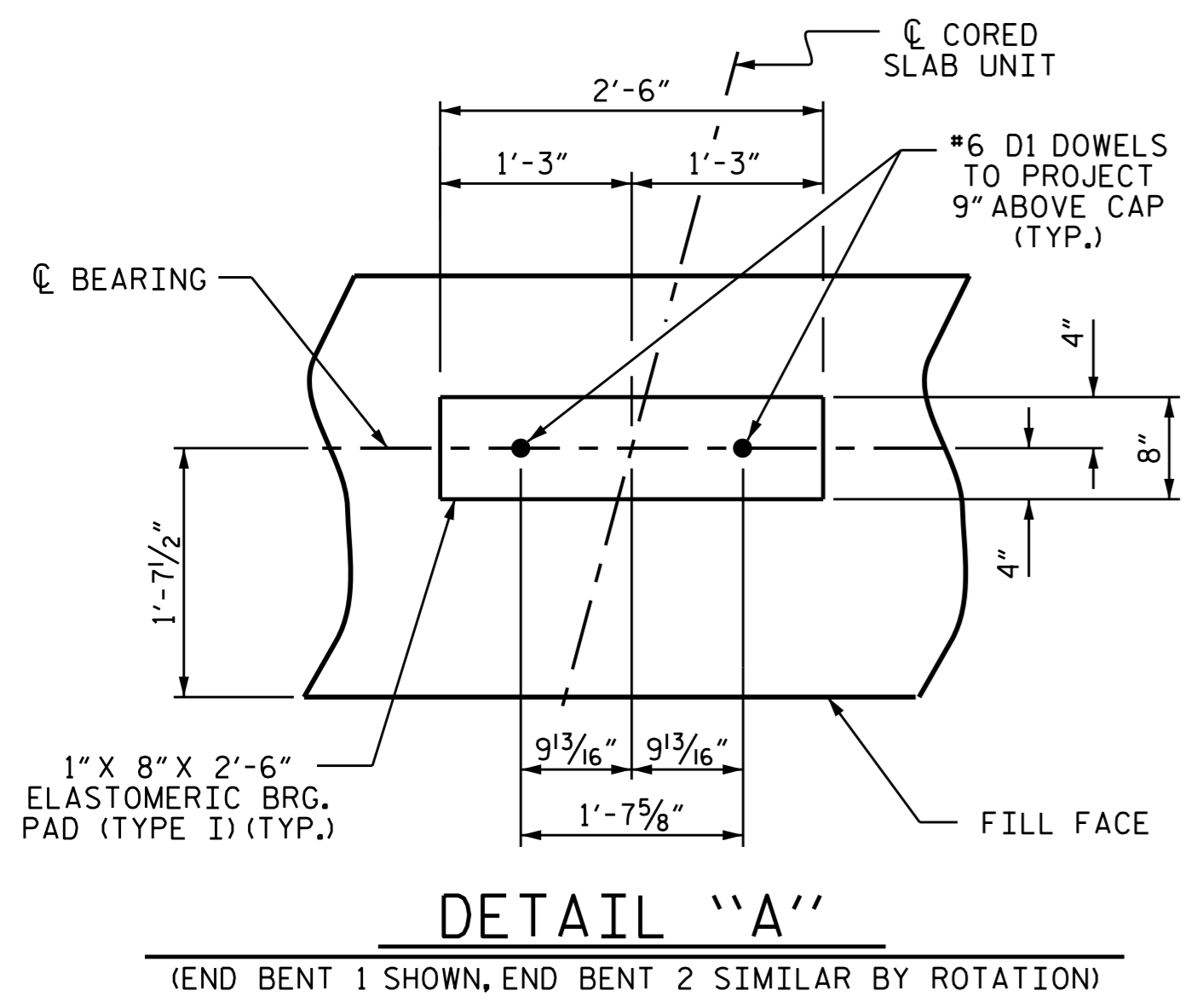
**TEMPORARY DRAINAGE AT END BENT**



**PILE SPLICE DETAILS**

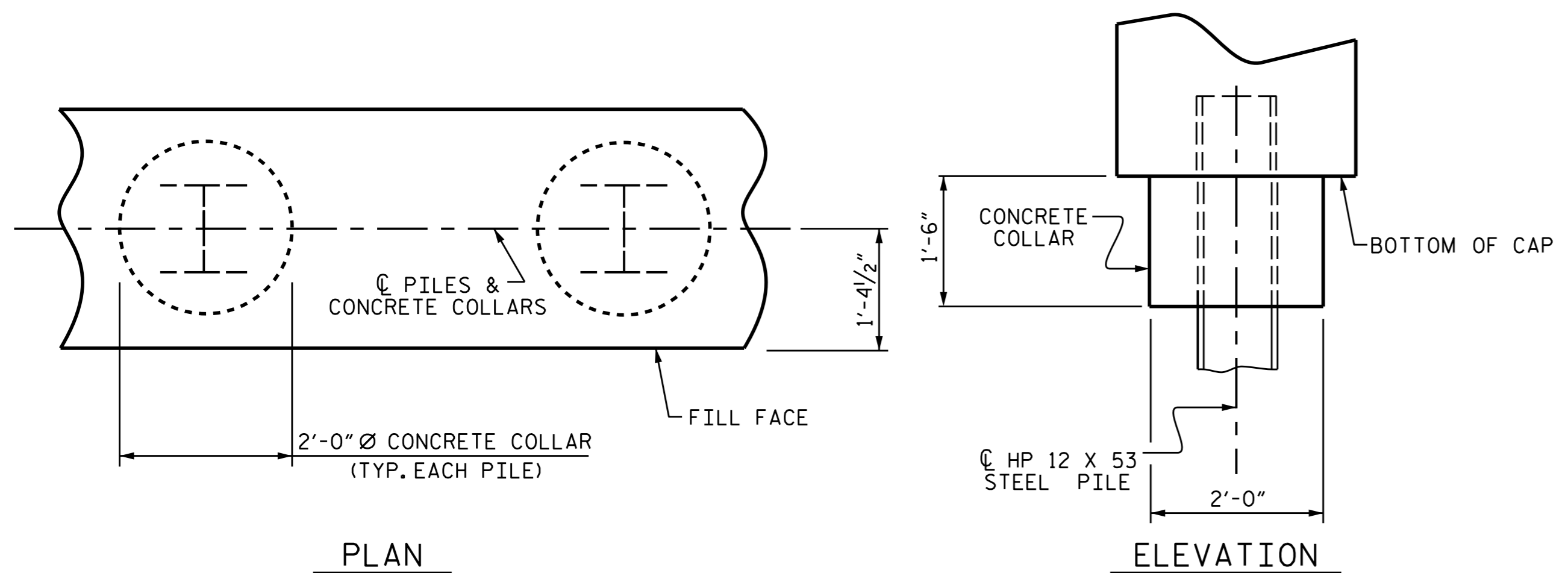
| BAR TYPES |                           | END BENT 1              |               | END BENT 2                  |               |
|-----------|---------------------------|-------------------------|---------------|-----------------------------|---------------|
| ①         | HK. 1'-3" 43'-1" 1'-3"    | HP 12 X 53 STEEL PILES  | NO: 7         | HP 12 X 53 STEEL PILES      | NO: 7         |
| ②         | 2/16" 8'-5" 8'-7"         | LIN. FT. = 90           |               | LIN. FT. = 140              |               |
| ③         | 2/16" 8'-10" 8'-8"        | PILE EXCAVATION IN SOIL | LIN. FT. = 51 | PILE EXCAVATION NOT IN SOIL | LIN. FT. = 19 |
| ④         | 4 1/2" 2'-5" 4 1/2" 2'-5" |                         |               | STEEL PILE POINTS           | EA. = 7       |
| ⑤         | HK. 1'-8" Ø               |                         |               |                             |               |
| ⑥         | 1'-3" LAP                 |                         |               |                             |               |

| BILL OF MATERIAL                           |     |      |      |         |           |
|--|-----|------|------|---------|-----------|
| FOR ONE END BENT (2 REQ'D)                 |     |      |      |         |           |
| BAR  | NO. | SIZE | TYPE | LENGTH  | WEIGHT    |
| B1   | 8   | #9   | 1    | 45'-7"  | 1240      |
| B2   | 28  | #4   | STR  | 22'-10" | 427       |
| B3   | 11  | #4   | STR  | 2'-5"   | 18        |
| D1   | 24  | #6   | STR  | 1'-6"   | 54        |
| H1   | 10  | #4   | 2    | 9'-1"   | 61        |
| H2   | 10  | #4   | 2    | 9'-3"   | 62        |
| H3   | 10  | #4   | 3    | 9'-6"   | 63        |
| H4   | 10  | #4   | 3    | 9'-4"   | 62        |
| K1   | 16  | #4   | STR  | 4'-4"   | 46        |
| S1   | 58  | #4   | 4    | 10'-5"  | 404       |
| S2   | 58  | #4   | 5    | 3'-2"   | 123       |
| S3   | 28  | #4   | 6    | 6'-6"   | 122       |
| V1   | 53  | #4   | STR  | 6'-2"   | 218       |
| REINFORCING STEEL                          |     |      |      |         | 2900 LBS. |
| CLASS A CONCRETE BREAKDOWN                 |     |      |      |         |           |
| POUR #1 CAP, LOWER PART OF WINGS & COLLARS |     |      |      |         | 21.3 C.Y. |
| POUR #2 UPPER PART OF WINGS                |     |      |      |         | 2.4 C.Y.  |
| TOTAL CLASS A CONCRETE                     |     |      |      |         | 23.7 C.Y. |



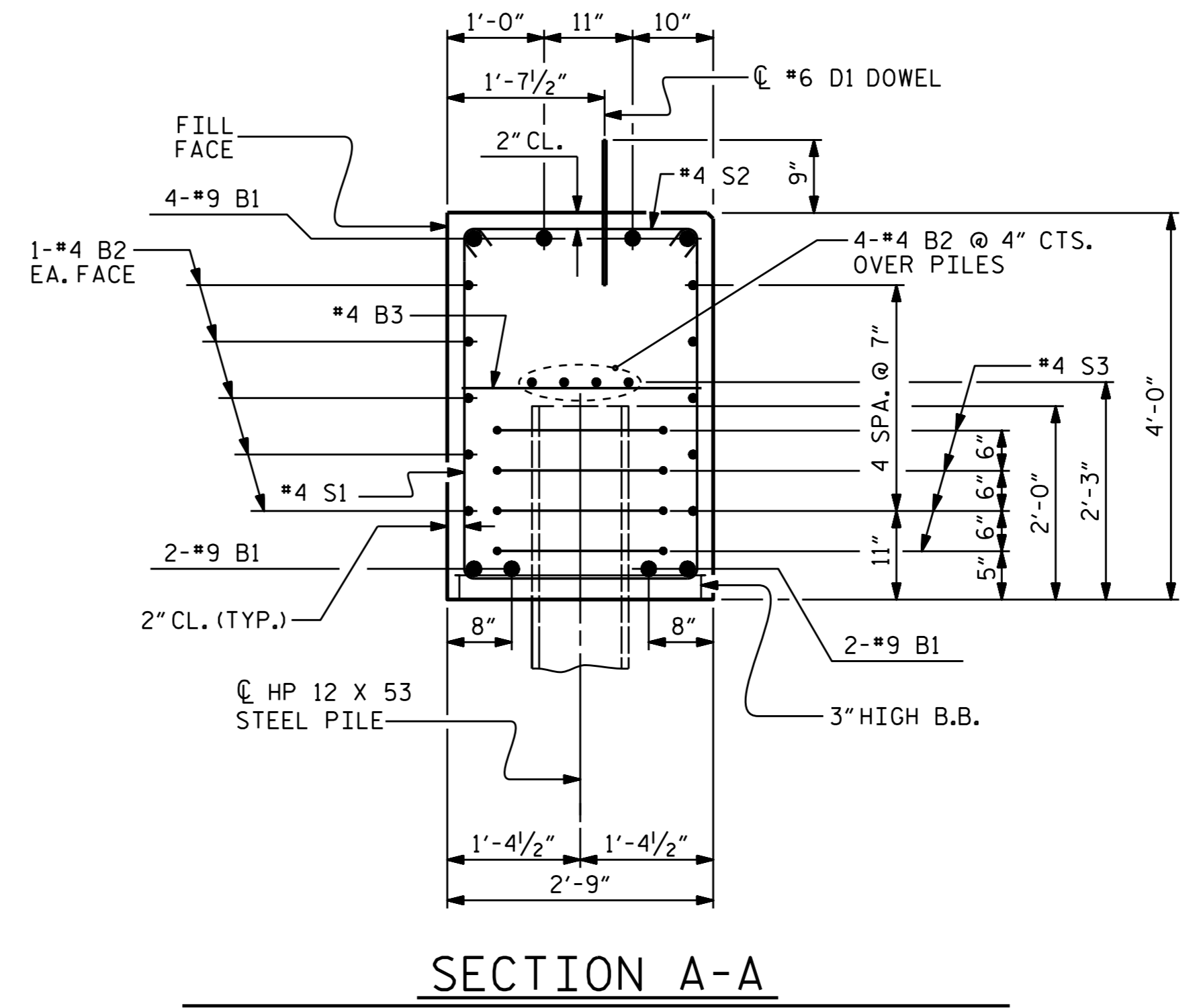
**DETAIL "A"**

(END BENT 1 SHOWN, END BENT 2 SIMILAR BY ROTATION)



**CORROSION PROTECTION FOR STEEL PILES DETAIL**

(END BENT 1 SHOWN, END BENT 2 SIMILAR BY ROTATION)



**SECTION A-A**

(CONCRETE COLLAR NOT SHOWN FOR CLARITY. SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL.")



PROJECT NO. B-4959  
 GUILFORD COUNTY  
 STATION: 14+70.50 -L-  
 SHEET 4 OF 4

| STATE OF NORTH CAROLINA<br>DEPARTMENT OF TRANSPORTATION<br>RALEIGH |     |       |     |     |       |
|--|-----|-------|-----|-----|-------|
| SUBSTRUCTURE   |     |       |     |     |       |
| END BENTS 1 & 2<br>DETAILS   |     |       |     |     |       |
| REVISIONS  |     |       |     |     |       |
| NO.  | BY: | DATE: | NO. | BY: | DATE: |
| 1  |     |       | 3   |     |       |
| 2  |     |       | 4   |     |       |

|                            |                |
|----------------------------|----------------|
| ASSEMBLED BY : C. YOKELEY  | DATE : 2/10/14 |
| CHECKED BY : T. KIRSCHBAUM | DATE : 3/3/14  |
| DRAWN BY : WJH 12/11       |                |
| CHECKED BY : AAC 12/11     |                |