

SECTION A-A

SECTION B-B

**GALVANIZED REINFORCING STRAP NOTES**

GALVANIZED REINFORCING STRAPS SHALL BE ATTACHED TO THE END BENT BACKWALL. FOR DESIGN CRITERIA AND DETAILS, SEE "GALVANIZED REINFORCING STRAP" SPECIAL PROVISIONS.

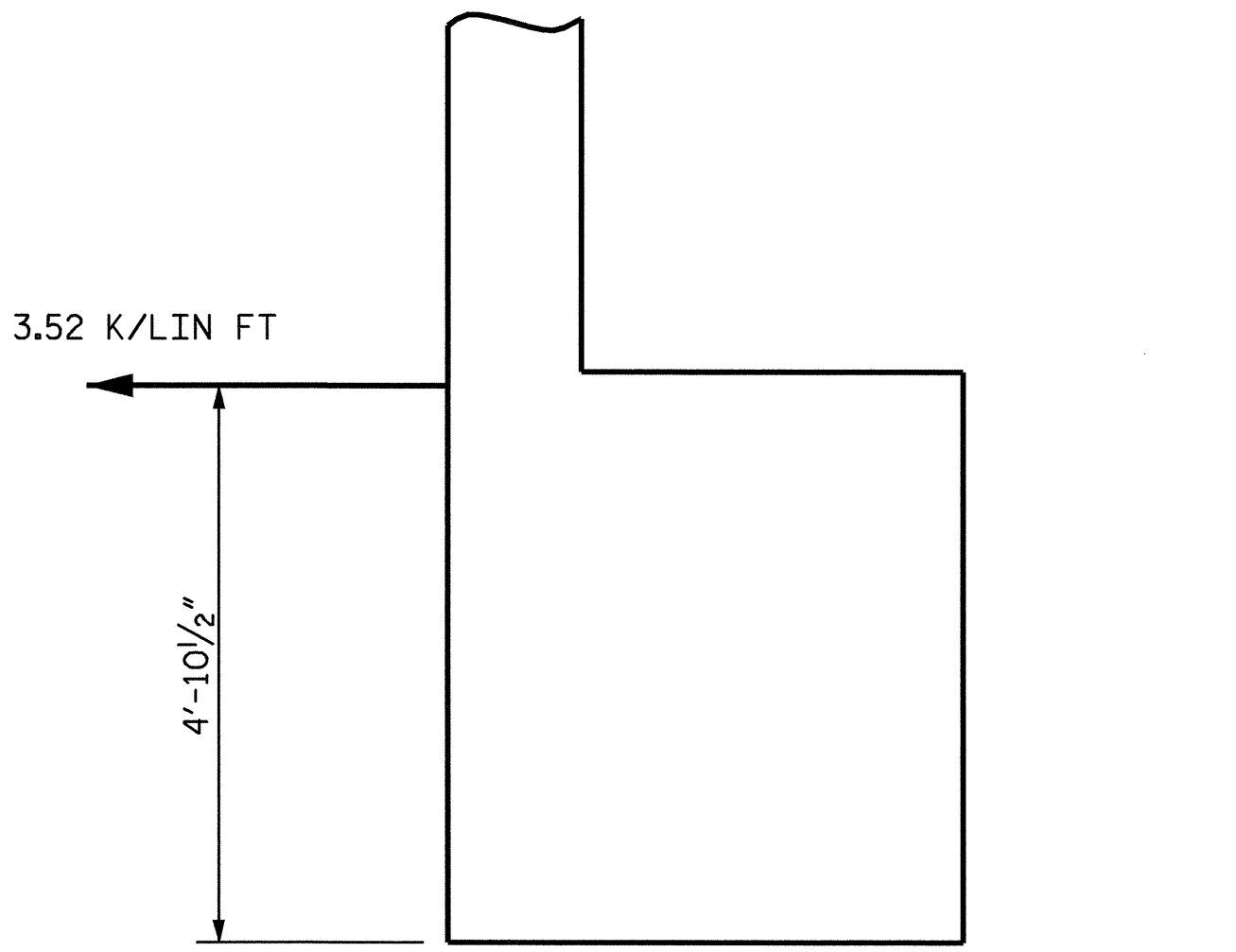
PLANS, WORKING DRAWINGS, AND DESIGN CALCULATIONS SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER FOR REVIEW AND APPROVAL. SEE SPECIAL PROVISIONS.

PLANS SUBMITTED FOR REVIEW SHALL INCLUDE THE FOLLOWING: PLAN VIEW, ELEVATION VIEW, TYPICAL SECTIONS, AND STRAP DETAILS.

THE GALVANIZED REINFORCING STRAPS SHALL BE DESIGNED WITH THE FOLLOWING SOIL PARAMETERS:

- FRICTION ANGLE = 34 DEGREES
- COHESION c = 0.0
- UNIT WEIGHT OF SOIL = 110 PCF

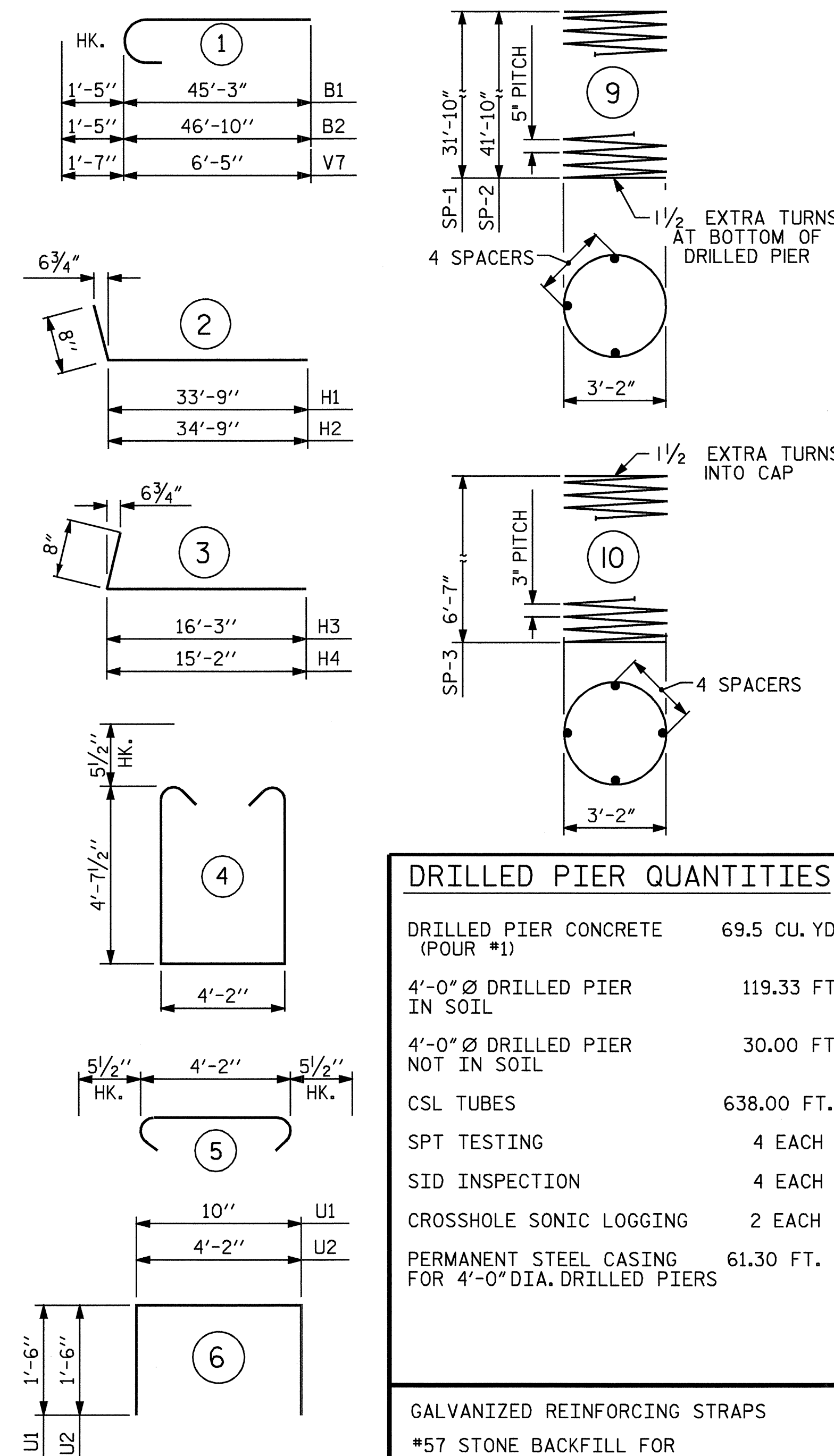
FOR CONFLICTS WITH PILES IN THE END BENT WINGS, SEE PLAN VIEW AND FOUNDATION LAYOUT SHEETS.



GALVANIZED REINFORCING STRAP LOAD DETAIL

DRAWN BY: R. L. CHESSON DATE: 2004 AUG  
 CHECKED BY: S. H. SOCKWELL DATE: 9/04

**BAR TYPES**



**DRILLED PIER QUANTITIES**

|   |              |
|---|--------------|
| DRILLED PIER CONCRETE (POUR #1)                     | 69.5 CU. YD. |
| 4'-0" Ø DRILLED PIER IN SOIL                        | 119.33 FT.   |
| 4'-0" Ø DRILLED PIER NOT IN SOIL                    | 30.00 FT.    |
| CSL TUBES   | 638.00 FT.   |
| SPT TESTING   | 4 EACH       |
| SID INSPECTION                                      | 4 EACH       |
| CROSSHOLE SONIC LOGGING                             | 2 EACH       |
| PERMANENT STEEL CASING FOR 4'-0" DIA. DRILLED PIERS | 61.30 FT.    |

**BILL OF MATERIAL**

| BAR NO. | SIZE | TYPE | LENGTH | WEIGHT  |        |
|---------|------|------|--------|---------|--------|
| B1      | 14   | 10   | 1      | 46'-8"  | 2,811  |
| B2      | 14   | 10   | 1      | 48'-3"  | 2,907  |
| B3      | 14   | 4    | STR.   | 28'-10" | 270    |
| B4      | 24   | 4    | STR.   | 29'-3"  | 469    |
| B5      | 21   | 4    | STR.   | 2'-8"   | 37     |
| H1      | 15   | 7    | 2      | 34'-5"  | 1,055  |
| H2      | 15   | 7    | 2      | 35'-5"  | 1,086  |
| H3      | 15   | 7    | 3      | 16'-11" | 519    |
| H4      | 15   | 7    | 3      | 15'-10" | 485    |
| K1      | 48   | 4    | STR.   | 29'-4"  | 941    |
| K2      | 8    | 4    | STR.   | 4'-9"   | 25     |
| M1      | 40   | 11   | STR.   | 38'-4"  | 8,147  |
| M2      | 40   | 11   | STR.   | 48'-4"  | 10,272 |
| S1      | 60   | 5    | 4      | 14'-4"  | 897    |
| S2      | 60   | 5    | 5      | 5'-1"   | 318    |
| S3      | 6    | 6    | 7      | 3'-9"   | 34     |
| S4      | 2    | 6    | 8      | 8'-11"  | 27     |
| U1      | 71   | 4    | 6      | 3'-10"  | 182    |
| U2      | 46   | 4    | 6      | 7'-2"   | 220    |
| V1      | 142  | 5    | STR.   | 11'-6"  | 1,703  |
| V2      | 22   | 5    | STR.   | 13'-1"  | 300    |
| V3      | 32   | 5    | STR.   | 13'-3"  | 442    |
| V4      | 22   | 5    | STR.   | 13'-5"  | 308    |
| V5      | 16   | 5    | STR.   | 12'-6"  | 209    |
| V6      | 21   | 5    | STR.   | 12'-8"  | 277    |
| V7      | 80   | 11   | 1      | 8'-0"   | 3,400  |

TOTAL REINFORCING STEEL (LBS) 37,341

| BAR NO. | SIZE | TYPE | LENGTH | WEIGHT   |       |
|---------|------|------|--------|----------|-------|
| SP-1    | 2    | **   | 9      | 763'-11" | 1,594 |
| SP-2    | 2    | **   | 9      | 999'-0"  | 2,084 |
| SP-3    | 4    | ***  | 10     | 275'-0"  | 735   |

TOTAL SPIRAL REINFORCING STEEL (LBS) 4,413

| CLASS "A" CONCRETE              |              |                |
|---------------------------------|--------------|----------------|
| POUR #2                         | 11.8         | CU. YD.        |
| POUR #3                         | 85.3         | CU. YD.        |
| POUR #4                         | 38.7         | CU. YD.        |
| <b>TOTAL CLASS "A" CONCRETE</b> | <b>135.8</b> | <b>CU. YD.</b> |

TOTAL HP 12 X 53 PILES NO. 2 LIN. FT. 80

|  |              |
|--|--------------|
| GALVANIZED REINFORCING STRAPS                        | 1200 LIN. FT |
| #57 STONE BACKFILL FOR GALVANIZED REINFORCING STRAPS | 625 CU. YD   |

PROJECT NO. R-2911D  
 ROWAN COUNTY  
 STATION: 231+17.87 -L-  
14+25.15 -Y8-  
 SHEET 4 OF 5

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 SUBSTRUCTURE  
 END BENT #1  
 RIGHT LANE

| REVISIONS |     |       |     |     |       | SHEET NO.    |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO.       | BY: | DATE: | NO. | BY: | DATE: | S-44         |
| 1         |     |       | 3   |     |       | TOTAL SHEETS |
| 2         |     |       | 4   |     |       | 120          |

ALL BAR DIMENSIONS ARE OUT TO OUT.

