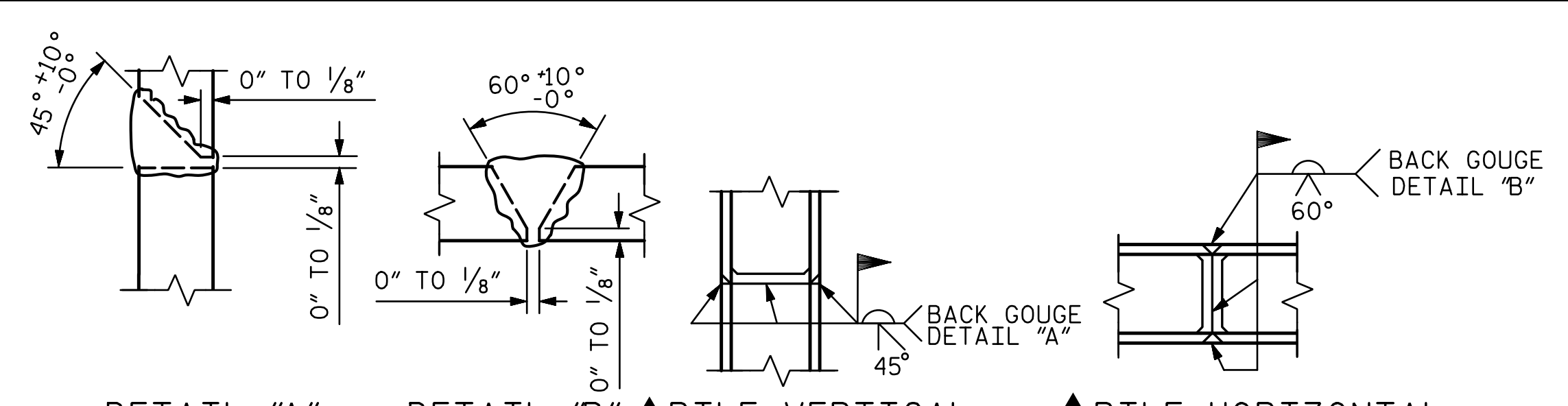
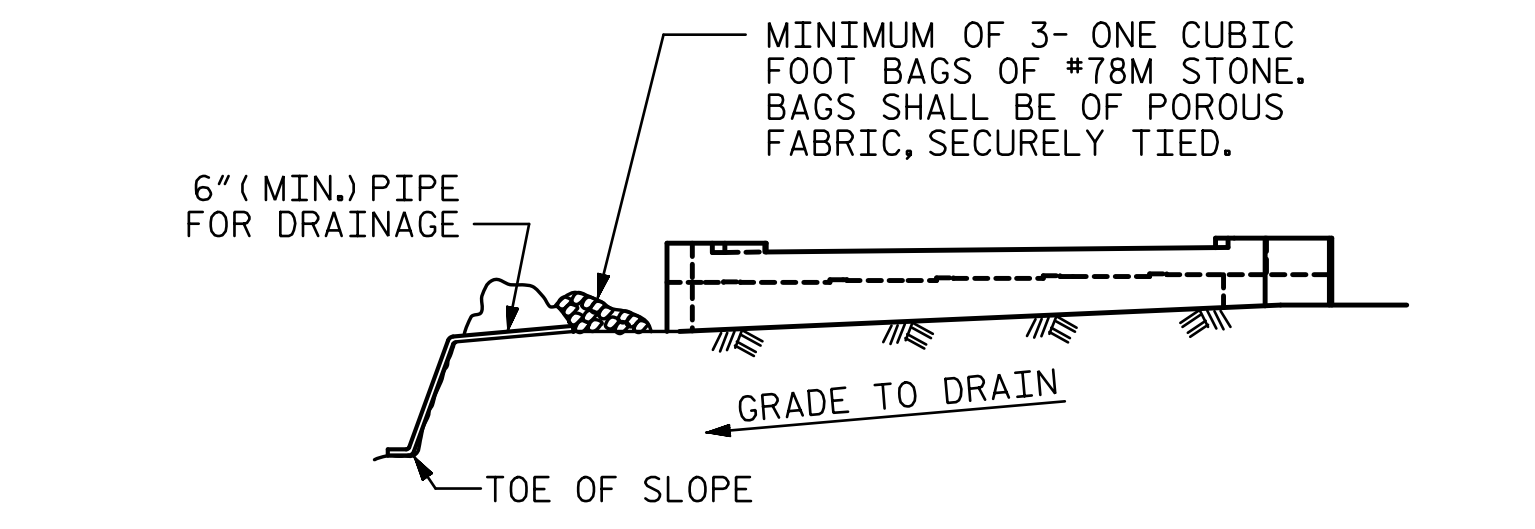


SECTION A-A



PILE SPLICE DETAILS  
 ▲ POSITION OF PILE DURING WELDING.  
 ▲ PILE VERTICAL  
 ▲ PILE HORIZONTAL OR VERTICAL



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.

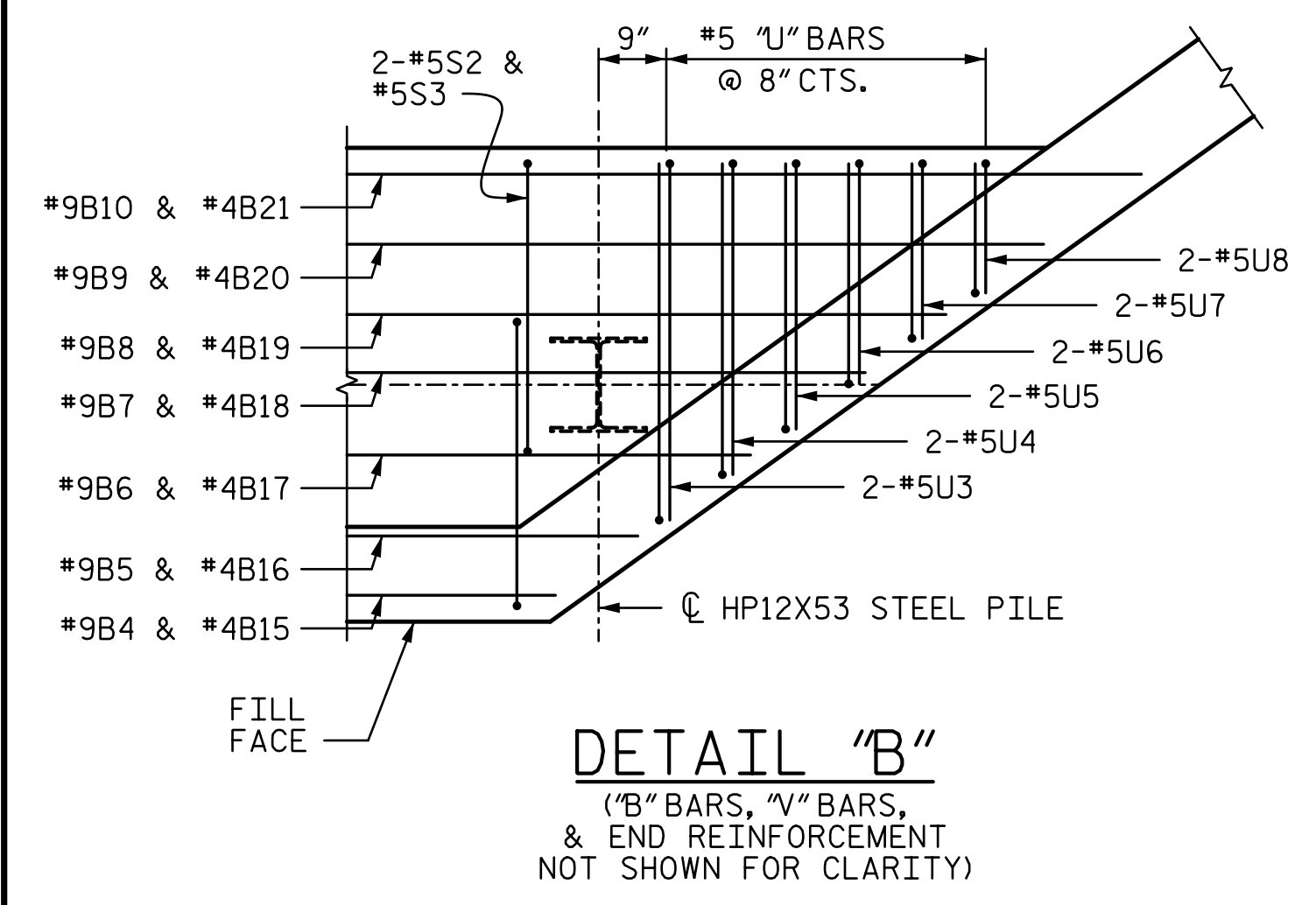
BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR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

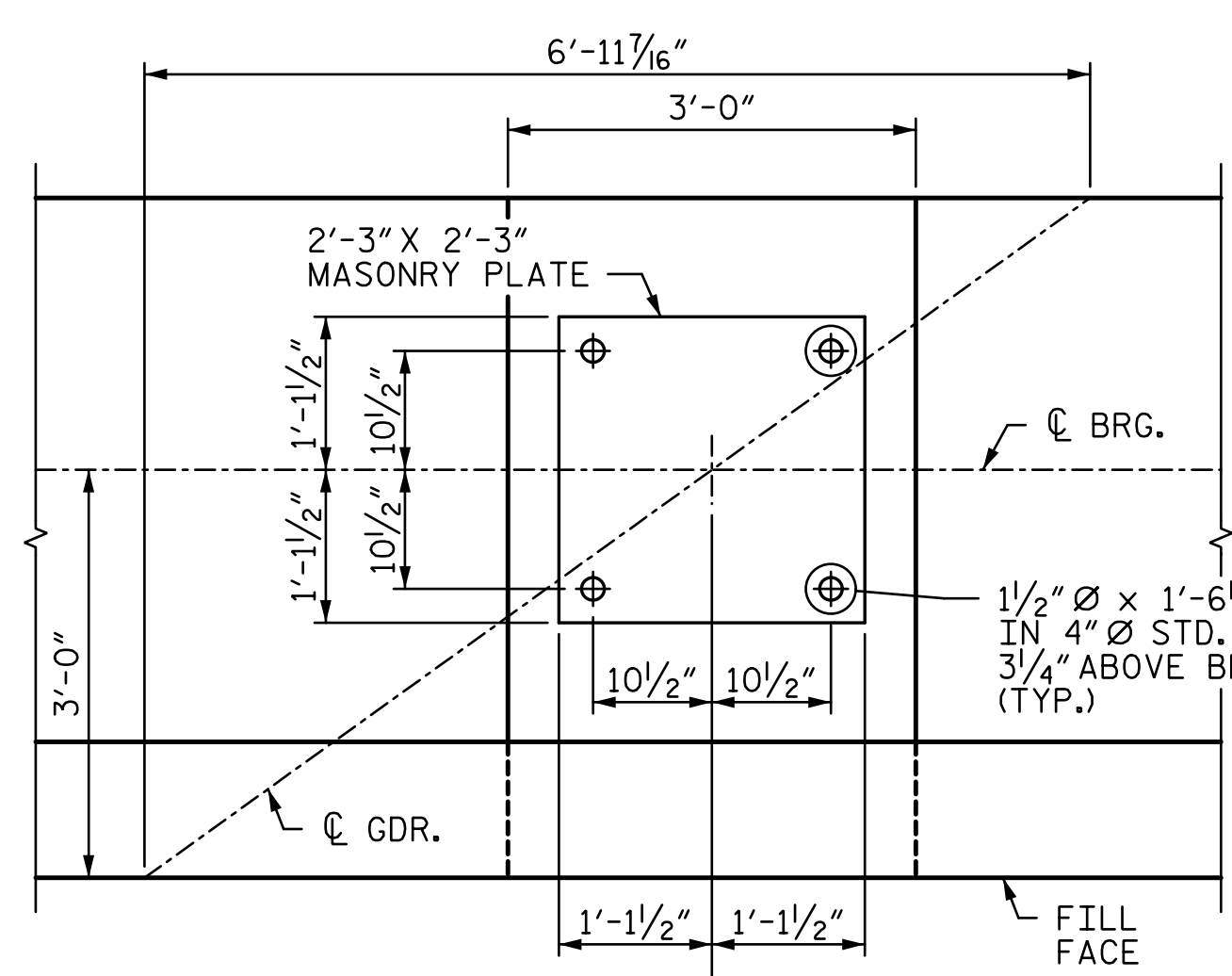
TEMPORARY DRAINAGE AT END BENT

NOTES:

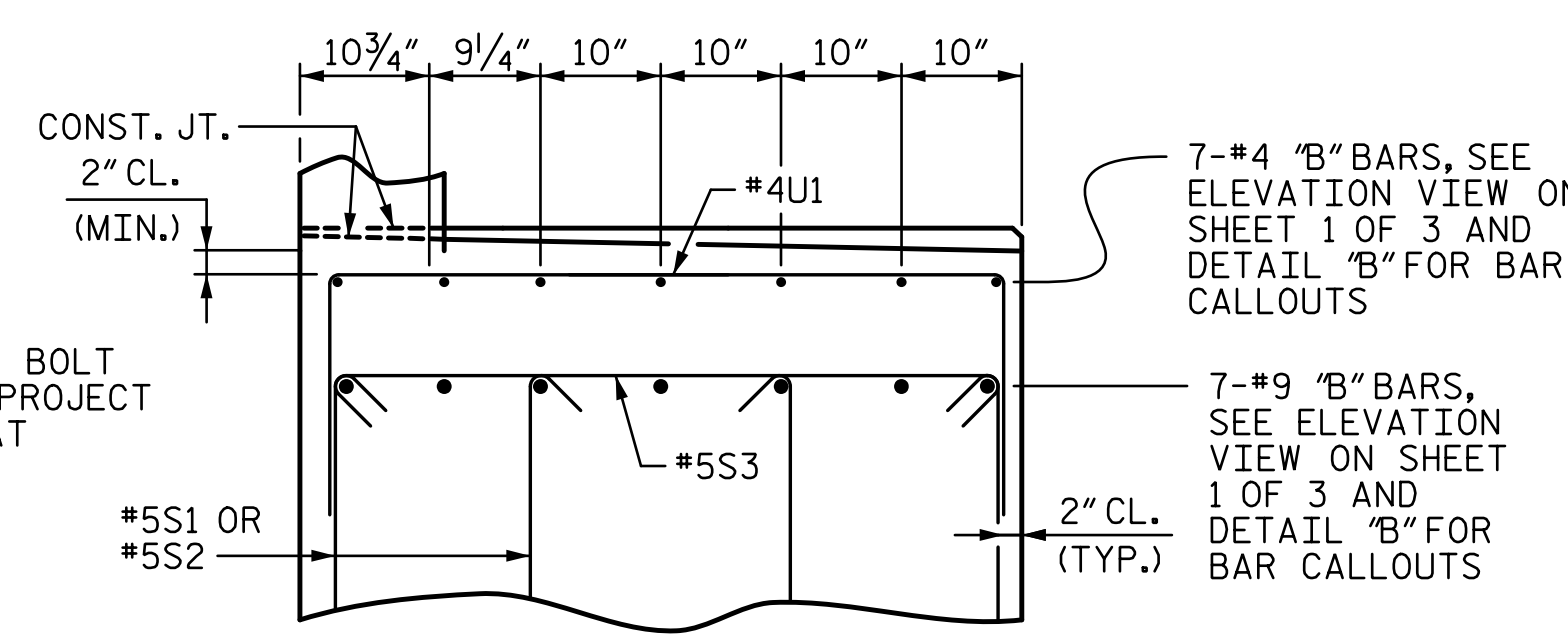
1. STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS AND PIPE INSERTS.
2. BACKWALL SHALL BE PLACED BEFORE APPLYING THE EPOXY PROTECTIVE COATING.
3. THE TOP SURFACE AREAS OF THE END BENT CAP SHALL BE CURED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS EXCEPT THAT THE MEMBRANE CURING COMPOUND SHALL NOT BE USED.
4. THE TOP SURFACE OF THE CAP EXCEPT THE BRIDGE SEAT BUILDUPS SHALL BE SLOPED TRANSVERSELY FROM THE FILL FACE TO THE OUTSIDE FACE AT THE RATE OF 2%.
5. FOR ADDITIONAL NOTES, SEE "FOUNDATION LAYOUT" SHEET.
6. ABUTMENT RESTRAINTS (STRAPS) ARE REQUIRED ALONG THE CAP AS SHOWN. THE 16KIF LOAD PROVIDED IS A FACTORED LOAD. THE SPACING AND LENGTH OF STRAPS SHALL BE DETERMINED BY A LICENSED PROFESSIONAL ENGINEER REGISTERED IN NORTH CAROLINA AND SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO INSTALLATION. ANY ADDITIONAL CONSTRUCTION LOADS THAT WILL APPLY LOAD TO THE STRAPS (INCLUDING BUT NOT LIMITED TO CRANE LOADS) SHALL BE INCLUDED IN THE STRAP DESIGN AND SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO PLACING CONSTRUCTION LOADS ON THE APPROACH FILL. ALL COSTS ASSOCIATED WITH THE DESIGN AND INSTALLATION, INCLUDING LABOR AND INCIDENTALS, OF THE STRAPS SHALL BE INCLUDED IN THE VARIOUS CONTRACT BID ITEMS. NO ADDITIONAL PAYMENT WILL BE MADE.



DETAIL "B"  
 ("B" BARS, "U" BARS, & END REINFORCEMENT NOT SHOWN FOR CLARITY)



DETAIL "A"



PARTIAL SECTION B-B  
 (ANCHOR BOLTS NOT SHOWN FOR CLARITY)

### BAR TYPES

|         |     |
|---------|-----|
| 58'-9"  | B1  |
| 45'-0"  | B2  |
| 55'-4"  | B3  |
| 44'-6"  | B4  |
| 45'-4"  | B5  |
| 46'-5"  | B6  |
| 47'-7"  | B7  |
| 48'-9"  | B8  |
| 49'-11" | B9  |
| 50'-8"  | B10 |

| BAR | "A"   | "B"    |
|-----|-------|--------|
| U1  | 4'-8" | 2'-0"  |
| U2  | 8"    | 2'-6"  |
| U3  | 4'-3" | 3'-9"  |
| U4  | 4'-3" | 3'-3"  |
| U5  | 4'-3" | 2'-9"  |
| U6  | 4'-3" | 2'-3"  |
| U7  | 4'-3" | 1'-10" |
| U8  | 4'-3" | 1'-4"  |
| U9  | 4'-6" | 3'-8"  |

ALL BAR DIMENSIONS ARE OUT TO OUT.

### QUANTITIES

| END BENT 1   |                   |
|--|-------------------|
| REINFORCING STEEL                                  | LBS. 13,815       |
| CLASS A CONCRETE                                   |                   |
| POUR 1 (CAP & LOWER WING)                          | : CU. YARDS 80.4  |
| POUR 2 (BACKWALL & UPPER WING)                     | : CU. YARDS 28.3  |
| TOTAL  | : CU. YARDS 108.7 |
| HP12x53 STEEL PILES                                | NO. 13            |
|  | LIN. FEET 1,175   |
| PILE DRIVING EQUIP. SETUP FOR HP 12x53 STEEL PILES | EA. 13            |

### BILL OF REINFORCING

| BAR | NO. | SIZE | TYPE | LENGTH  | WEIGHT |
|-----|-----|------|------|---------|--------|
| B1  | 6   | #9   | ①    | 60'-0"  | 1,224  |
| B2  | 6   | #9   | ①    | 46'-3"  | 944    |
| B3  | 7   | #9   | ①    | 56'-7"  | 1,347  |
| B4  | 1   | #9   | ①    | 45'-9"  | 156    |
| B5  | 1   | #9   | ①    | 46'-7"  | 158    |
| B6  | 1   | #9   | ①    | 47'-8"  | 162    |
| B7  | 1   | #9   | ①    | 48'-10" | 166    |
| B8  | 1   | #9   | ①    | 50'-0"  | 170    |
| B9  | 1   | #9   | ①    | 51'-2"  | 174    |
| B10 | 1   | #9   | ①    | 51'-11" | 177    |
| B11 | 23  | #4   | STR  | 4'-8"   | 72     |
| B12 | 16  | #4   | STR  | 25'-7"  | 273    |
| B13 | 24  | #5   | STR  | 34'-5"  | 862    |
| B14 | 14  | #4   | STR  | 17'-10" | 167    |
| B15 | 1   | #4   | STR  | 8'-8"   | 6      |
| B16 | 1   | #4   | STR  | 9'-4"   | 6      |
| B17 | 1   | #4   | STR  | 10'-5"  | 7      |
| B18 | 1   | #4   | STR  | 11'-7"  | 8      |
| B19 | 1   | #4   | STR  | 12'-9"  | 9      |
| B20 | 1   | #4   | STR  | 13'-11" | 9      |
| B21 | 1   | #4   | STR  | 14'-8"  | 10     |
| H1  | 28  | #5   | ②    | 8'-0"   | 234    |
| H2  | 30  | #5   | ③    | 13'-2"  | 412    |
| K1  | 56  | #4   | STR  | 24'-11" | 932    |
| K2  | 2   | #4   | STR  | 2'-2"   | 3      |
| K3  | 2   | #4   | STR  | 1'-3"   | 2      |
| K4  | 4   | #4   | STR  | 4'-5"   | 12     |
| S1  | 88  | #5   | ⑤    | 11'-6"  | 1,056  |
| S2  | 84  | #5   | ⑤    | 12'-9"  | 1,117  |
| S3  | 86  | #5   | ④    | 5'-7"   | 501    |
| S4  | 52  | #4   | ⑥    | 6'-6"   | 226    |
| U1  | 30  | #4   | ⑦    | 8'-8"   | 174    |
| U2  | 84  | #4   | ⑦    | 5'-8"   | 318    |
| U3  | 2   | #5   | ⑦    | 11'-9"  | 25     |
| U4  | 2   | #5   | ⑦    | 10'-9"  | 22     |
| U5  | 2   | #5   | ⑦    | 9'-9"   | 20     |
| U6  | 2   | #5   | ⑦    | 8'-9"   | 18     |
| U7  | 2   | #5   | ⑦    | 7'-11"  | 17     |
| U8  | 2   | #5   | ⑦    | 6'-11"  | 14     |
| U9  | 1   | #9   | ⑦    | 11'-10" | 40     |
| U10 | 1   | #9   | ⑧    | 15'-0"  | 51     |
| V1  | 170 | #5   | STR  | 10'-0"  | 1,773  |
| V2  | 22  | #5   | STR  | 11'-5"  | 262    |
| V3  | 36  | #5   | STR  | 12'-9"  | 479    |

PROJECT NO. R-2707C  
CLEVELAND COUNTY  
 STATION: 596+50.98 -L-  
 SHEET 3 OF 3

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

SEAL  
 40317  
 ENGINEER  
 TONY R. LAWS, JR.  
 2/21/2017

STV 100 years  
 STV ENGINEERS, INC.  
 900 West Trade St., Suite 715  
 Charlotte, NC 28202  
 NC License Number F-5991

SUBSTRUCTURE  
 END BENT 1  
 (SITE 6L)

| REVISIONS |     |       |     |
|-----------|-----|-------|-----|
| NO.       | BY: | DATE: | NO. |
| 1         |     |       | 3   |
| 2         |     |       | 4   |

| SHEET NO. |                 |
|-----------|-----------------|
| S7-41     | TOTAL SHEETS 56 |

DRAWN BY: MBC DATE: 10-16  
 CHECKED BY: TJT DATE: 10-16  
 DESIGN ENGINEER OF RECORD: V. WU DATE: 10-16

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