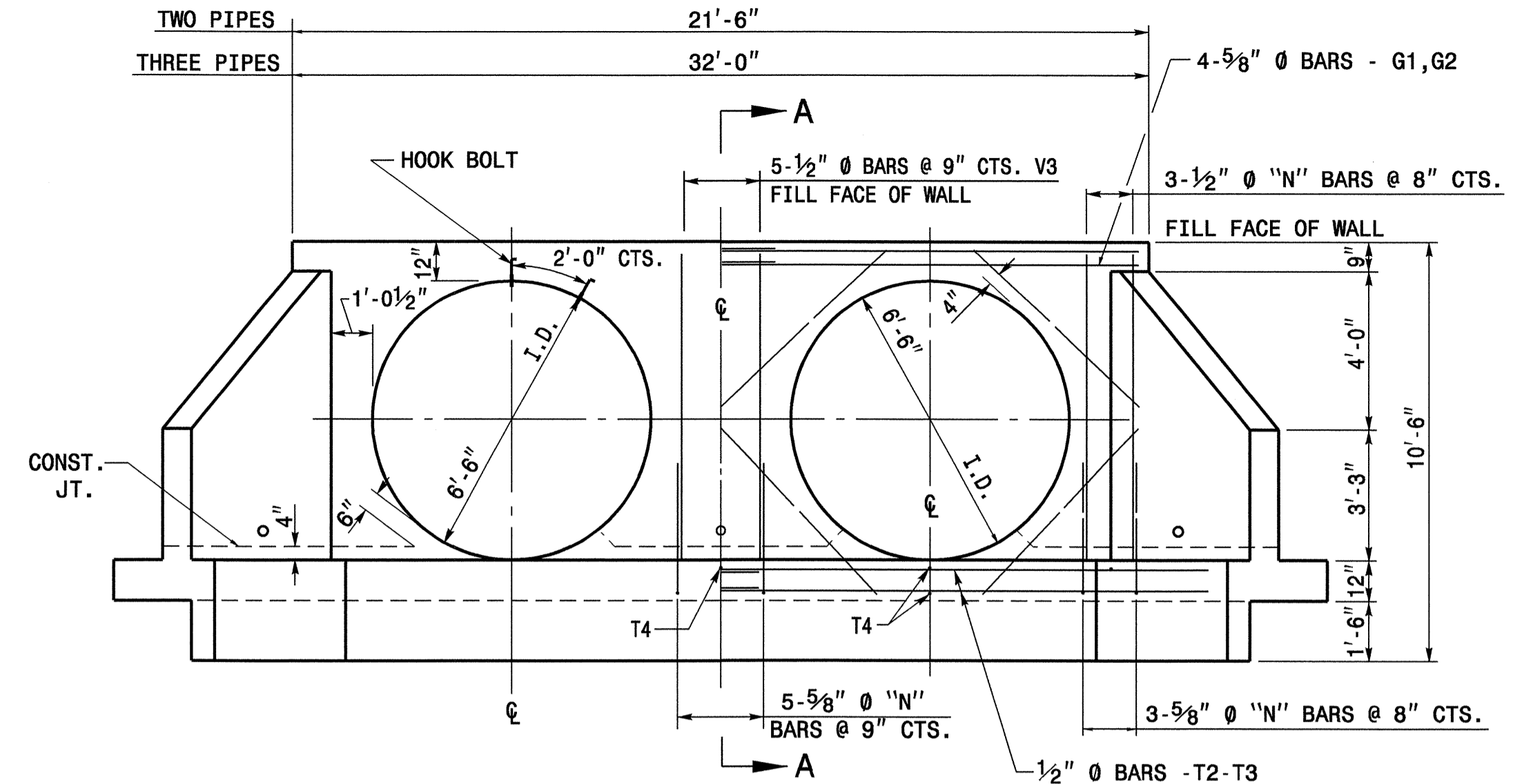
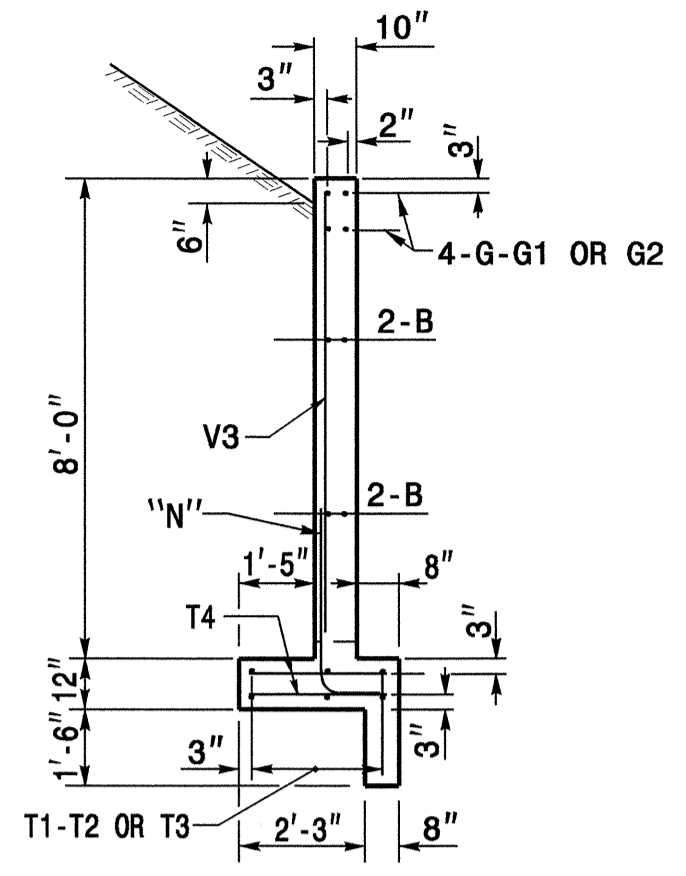


END ELEVATION



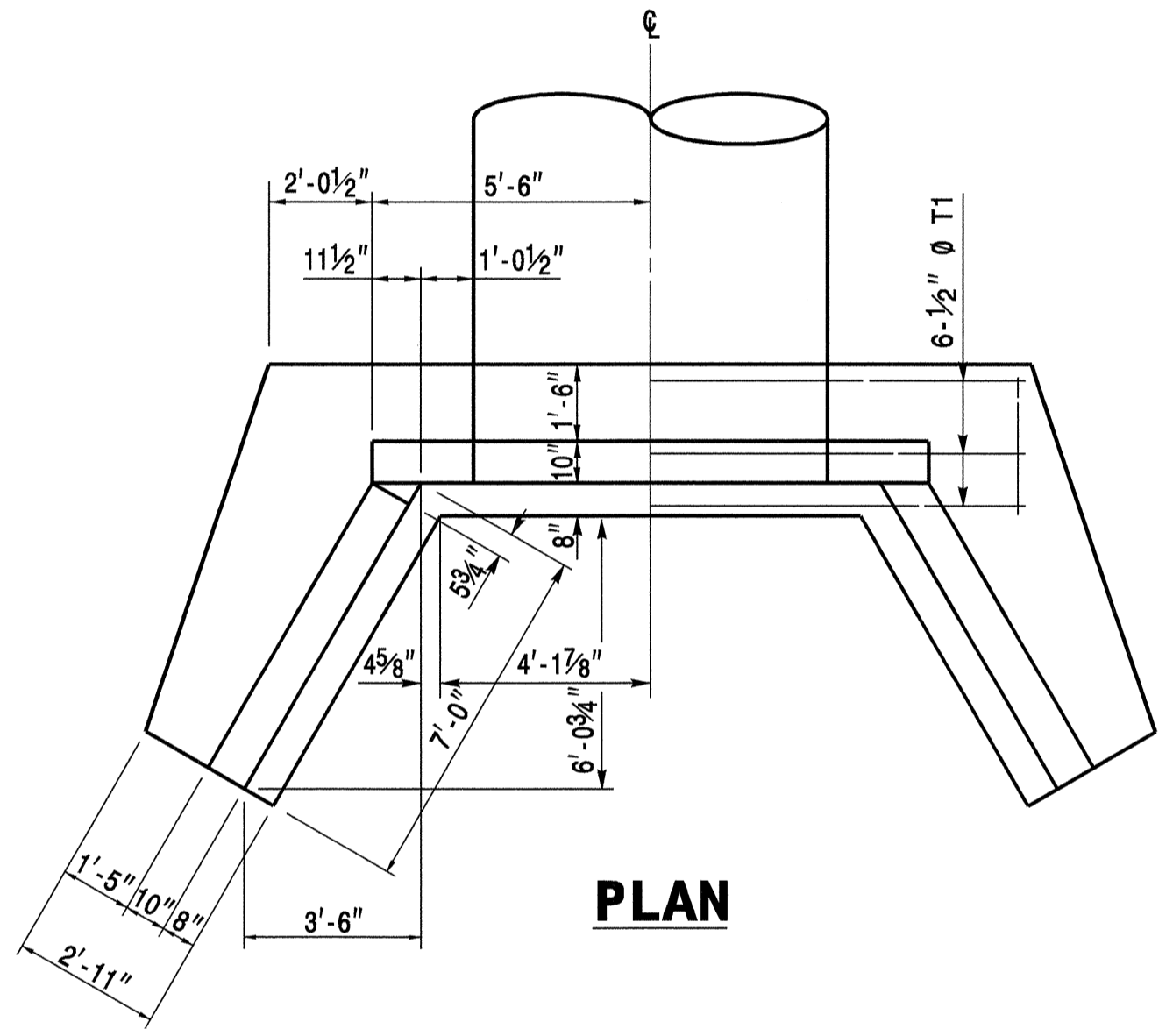
END ELEVATION



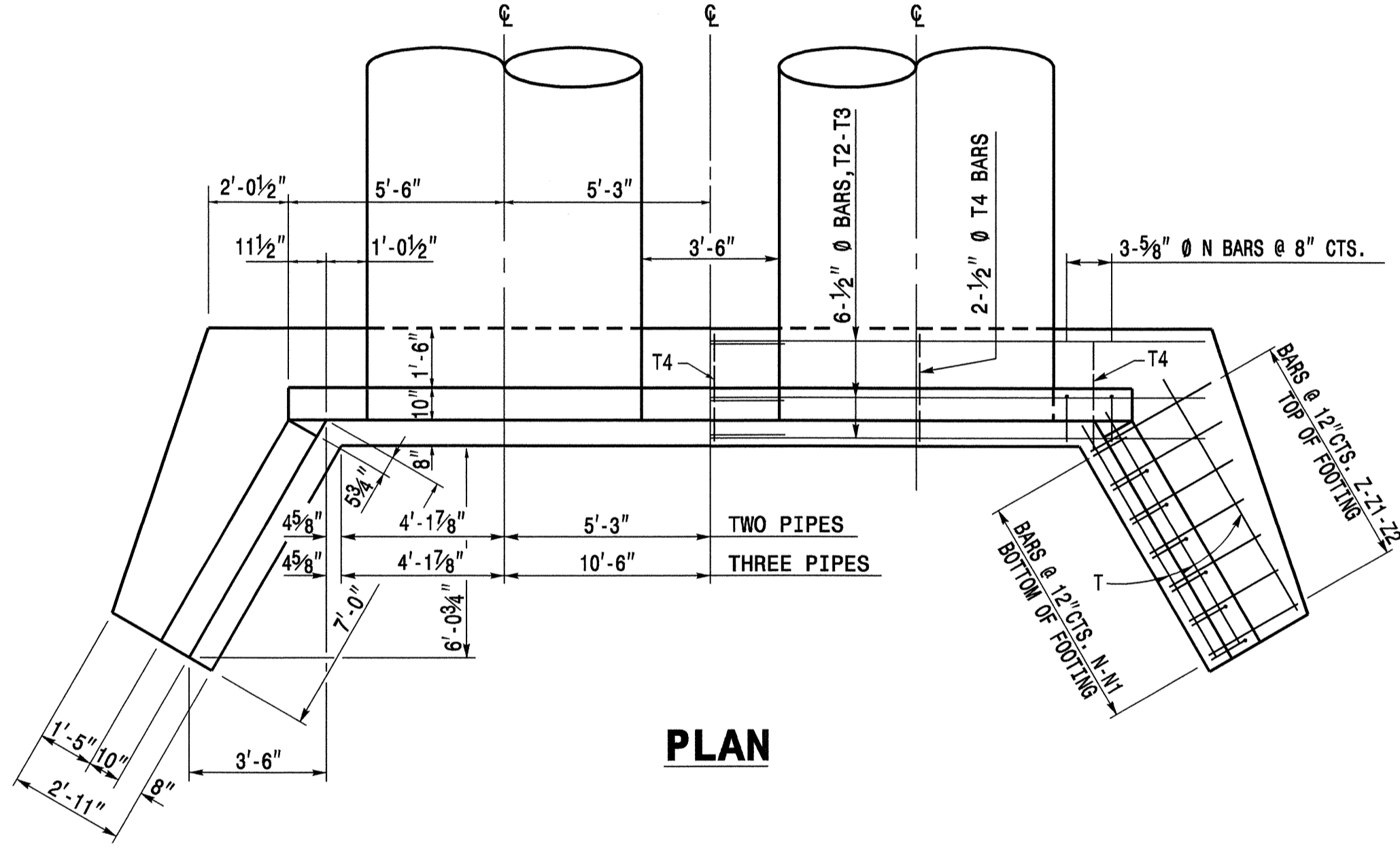
SECTION A-A FOR ALL ENDWALLS

NOTES:

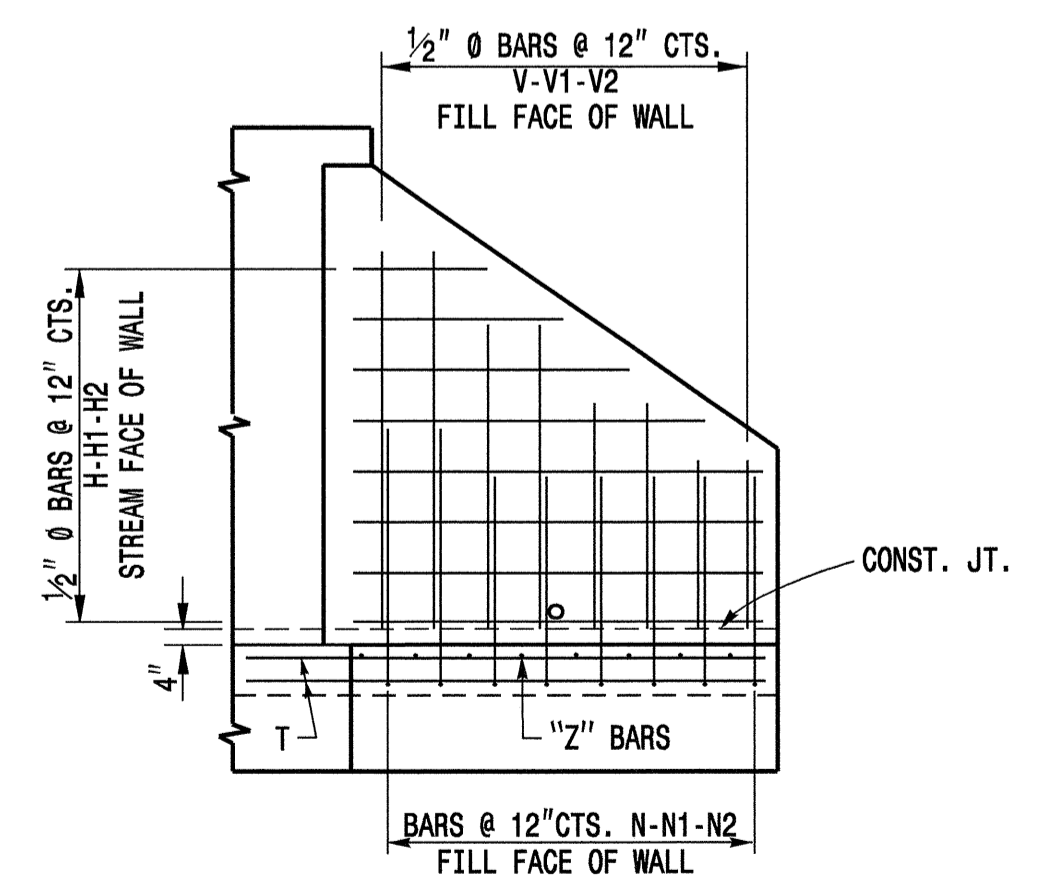
USE CLASS 'A' CONCRETE.
 USE ASTM A615-GRADE 60 REINFORCING STEEL.
 USE DEFORMED BARS FOR ALL REINFORCING STEEL. WHERE SPLICING OF REINFORCEMENT IS NECESSARY, BARS ARE TO BE LAPPED 45 DIAMETERS. ALL DIMENSIONS RELATIVE TO REINFORCEMENT ARE TO CENTERS OF BARS.
 THE FOOTING, CURTAIN WALL AND 4" OF WALL ARE TO BE POURED IN ONE OPERATION ALLOWING NO TIME FOR INITIAL SET TO TAKE PLACE BETWEEN THEM. POUR THE REMAINING WALL IN ONE OPERATION.
 CHAMFER ALL EXPOSED CORNERS 1".
 PLACE 3" DIAMETER DRAINS IN WALL AS SHOWN 6" ABOVE NORMAL FLOW LINE.



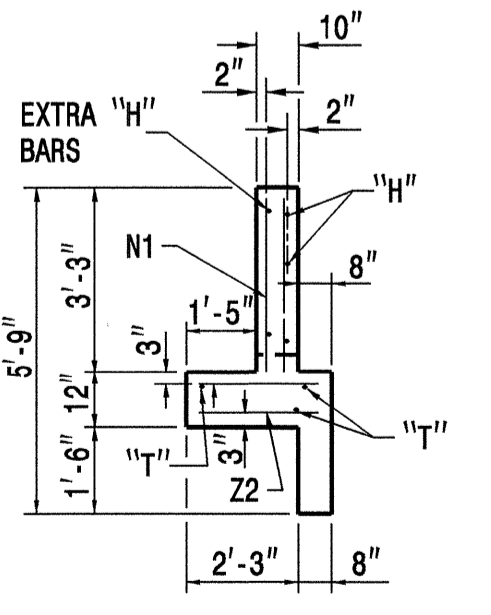
PLAN



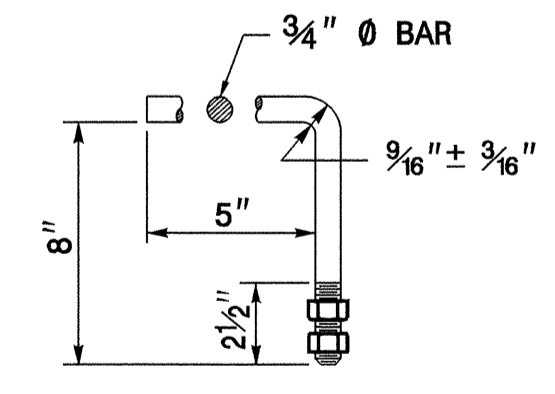
PLAN



ELEVATION OF WING SHOWING REINFORCEMENT

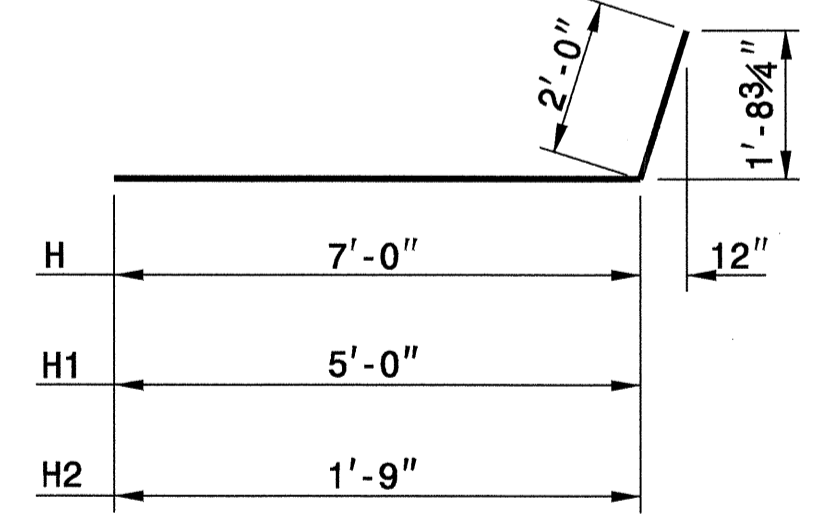


END OF WING

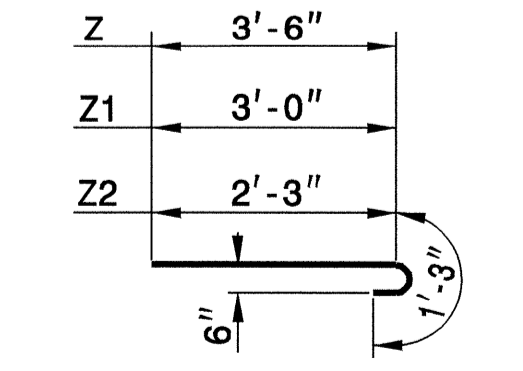


HOOK BOLT

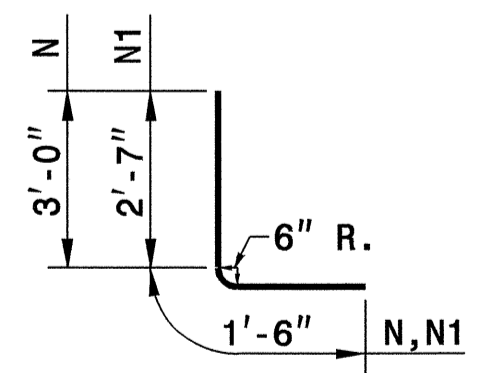
HOOK BOLTS (CONSTRUCT ANCHORS AT 2'-0" CTS. ALONG THE CIRCUMFERENCE OF THE 6'-6" CSP. EMBED THE HOOK BOLTS IN THE CONCRETE ENDWALL 8" IN DEPTH. THE GALVANIZED 3/4" DIA. HOOK BOLTS MUST MEET ASTM A-307 OR ASTM A-836. BOTH BOLTS AND NUTS MUST BE IN ACCORDANCE WITH ASTM A-153 FOR GALVANIZING.



BARS H-H1-H2



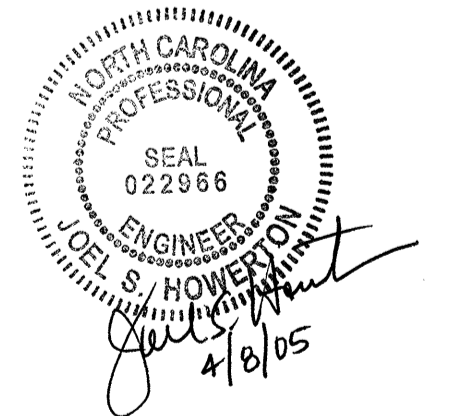
BARS Z-Z1-Z2



BARS N-N1

BILL OF MATERIAL FOR ONE ENDWALL

| REINFORCING STEEL | 1 PIPE | | 2 PIPES | | 3 PIPES | | | |
|----------------------------|--------|--------|---------|-----|---------|------|--------|------|
| | BAR | SIZE | LENGTH | NO. | WEIGHT | NO. | WEIGHT | |
| B | #4 | 6'-0" | 8 | 32 | 16 | 64 | 24 | 96 |
| G | #5 | 10'-9" | 4 | 45 | - | - | - | - |
| G1 | #5 | 11'-9" | - | - | 8 | 98 | - | - |
| G2 | #5 | 17'-0" | - | - | - | - | 8 | 142 |
| H | #4 | 9'-0" | 10 | 60 | 10 | 60 | 10 | 60 |
| H1 | #4 | 7'-0" | 6 | 28 | 6 | 28 | 6 | 28 |
| H2 | #4 | 3'-9" | 4 | 10 | 4 | 10 | 4 | 10 |
| N | #5 | 4'-6" | 10 | 47 | 15 | 70 | 20 | 94 |
| N1 | #4 | 4'-1" | 10 | 27 | 10 | 27 | 10 | 27 |
| T | #4 | 6'-6" | 6 | 26 | 6 | 26 | 6 | 26 |
| T1 | #4 | 15'-0" | 6 | 60 | - | - | - | - |
| T2 | #4 | 13'-9" | - | - | 12 | 110 | - | - |
| T3 | #4 | 19'-0" | - | - | - | - | 12 | 152 |
| T4 | #4 | 2'-9" | 4 | 7 | 7 | 13 | 10 | 18 |
| V | #4 | 5'-9" | 6 | 23 | 6 | 23 | 6 | 23 |
| V1 | #4 | 4'-6" | 6 | 18 | 6 | 18 | 6 | 18 |
| V2 | #4 | 2'-9" | 8 | 15 | 8 | 15 | 8 | 15 |
| V3 | #4 | 7'-6" | 6 | 30 | 11 | 55 | 16 | 80 |
| Z | #5 | 4'-9" | 4 | 20 | 4 | 20 | 4 | 20 |
| Z1 | #4 | 4'-3" | 4 | 11 | 4 | 11 | 4 | 11 |
| Z2 | #4 | 3'-6" | 6 | 14 | 6 | 14 | 6 | 14 |
| TOTAL REINF. STEEL (lbs.) | | | | 473 | | 662 | | 834 |
| CLASS "A" CONC. (cu. yds.) | | | | 7.9 | | 10.8 | | 13.8 |



PROJECT SERVICES UNIT
 STANDARDS AND SPECIAL DESIGN
 Office 919-250-4128 FAX 919-250-4119

DETAIL OF REINFORCED
 CONCRETE ENDWALL FOR
 78" DIAMETER PIPE - 90° SKEW

ORIGINAL BY: R.S.WICKER DATE: 6-46
 MODIFIED BY: R.E.D. & T.S.S. DATE: 6-96 & 5-00
 CHECKED BY: J.S. Howerton DATE: 3/2/05
 FILE SPEC.: w:\details\stand\endwpip84sk90.dgn

30-MAR-2005 14:48 jhowerton\std\endwpip84sk90.dgn
 30-MAR-2005 14:48 jhowerton\std\endwpip84sk90.dgn
 30-MAR-2005 14:48 jhowerton\std\endwpip84sk90.dgn