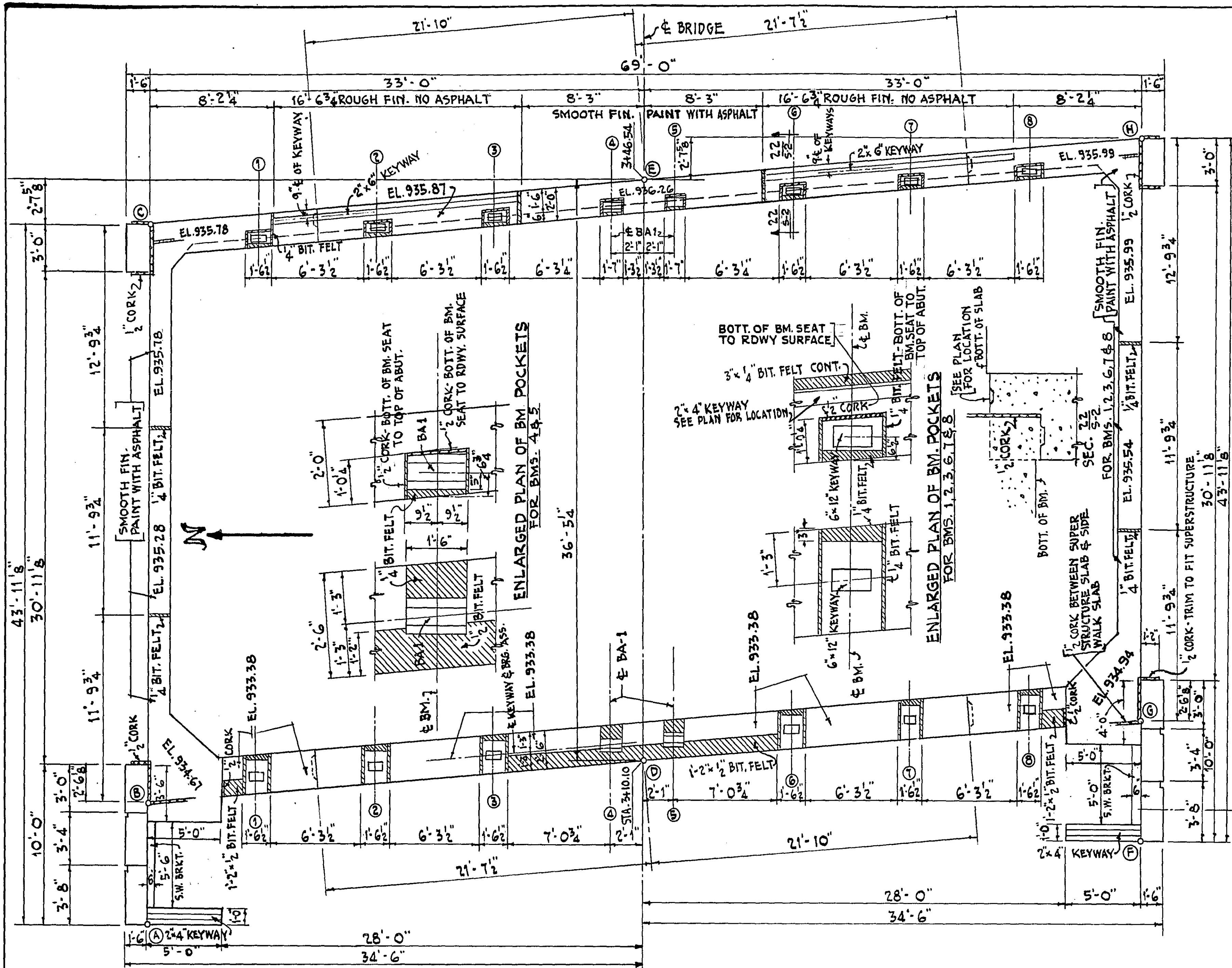
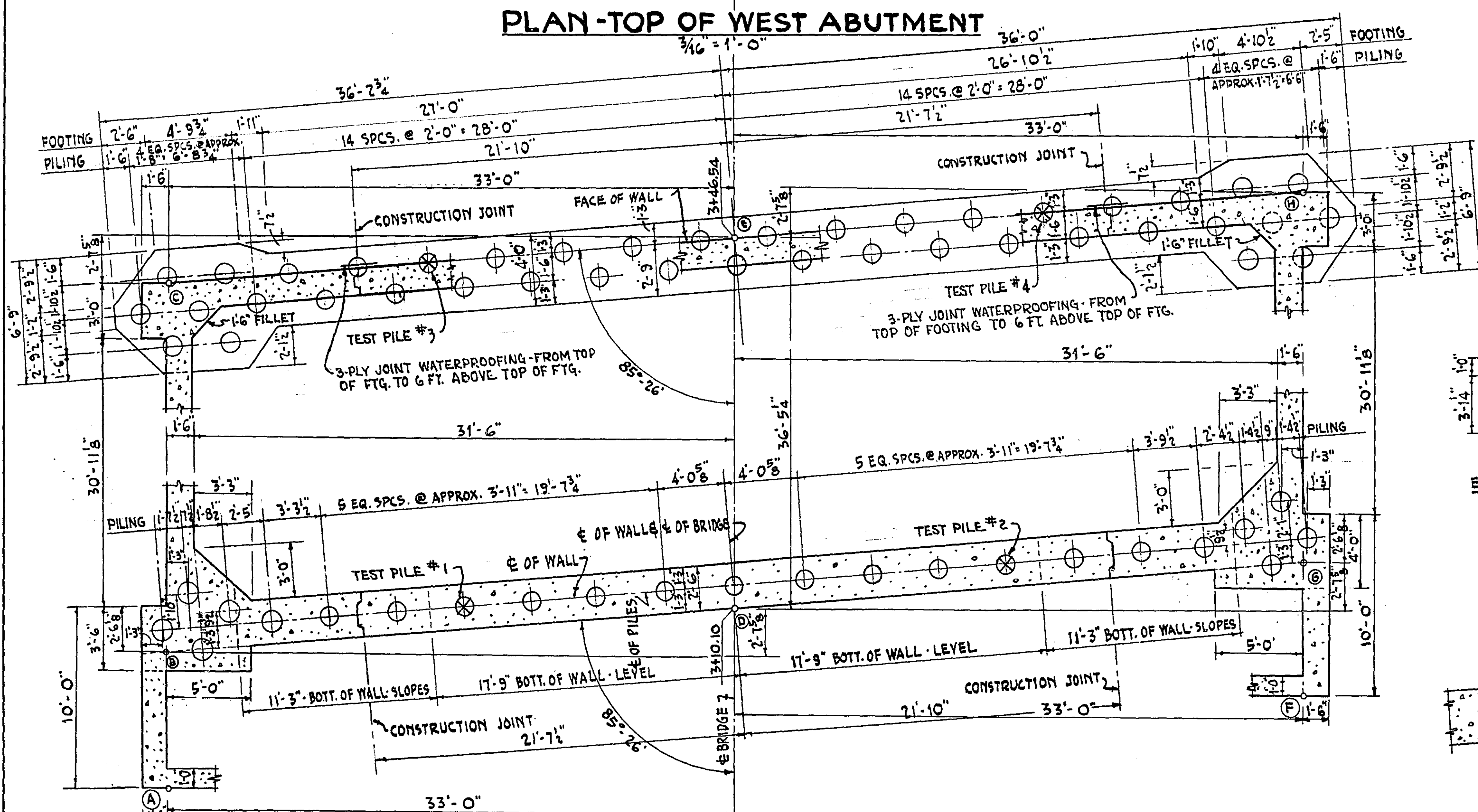




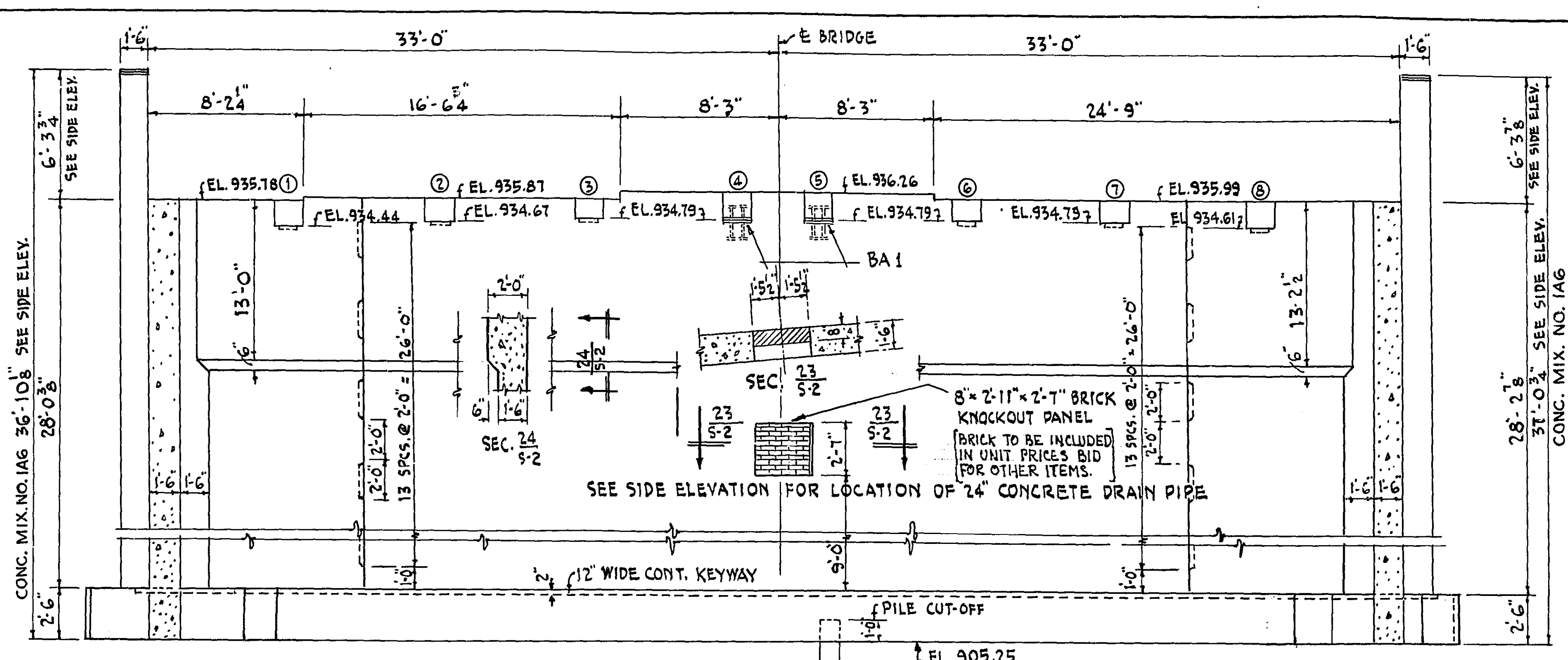


PLAN-TOP OF WEST ABUTMENT  
3/16" = 1'-0"

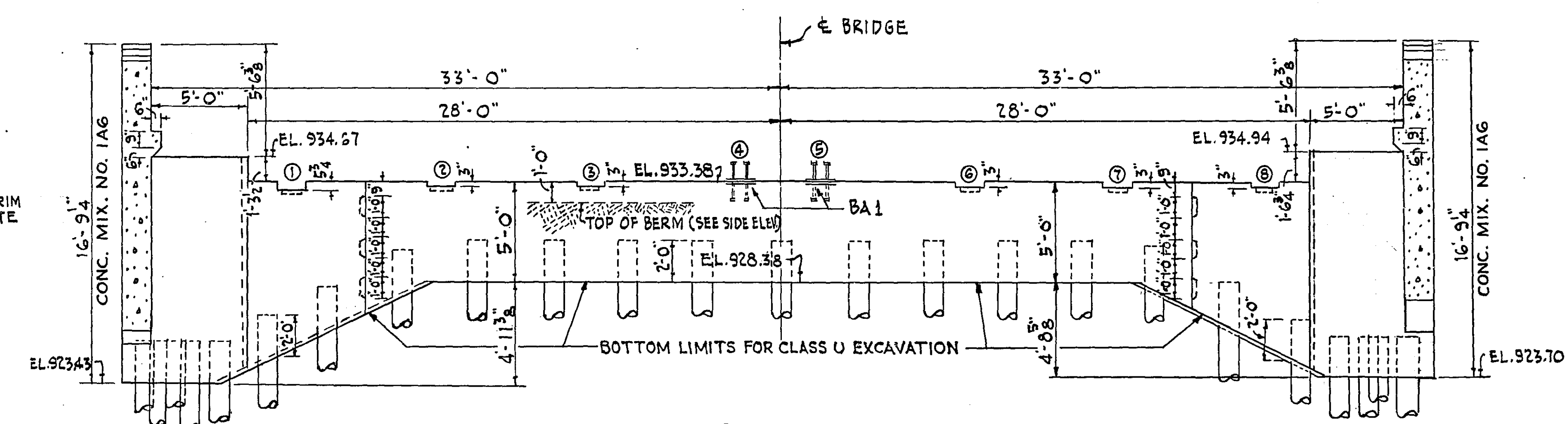


PLAN-FOOTINGS & PILES  
3/16" = 1'-0"

CONSTRUCTION JOINT DETAILS



SECTION  
ELEVATION OF EAST END OF WEST ABUTMENT  
PERPENDICULAR TO E OF BRIDGE-LOOKING EAST  
3/16" = 1'-0"



SECTION  
ELEVATION OF WEST END OF WEST ABUTMENT  
PERPENDICULAR TO E OF BRIDGE  
3/16" = 1'-0"

**PILE NOTES**  
PILES UNDER FOOTING AT ELEV. 905.25 TO BE DRIVEN FIRST.  
39 PILES REQD. EST. LENGTH 20 FT. F.T.C. AT EL. 905.25  
2 TEST PILES REQD. - 25 FT. LONG. DL/PILE 15.9 TONS  
21 PILES REQD. EST. LENGTH 30 FT. F.T.C. AT EL. 923.43  
2 TEST PILES REQD. - 35 FT. LONG. DL/PILE 14.4 TONS  
64 PILES REQD. FOR WEST ABUTMENT (DL/PILE 14.4 TONS)  
MINIMUM BEARING 20 TONS PER PILE.  
ALL PILES TO BE CREOSOTED AS PER M.H.D. 3491.  
ESTIMATED PENETRATION 2 FT. LESS THAN LENGTH GIVEN

**MICRO-FILMED**

NOTE: FOR SUMMARY OF QUANTITIES SEE SHEET #10

STATE OF MINNESOTA  
DEPARTMENT OF HIGHWAYS  
**BRIDGE NO. 6630**  
LARPENAUER AVE. OVER MINN. TRANSFER R.R. TRACKS  
RAMSEY COUNTY MINNESOTA

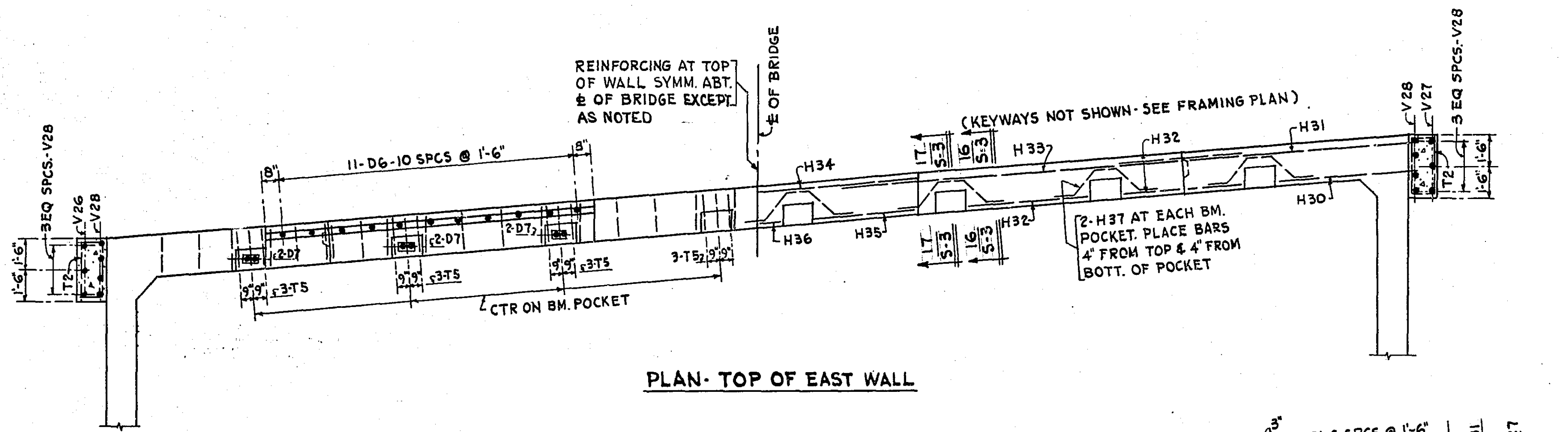
**31'-4" SLAB SPAN - U ABUTMENTS.**  
2'-26" ROADWAYS, 1' 4" CTR. ISLAND, 2' 5" SIDEWALKS  
**WEST ABUTMENT FRAMING DETAILS**

**TOLTZ, KING & DAY, INC.**  
ENGINEERS AND ARCHITECTS  
ST. PAUL, MINNESOTA

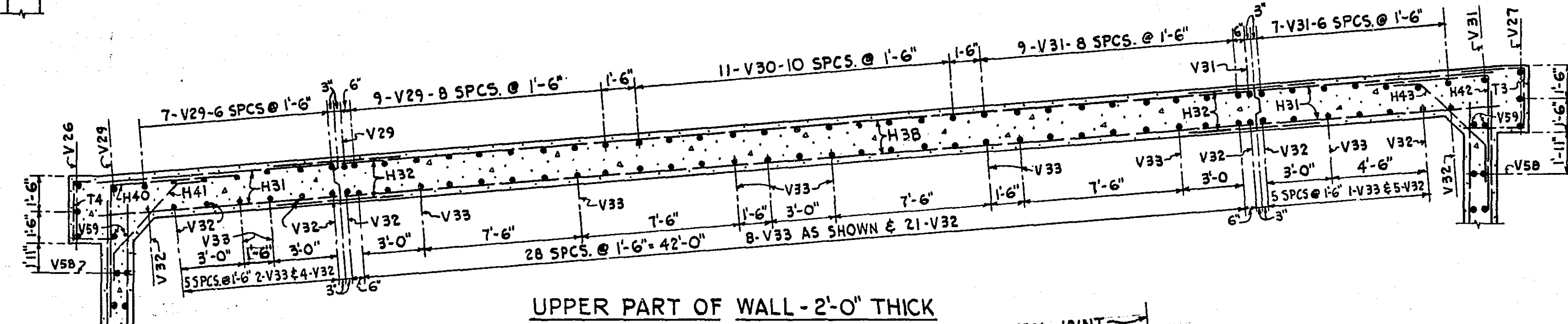
DESIGNED: A.S.H.  
DRAWN: S.J.K.  
CHECKED: A.A.O.  
DATE: 15 JAN. 1954  
APPROVED: M.H.D. ASST. BRIDGE ENGINEER  
JAN. 19, 1954

COMM. 3412  
DRG. 2

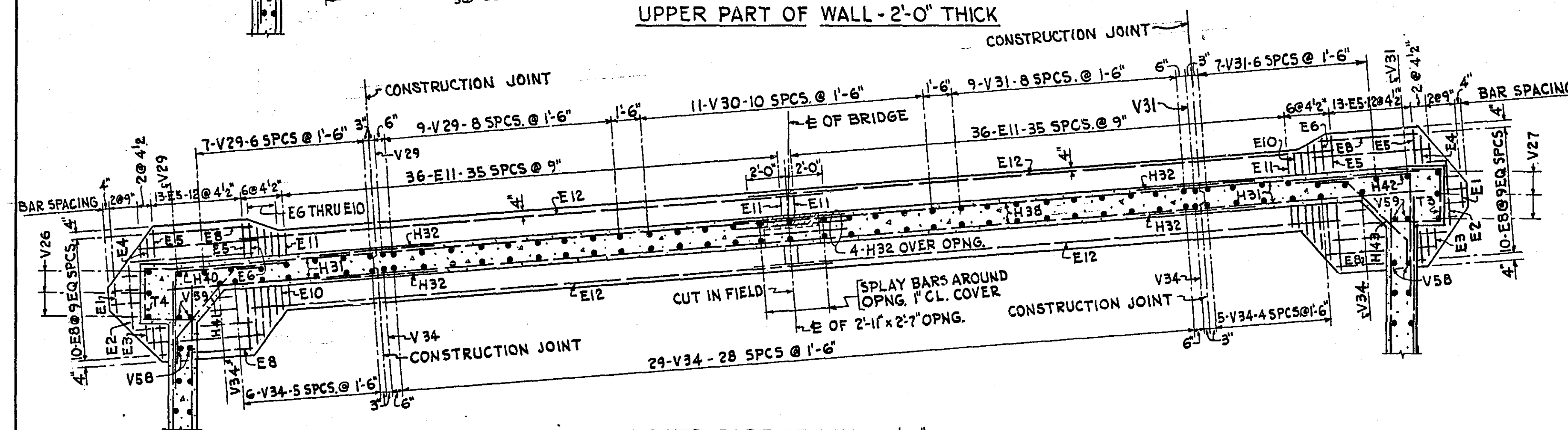
SOUTH ELEVATION - WEST ABUTMENT  
NORTH ELEVATION OPPOSITE HAND EXCEPT AS NOTED  
3/16" = 1'-0"



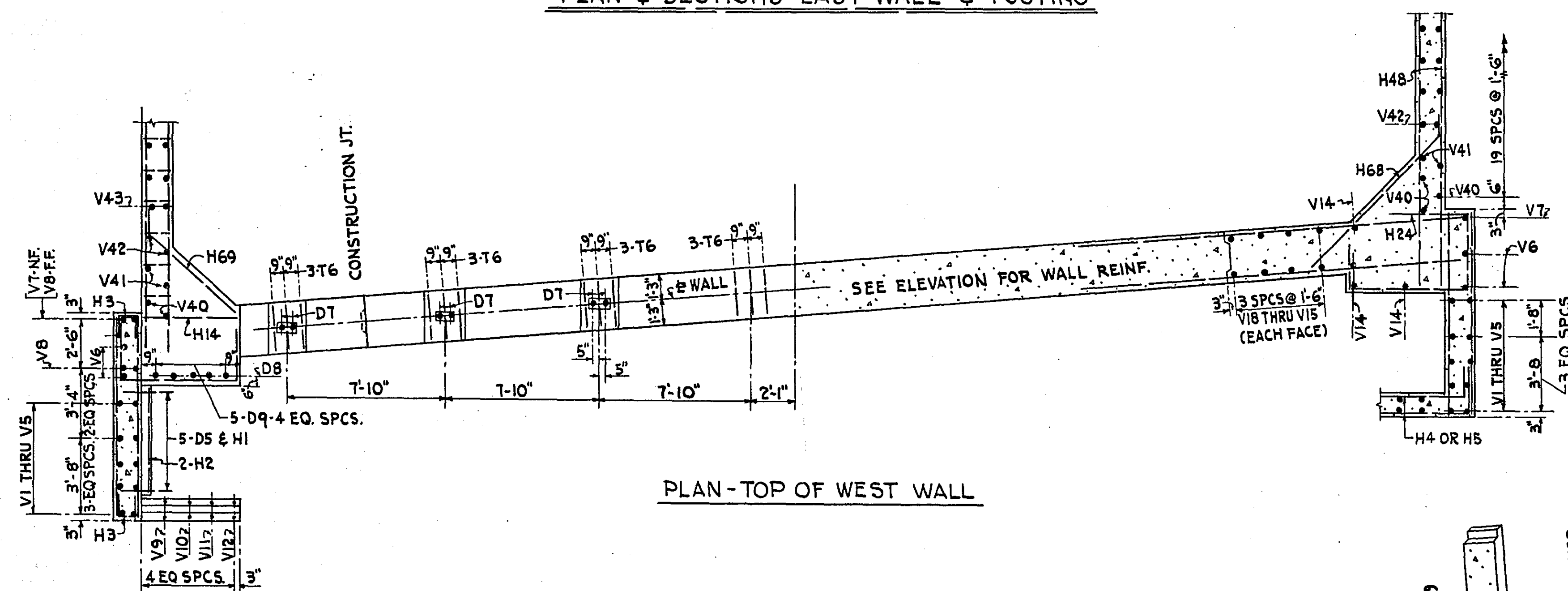
PLAN - TOP OF EAST WALL



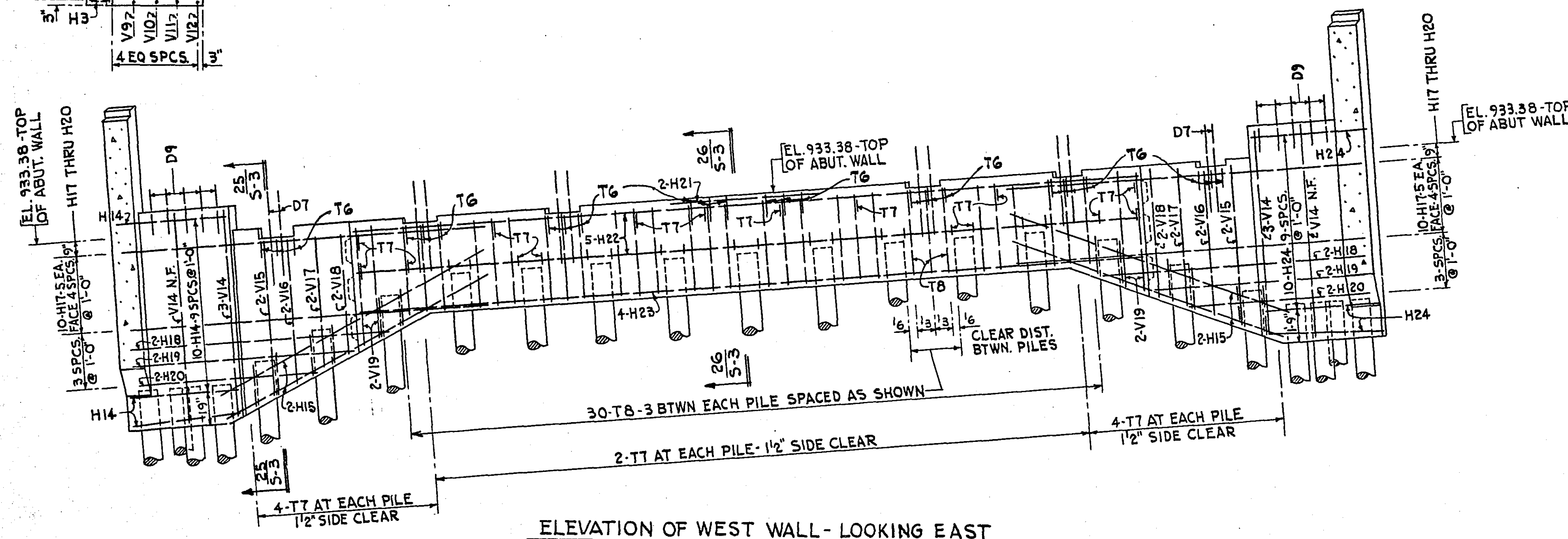
UPPER PART OF WALL - 2'-0" THICK



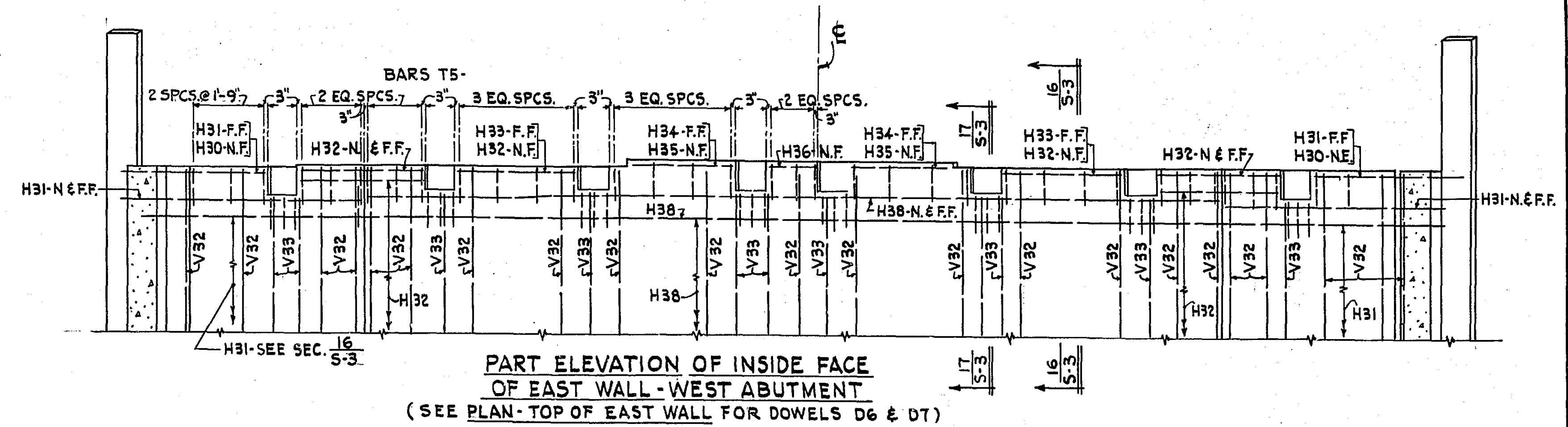
LOWER PART OF WALL - 1'-6" THICK  
PLAN & SECTIONS - EAST WALL & FOOTING



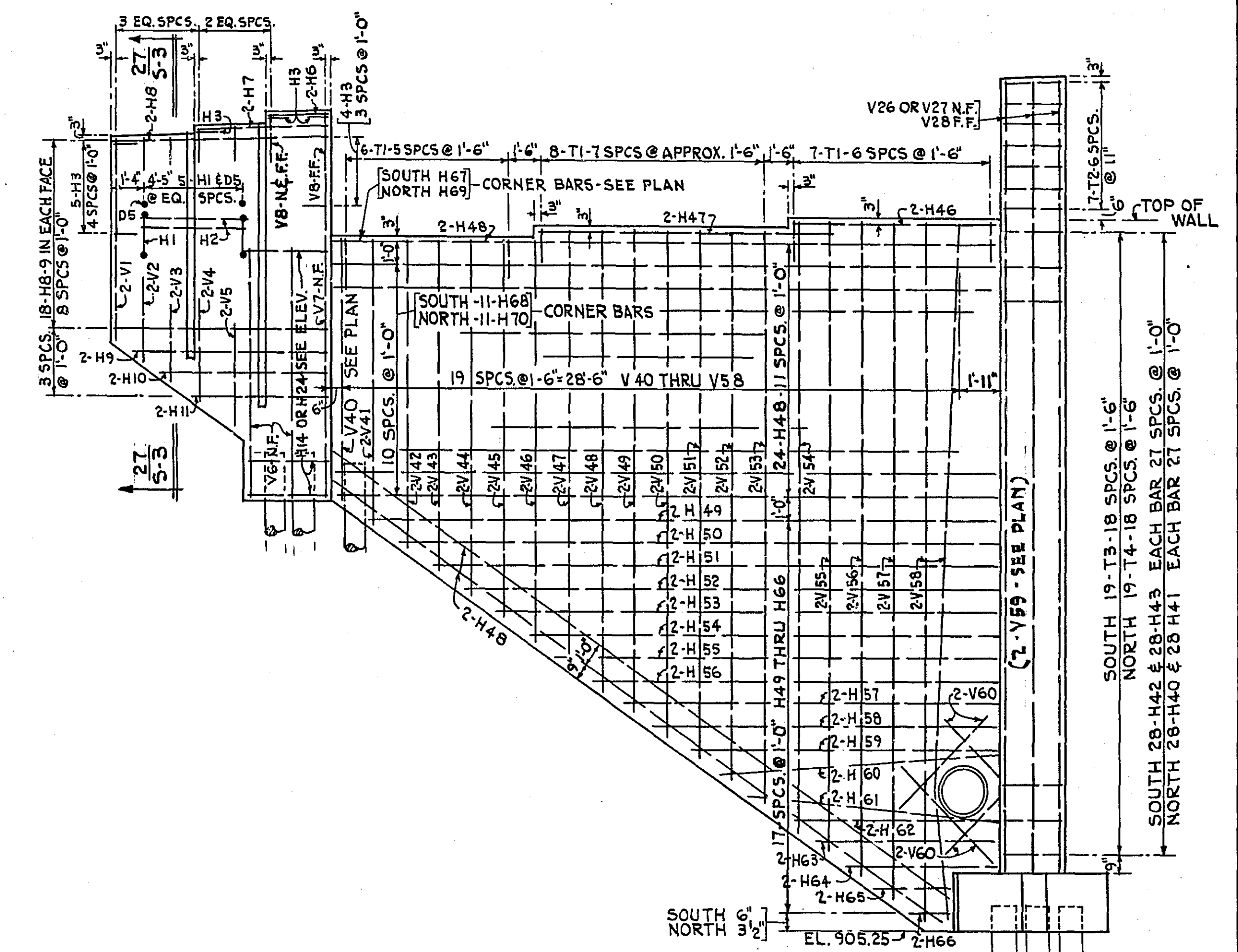
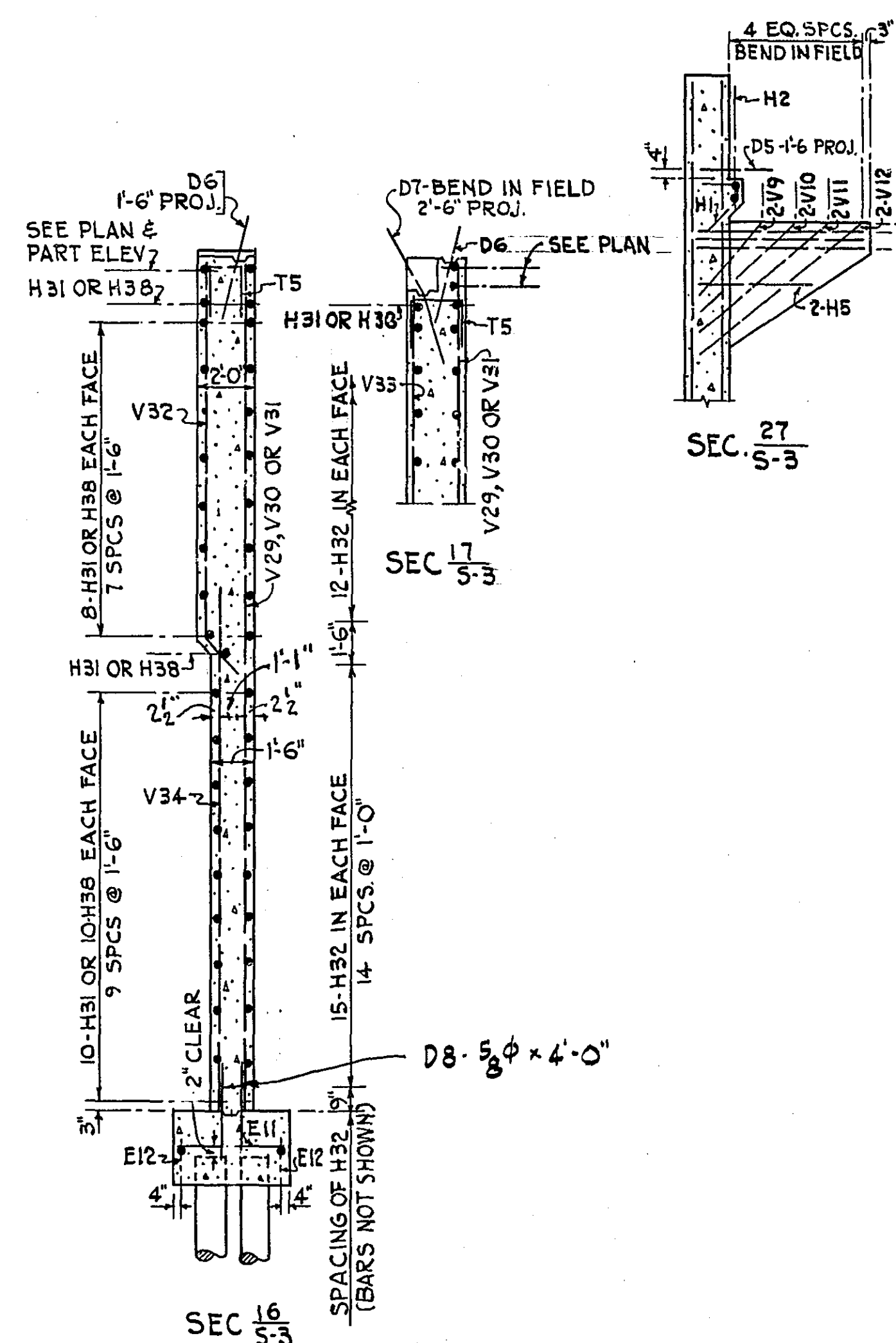
PLAN - TOP OF WEST WALL



ELEVATION OF WEST WALL - LOOKING EAST



PART ELEVATION OF INSIDE FACE  
OF EAST WALL - WEST ABUTMENT  
(SEE PLAN - TOP OF EAST WALL FOR DOWELS D6 & D7)



ELEVATION - NORTH & SOUTH SIDEWALLS

MICRO-FILMED

NOTE:  
UNLESS OTHERWISE NOTED, MINIMUM CLEAR  
COVER FOR REINF. STEEL TO BE 2"  
N.F. - NEAR FACE  
F.F. - FAR FACE  
FOR SUMMARY OF QUANTITIES SEE SHEET #10

STATE OF MINNESOTA  
DEPARTMENT OF HIGHWAYS  
BRIDGE NO. 6630  
LARPENAUER AVE. OVER MINN. TRANSFER R.R. TRACKS  
RAMSEY COUNTY MINNESOTA

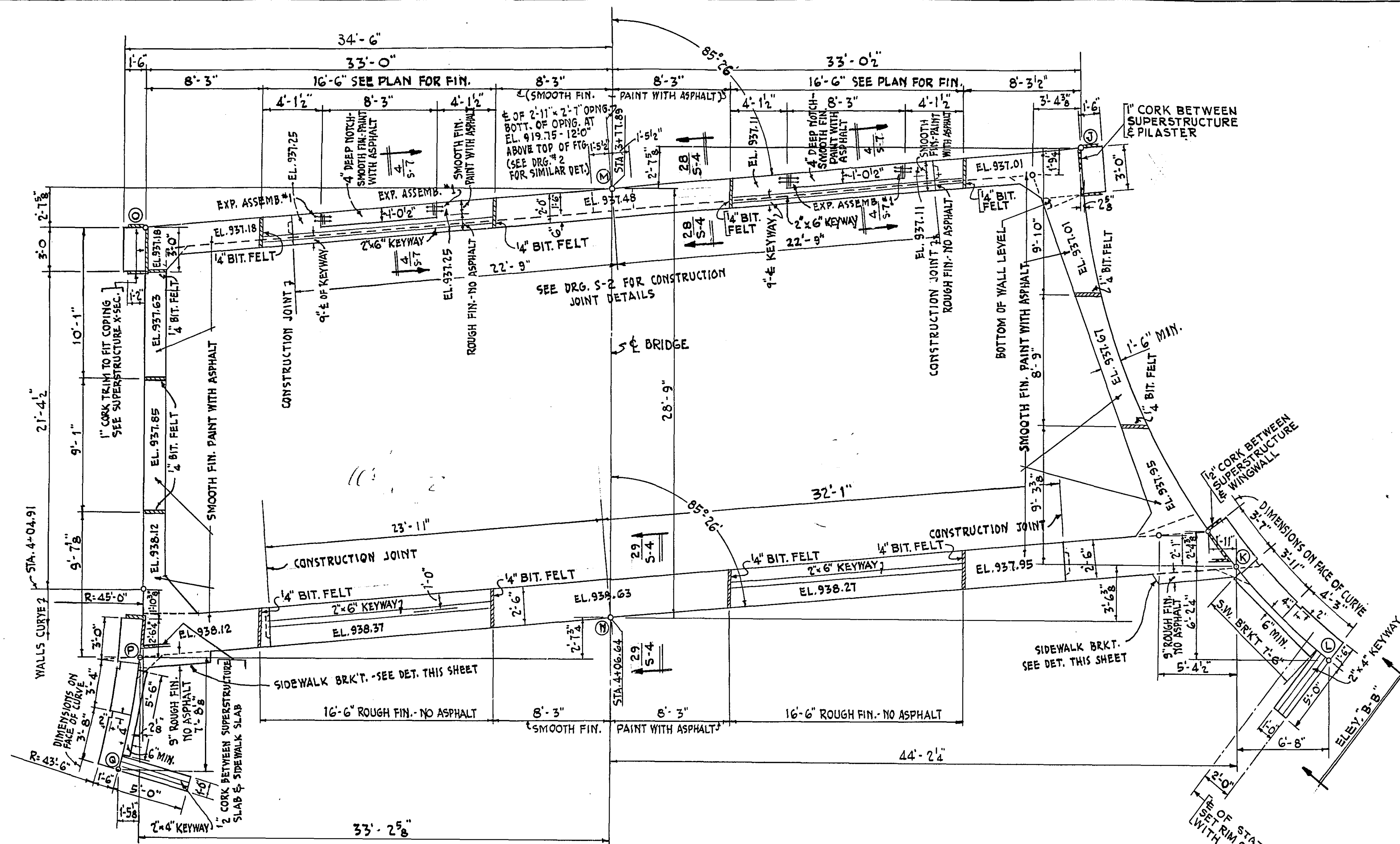
31'-4" SLAB SPAN - U ABUTMENTS  
2'-26" ROADWAYS, 1'-4" CTR. ISLAND, 2'-5" SIDEWALKS  
WEST ABUTMENT REINFORCEMENT

TOLTZ, KING & DAY, INC.  
ENGINEERS AND ARCHITECTS  
ST. PAUL, MINNESOTA

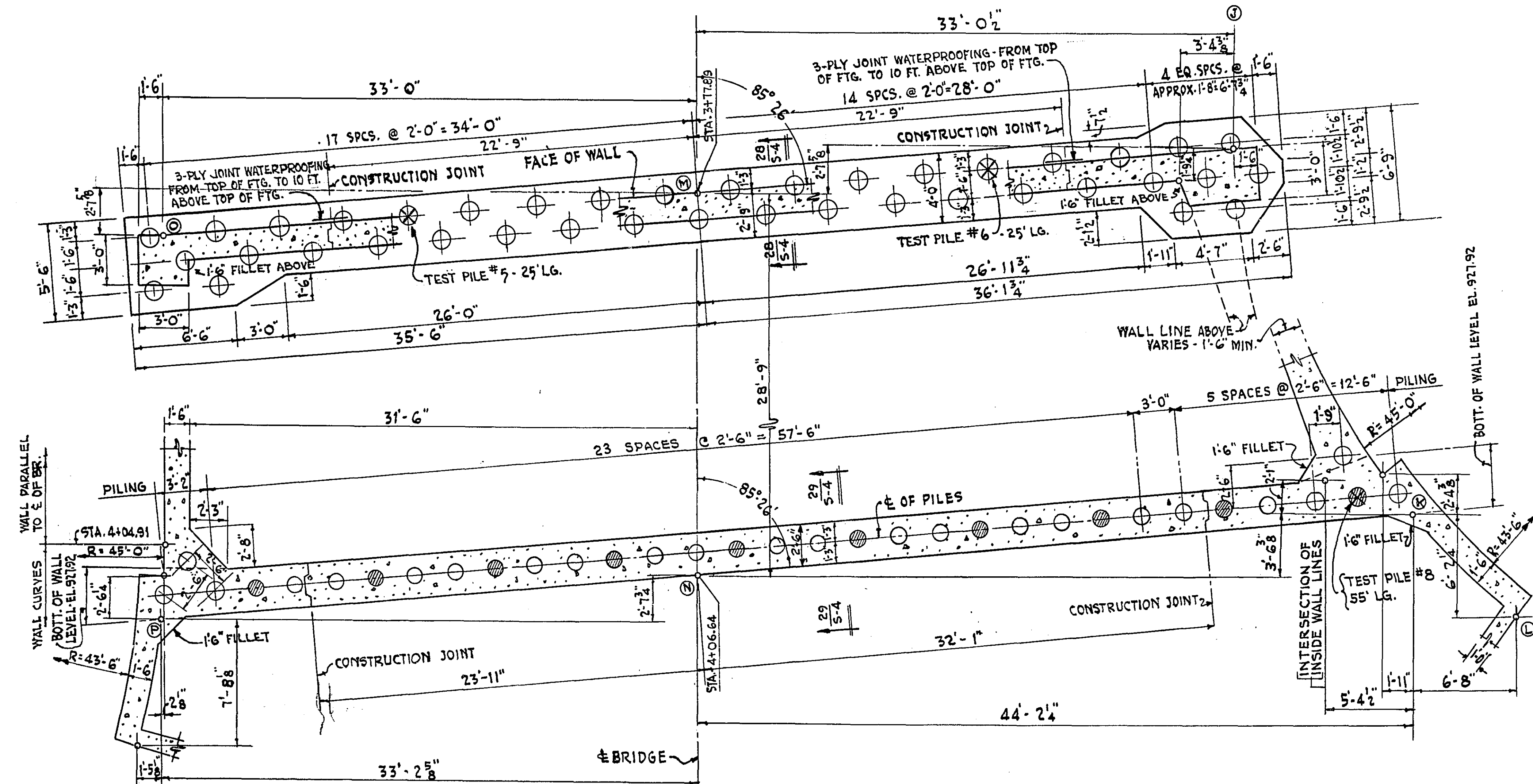
|                                          |                                                                                                                                                                                            |               |
|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| DESIGNED<br>A.G.H.                       | I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED<br>BY ME OR UNDER MY DIRECT SUPERVISION AND THAT<br>I AM A DULY REGISTERED PROFESSIONAL ENGINEER<br>UNDER THE LAWS OF THE STATE OF MINNESOTA. | COMM.<br>3412 |
| DRAWN<br>K.K.                            |                                                                                                                                                                                            | DRG.<br>3     |
| CHECKED<br>O.A.O.                        | DATE 15 JAN. 1954 REG. NO. 1366                                                                                                                                                            |               |
| APPROVED<br>M.H.D. ASST. BRIDGE ENGINEER | JAN. 19 1954<br>DATE                                                                                                                                                                       |               |

MICROFILMED  
RAMSEY CO. ENGR.

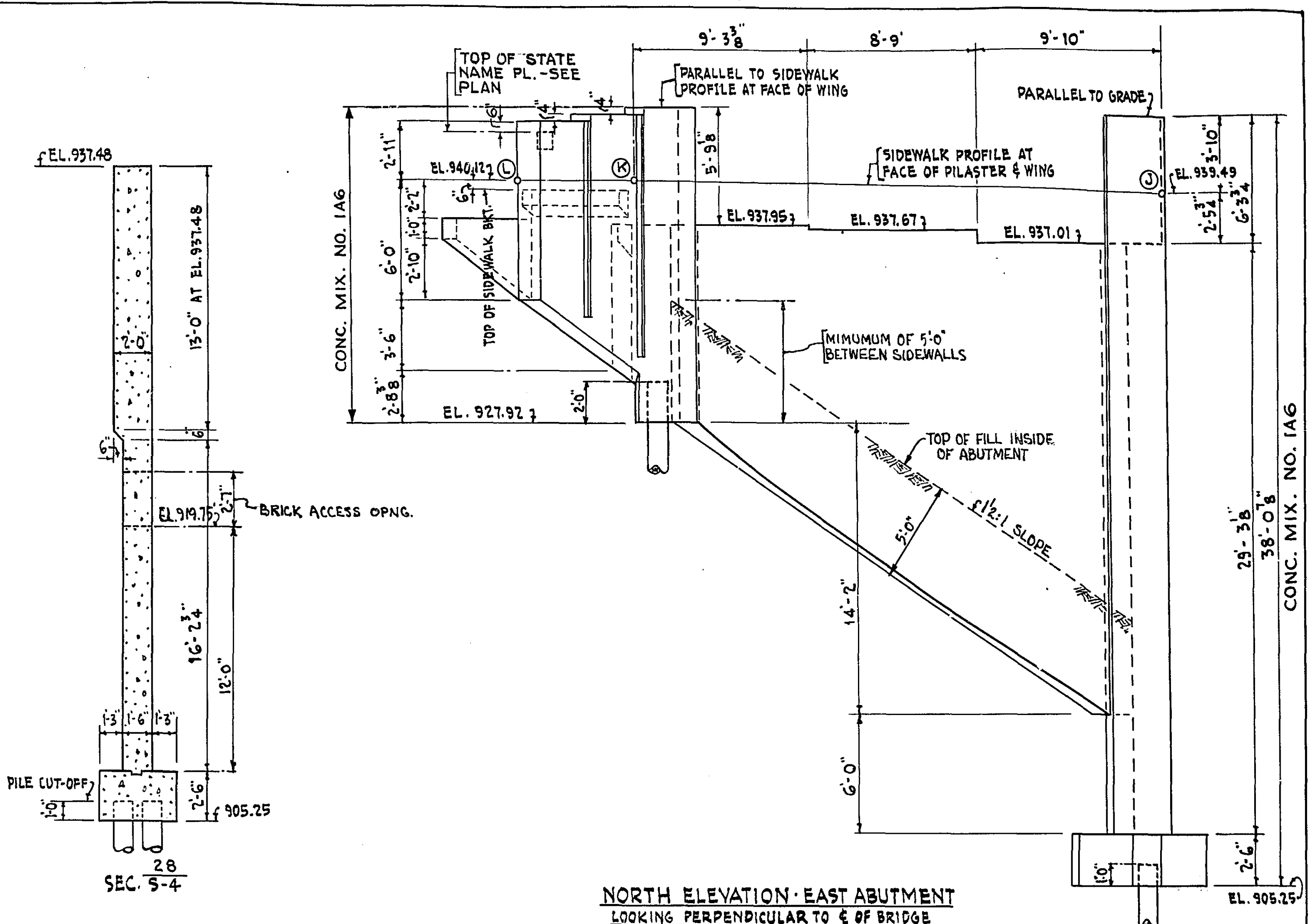
T-102



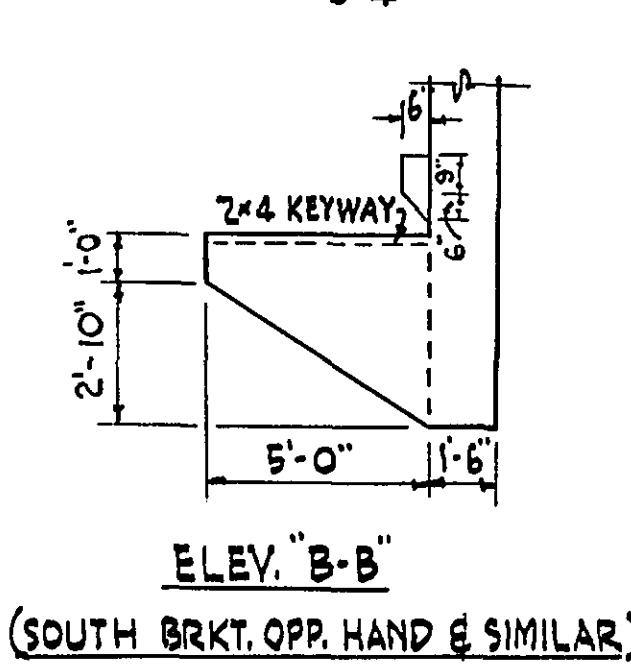
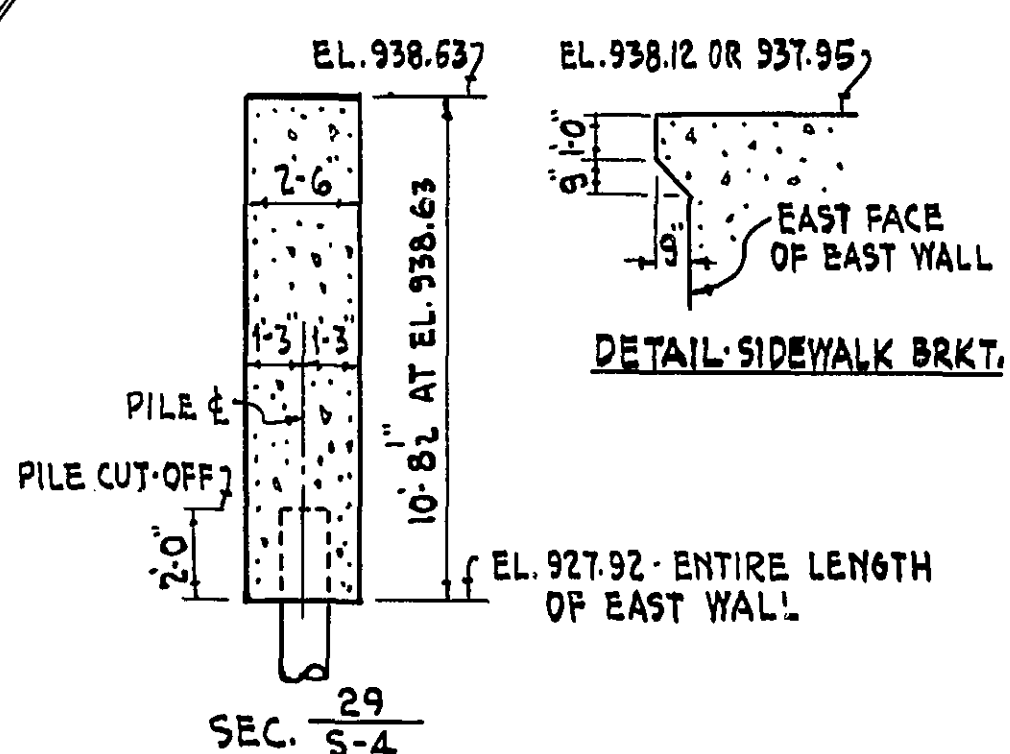
PLAN-TOP OF EAST ABUTMENT  
3/16" = 1'-0"



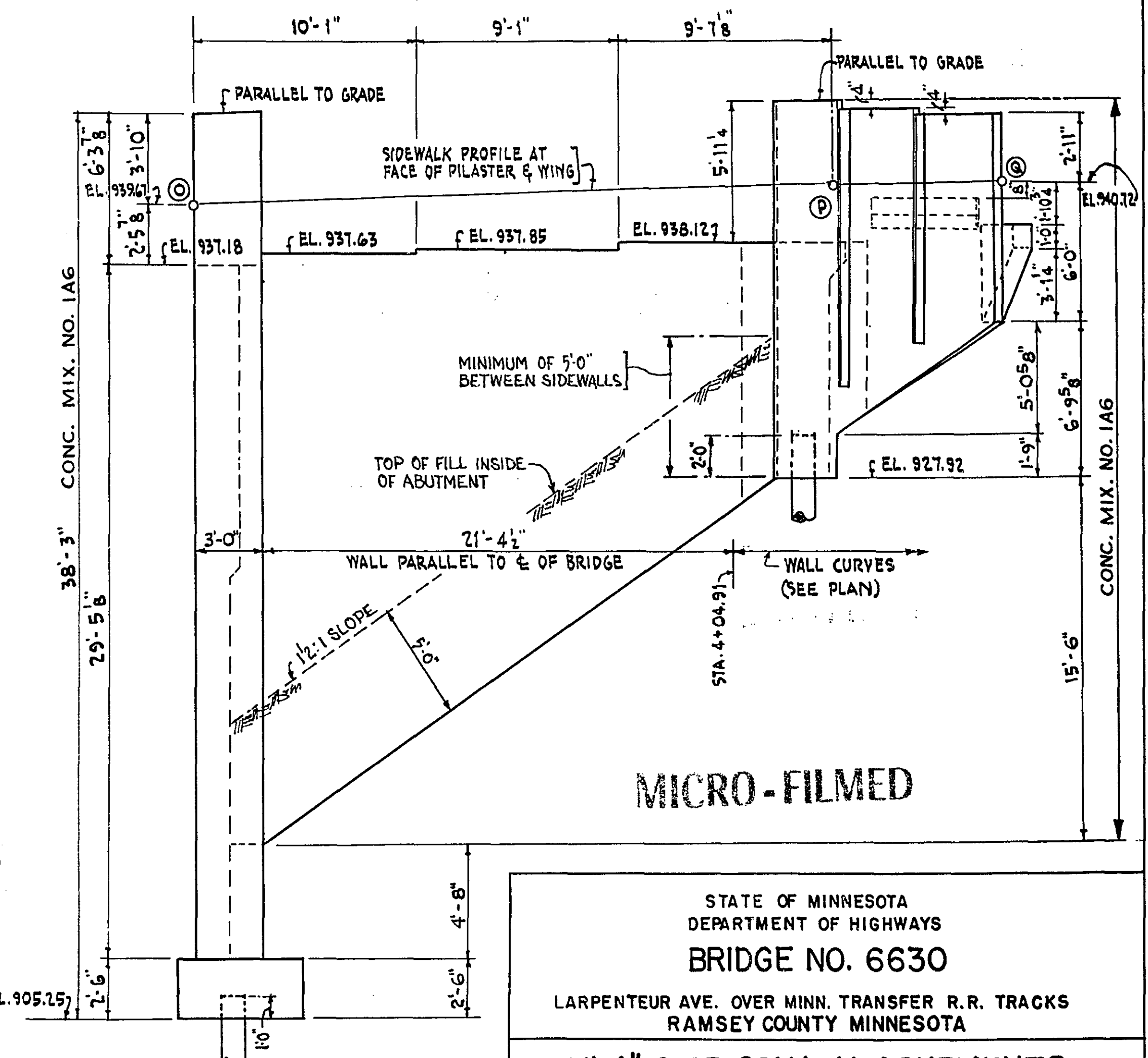
PLAN-FOOTINGS & PILES  
3/16" = 1'-0"



NORTH ELEVATION - EAST ABUTMENT  
LOOKING PERPENDICULAR TO E OF BRIDGE



PILE NOTES:  
PILES UNDER FOOTING AT ELEV. 905.25 TO BE DRIVEN FIRST.  
36 PILES REQ'D. EST. LENGTH 20 FT. FIG. AT ELEV. 905.25  
32 TEST PILES REQ'D. 25 FT. LONG DL. / PILE 17.8 TONS  
32 PILES REQ'D. EST. LENGTH 25 FT. FIG. AT ELEV. 927.92  
1 TEST PILES REQ'D. 55 FT. LONG DL. / PILE 10.0 TONS  
73 PILES REQ'D. FOR EAST ABUTMENT  
MINIMUM BEARING 20 TONS PER PILE. FOR FRONT FTG.  
ESTIMATED PENETRATION 2 FT. LESS THAN LENGTH GIVEN.  
ALL PILES TO BE CREOSOTED AS PER M.H.D. 3491.  
OMIT BARS T7 AT PILES NOTED THUS IN PLAN VIEW. SEE SEC. 5-5 ON SHEET NO. 5 FOR NOTE.



SOUTH ELEVATION - EAST ABUTMENT  
LOOKING PERPENDICULAR TO E OF BRIDGE

| PLAN REVISIONS |                               |        |
|----------------|-------------------------------|--------|
| DATE           | DESCRIPTION                   | BY     |
| 5-13-54        | PILES IN BACK FOOTING REVISED | R.T.C. |
|                |                               |        |
|                |                               |        |
|                |                               |        |

NOTE: FOR SUMMARY OF MATERIALS SEE SHEET #10

STATE OF MINNESOTA  
DEPARTMENT OF HIGHWAYS  
BRIDGE NO. 6630  
LARPENUE AVE. OVER MINN. TRANSFER R.R. TRACKS  
RAMSEY COUNTY MINNESOTA

31'-4" SLAB SPAN - U ABUTMENTS  
2'-26" ROADWAYS, 1'-4" CTR. ISLAND, 2'-5" SIDEWALKS  
EAST ABUTMENT FRAMING DETAILS

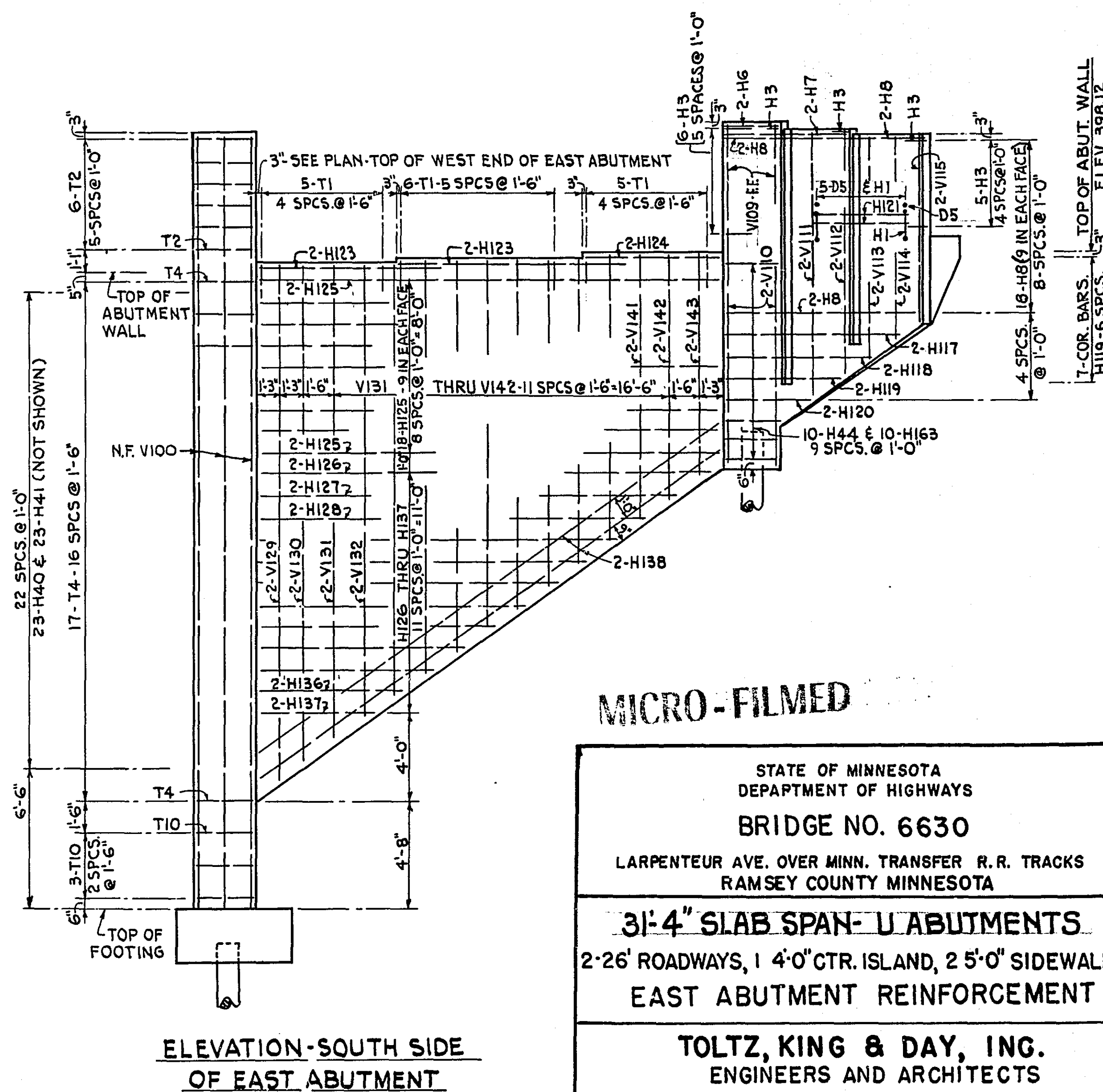
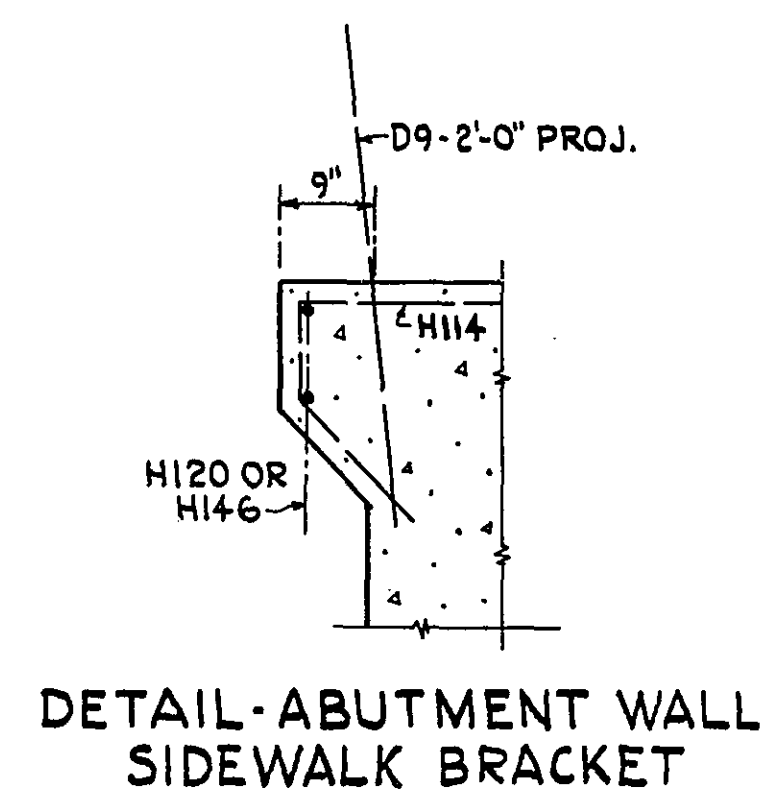
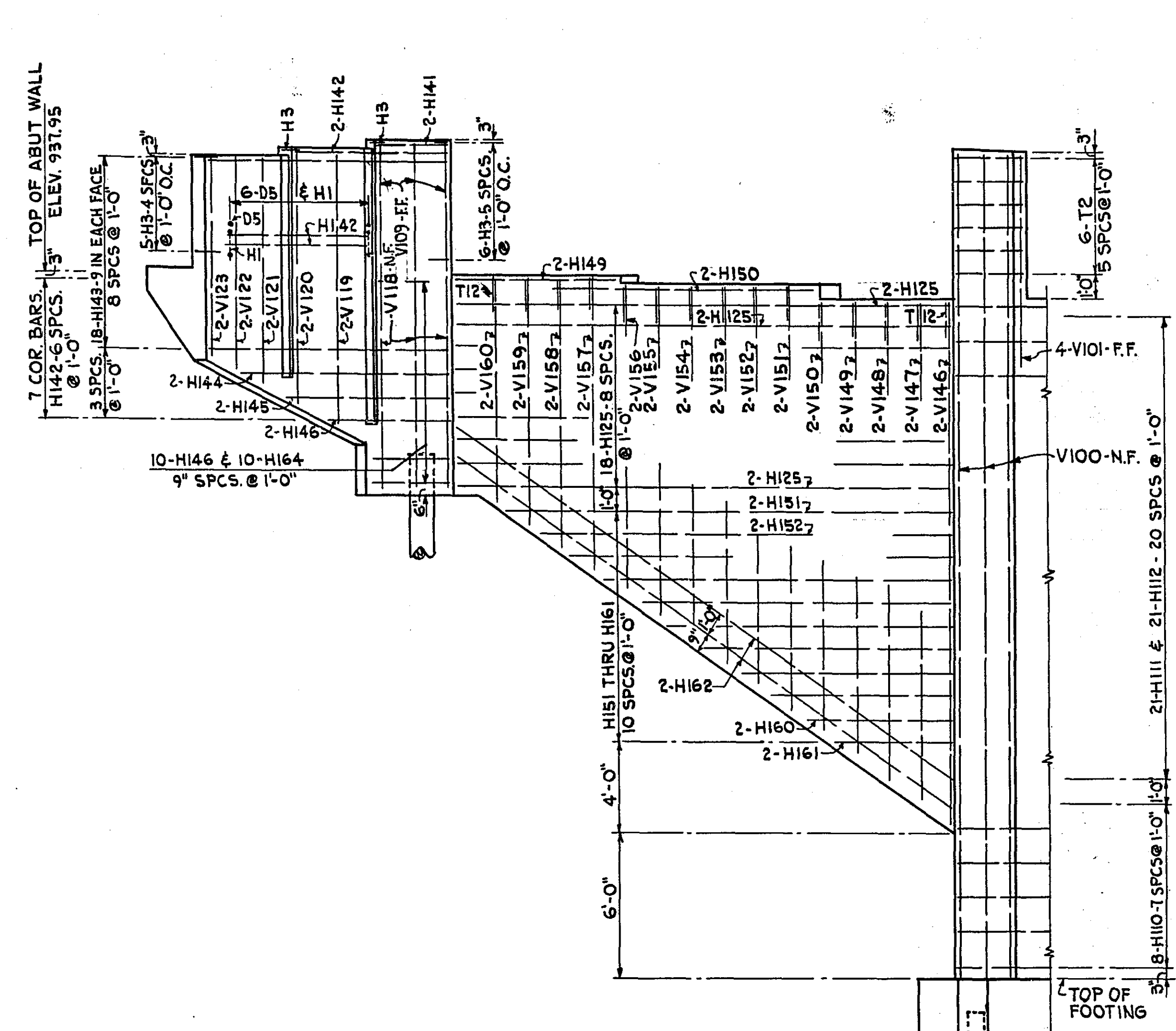
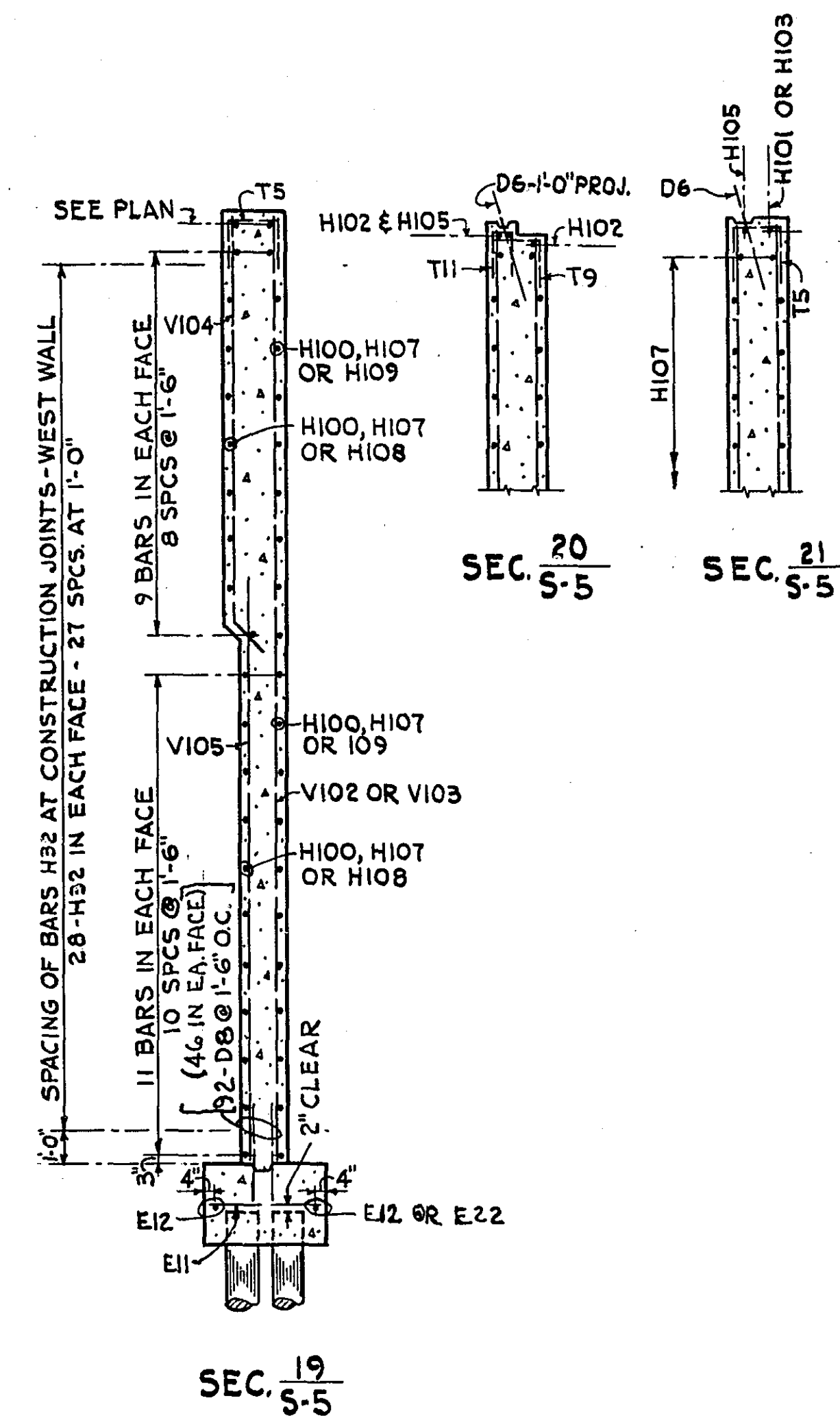
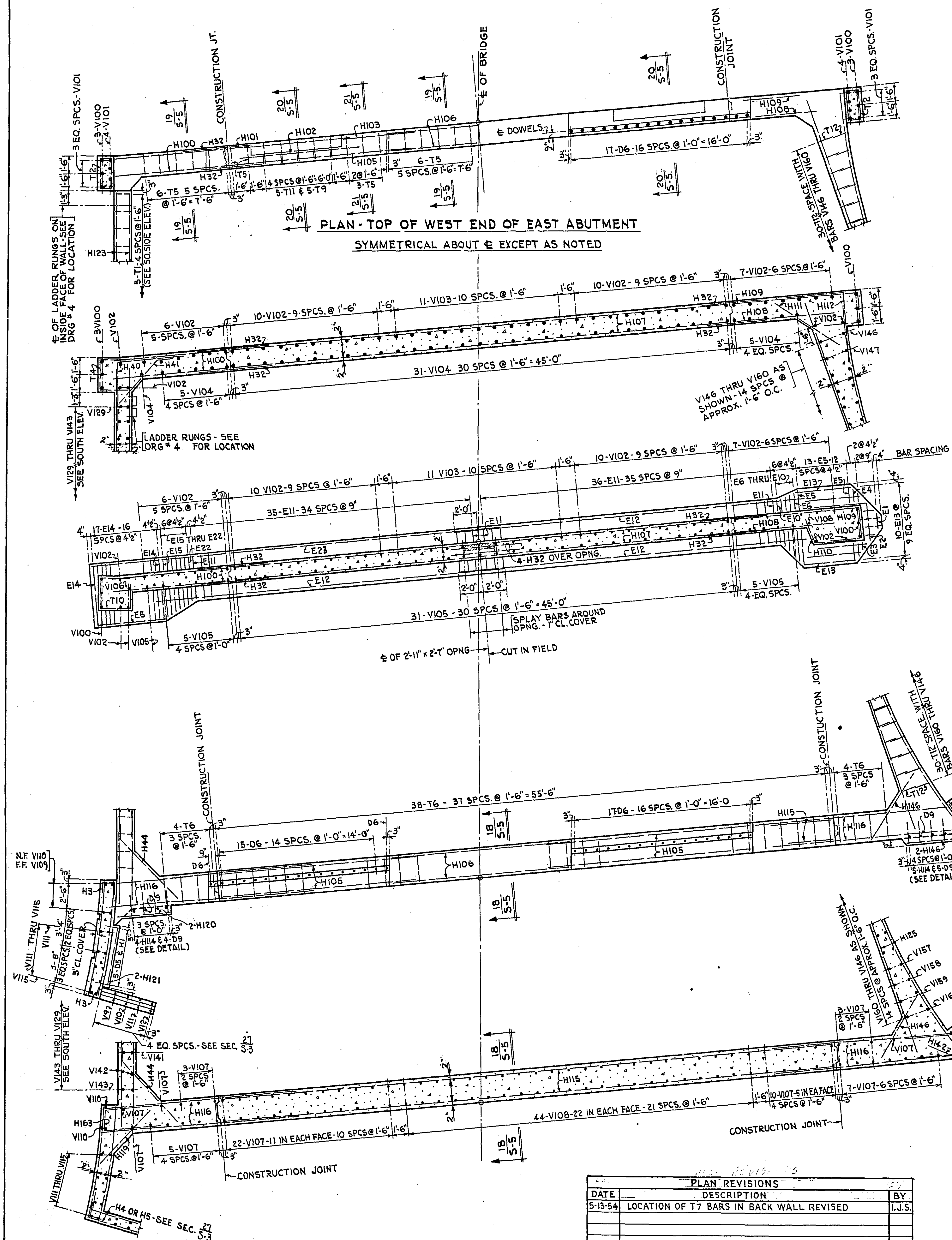
TOLTZ, KING & DAY, INC.  
ENGINEERS AND ARCHITECTS  
ST. PAUL, MINNESOTA

DESIGNED A.G.H.  
DRAWN S.J.K.  
CHECKED O.A.O.  
DATE 15 JAN 1954 REG. NO. 1366

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

COMM. 3412  
DRG. 4

APPROVED M.H.D. 3491  
DATE JAN 19 1954



| PLAN REVISIONS |                                          |        |
|----------------|------------------------------------------|--------|
| DATE           | DESCRIPTION                              | BY     |
| 5-13-54        | LOCATION OF T7 BARS IN BACK WALL REVISED | I.J.S. |
|                |                                          |        |
|                |                                          |        |
|                |                                          |        |
|                |                                          |        |

4-T7 AT EACH PILE IN  
WALL - 2 ON EACH SIDE  
OF PILE - 1" MIN. CL.  
EXCEPT OMIT FOR  
PILES SHOWN 2  
THUS  ON SH. NO 4

NOTE:  
UNLESS OTHERWISE NOTED, MINIMUM CLEAR COVER  
FOR REINF. STEEL TO BE 2"  
N.F. = NEAR FACE  
F.F. = FAR FACE  
FOR SUMMARY OF QUANTITIES SEE SHEET #10

MICROFILMED  
RAMSEY CO. ENGR.

**MICRO-FILMED**

STATE OF MINNESOTA  
DEPARTMENT OF HIGHWAYS  
BRIDGE NO. 6630  
LARPEUR AVE. OVER MINN. TRANSFER R.R. TRACKS  
RAMSEY COUNTY MINNESOTA

**31'-4" SLAB SPAN- U ABUTMENTS**  
**2-26' ROADWAYS, 1 4'-0" CTR. ISLAND, 2 5'-0" SIDEWALKS**  
**EAST ABUTMENT REINFORCEMENT**

**TOLTZ, KING & DAY, INC.**  
ENGINEERS AND ARCHITECTS  
ST. PAUL, MINNESOTA

|                                                          |                                                                                                                                                                                                                                                                   |                            |
|----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| DESIGNED<br>A.G.H.<br>DRAWN<br>K.K.<br>CHECKED<br>O.A.O. | I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED<br>BY ME OR UNDER MY DIRECT SUPERVISION AND THAT<br>I AM A DULY REGISTERED PROFESSIONAL ENGINEER<br>UNDER THE LAWS OF THE STATE OF MINNESOTA.<br><i>[Signature]</i><br>DATE <u>15 JAN. 1954</u> REG. NO. <u>1366</u> | COMM.<br>3412<br>DRG.<br>5 |
| APPROVED<br>ASST. PRINC. ENGINEER                        | <i>[Signature]</i><br>DATE <u>JAN. 19 1954</u>                                                                                                                                                                                                                    |                            |

COMM.  
3412  
DRG.  
5

APPROVED A. C. LaBonte JAN. 19, 1954  
M. H. D. ASST. BRIDGE ENGINEER DATE

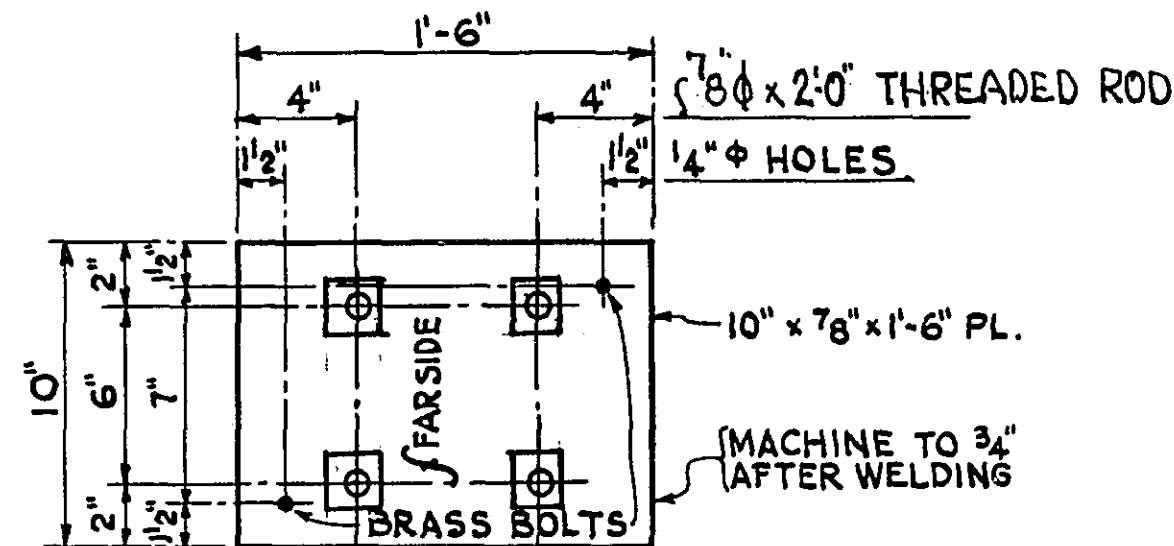
NOTES FOR BEARING PLATES:  
WROUGHT BRONZE PLATES TO MEET  
SPECIFICATIONS OF A.S.T.M. DESIGNATION  
B-100- TYPE A OR B HOT ROLLED, COLD  
ROLLED FINISH. NO PAINT.

STEEL BEARING PLATES TO BE GIVEN  
ONE COAT OF RED LEAD IN SHOP.

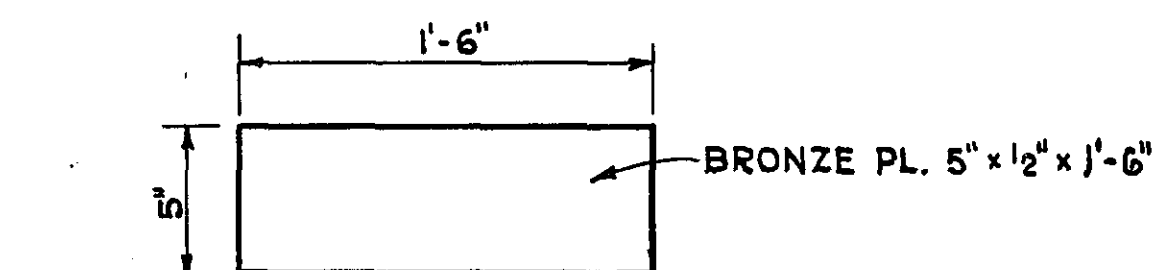
BOTTOM AND TOP PLATES TO BE  
BOLTED TOGETHER WITH 3/4" x 4" BRASS  
BOLTS (2 1/2" THREAD) BEFORE PLACING  
SUPERSTRUCTURE CONCRETE. EACH  
ASSEMBLY TO BE BOLTED TOGETHER FOR  
SHIPMENT. BRASS BOLTS TO REMAIN IN  
PLACE IN FINISHED STRUCTURE.

THE COMPLETE BEARING ASSEMBLIES  
(EXCEPT BRONZE PLATES) TO BE MEASURED  
AND PAID FOR AS STRUCTURAL STEEL.

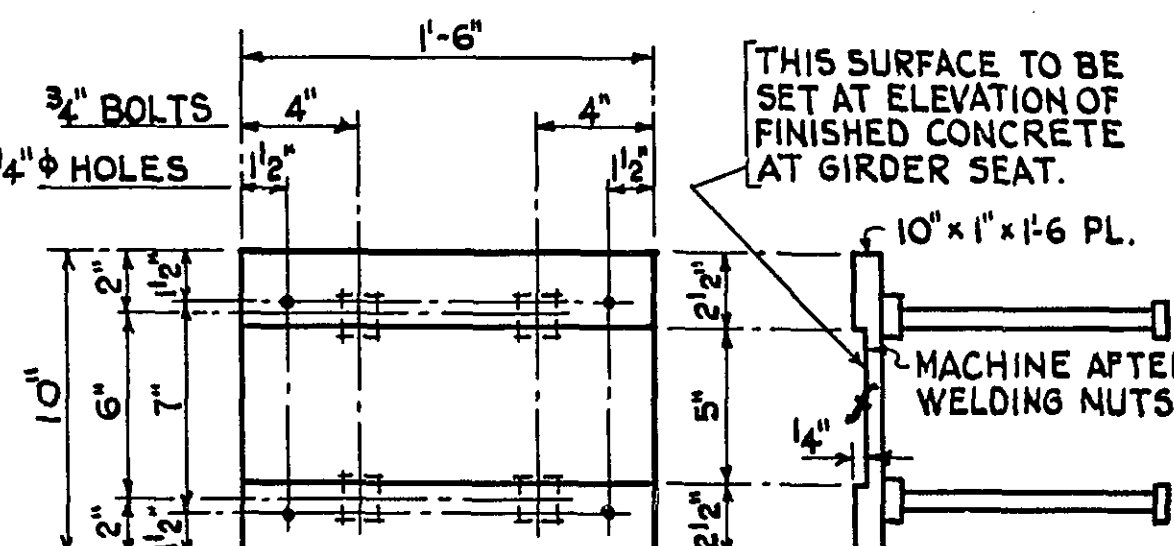
CAST BRONZE AS PER M.H.D. 3328 MAY  
BE SUBSTITUTED FOR WROUGHT BRONZE



TOP PLATE TP I  
MAKE 4



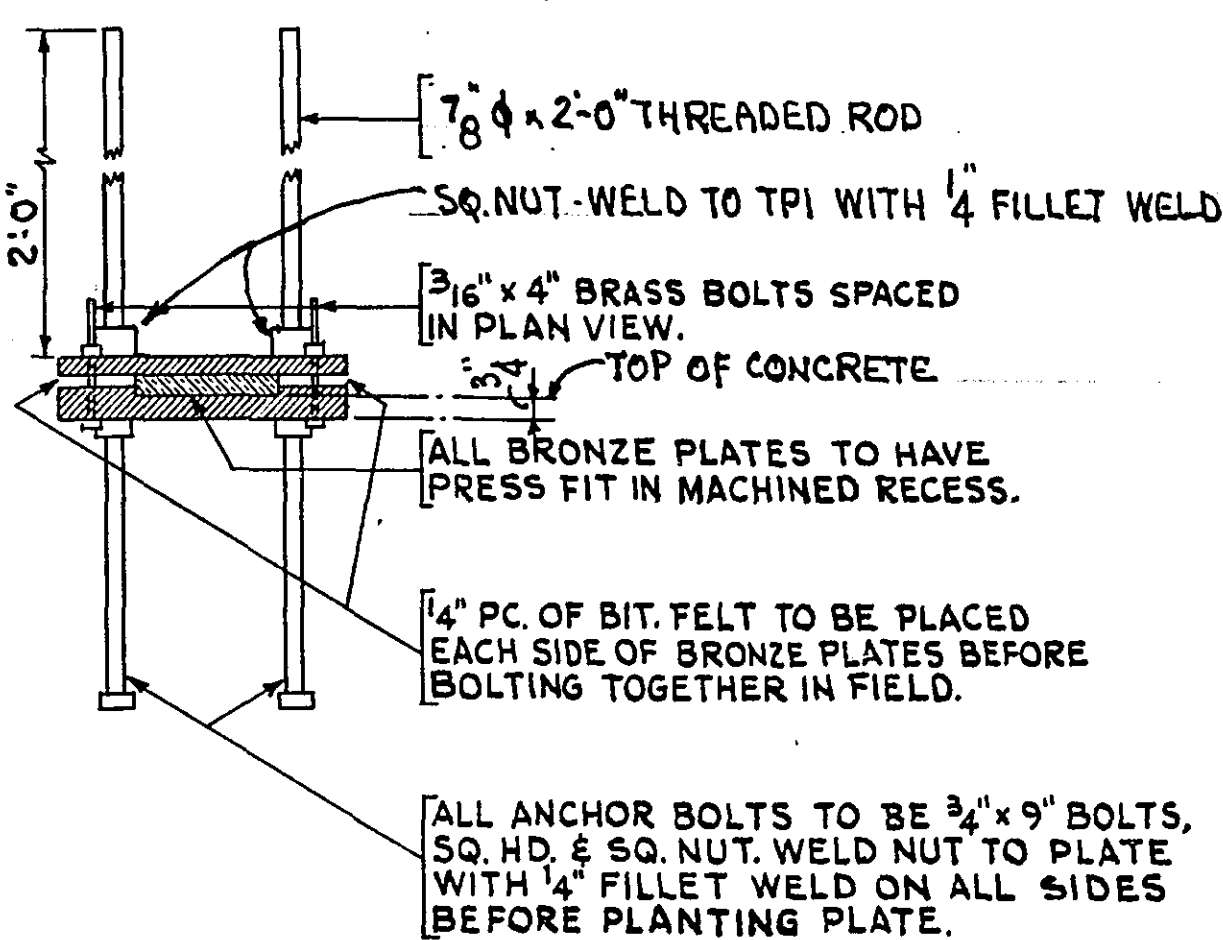
BRONZE PLATE B I  
MAKE 4



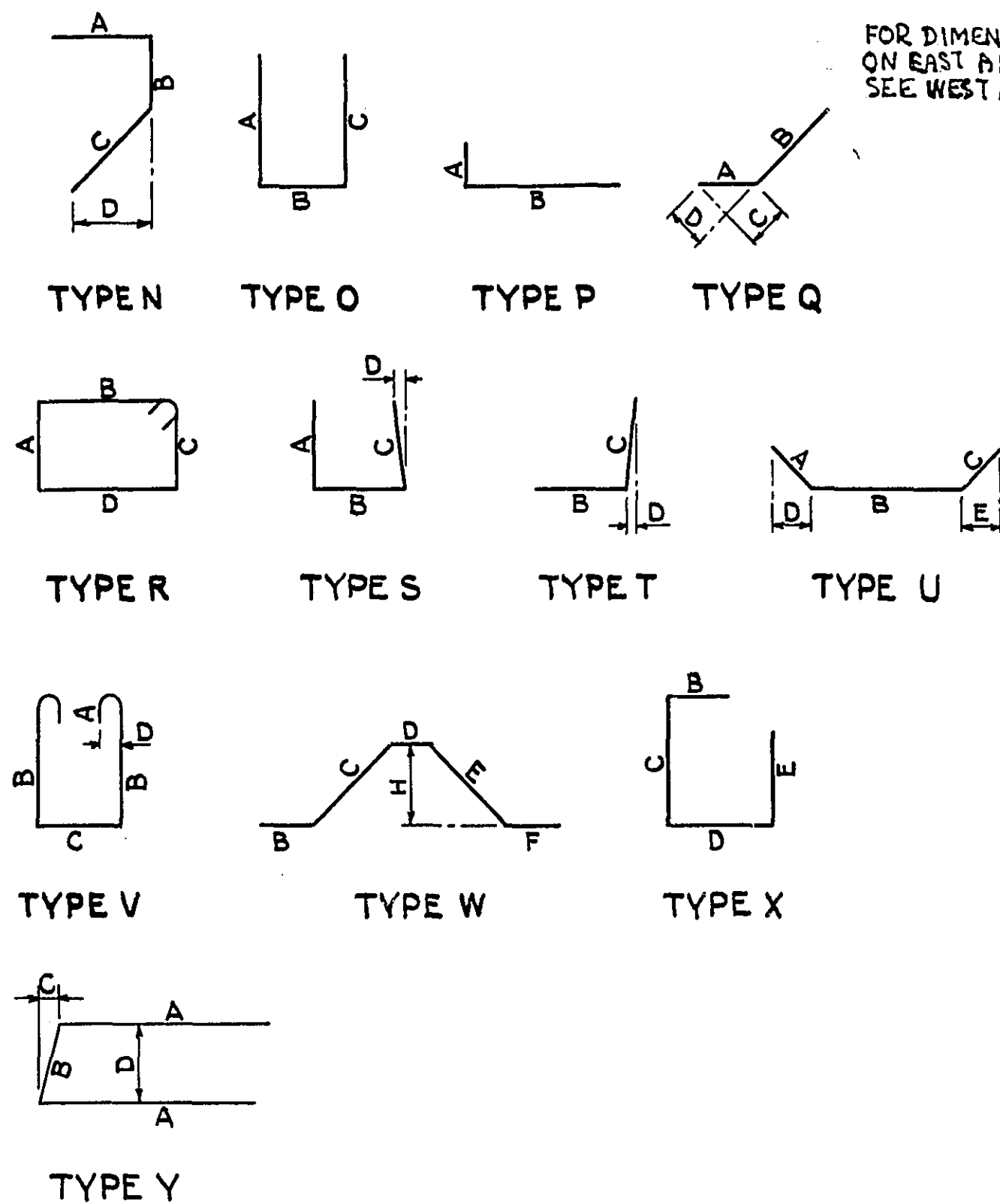
BOTTOM PLATE BP I  
MAKE 4

### BEARING ASSEMBLY BA I

4-BAI ASSEMBLIES REQ'D. EACH BAI  
ASSEMBLY CONSISTS OF 1-TP I, 1-B I & 1-BP I.



BAI  
BEARING ASSEMBLIES



NOTE: ALL DIMENSIONS ARE OUT TO OUT

### TIES & DOWELS FOR TWO ABUTMENTS

| MARK NO. | SIZE | LENGTH | SKETCH | TYPE | A     | B     | C     | D     | E     |                                    |
|----------|------|--------|--------|------|-------|-------|-------|-------|-------|------------------------------------|
| T1       | 5/8" | 4'-2"  | U      | O    | 1'-6" | 1'-2" | 1'-6" |       |       | TOP OF SIDE WALLS                  |
| T2       | 26   | 1/2"   | 8'-10" | R    | 1'-2" | 2'-8" | 1'-2" | 2'-8" |       | TOP OF PILASTERS                   |
| T3       | 19   | 1/2"   | 8'-0"  | L    | S     | 2'-8" | 2'-8" | 2'-8" | 1'-2" | SO. PILASTER-WEST ABUT.            |
| T4       | 36   | 1/2"   | 8'-0"  | U    | O     | 2'-8" | 2'-8" | 2'-8" |       | PILASTERS                          |
| T5       | 95   | 1/2"   | 5'-8"  | U    | O     | 2'-0" | 1'-8" | 2'-0" |       | TOP OF WALL                        |
| T6       | 70   | 1/2"   | 5'-2"  | U    | O     | 1'-6" | 2'-2" | 1'-6" |       | TOP OF WALL                        |
| T7       | 138  | 1/2"   | 3'-2"  | U    | O     | 6"    | 2'-2" | 6"    |       | WEST WALL - WEST ABUT.             |
| T8       | 30   | 1/2"   | 1'-10" | U    | V     | 6"    | 4'-4" | 2'-2" | 4"    | WEST WALL - EAST ABUT.             |
| T9       | 10   | 1/2"   | 3'-3"  | U    | P     | 1'-9" | 1'-6" |       |       | WEST WALL AT EXPANSION NOTCH       |
| T10      | 3    | 1/2"   | 9'-9"  | U    | X     |       | 1'-9" | 2'-8" | 2'-8" | SO. PILASTER - EAST ABUT.          |
| T11      | 10   | 1/2"   | 4'-8"  | U    | O     | 2'-0" | 8"    | 2'-0" |       | EAST ABUT. AT EXP. NOTCH           |
| T12      | 30   | 1/2"   | 2'-8"  | U    | P     | 1'-4" | 1'-4" |       |       | TOP OF NORTH SIDEWALL - EAST ABUT. |
| D5       | 21   | 1/2"   | 2'-6"  |      |       |       |       |       |       | W.W. TO S.W.                       |
| D6       | 90   | 5/8"   | 3'-0"  |      |       |       |       |       |       | ABUT. TO SLAB SPANS 2 & 3          |
| D7       | 24   | 5/8"   | 5'-0"  |      |       |       |       |       |       | BMS. SPAN 1                        |
| D8       | 184  | 5/8"   | 4'-0"  |      |       |       |       |       |       | FOOTINGS 1-Y-BAR ANCHOR DOWELS     |
| D9       | 19   | 1/2"   | 4'-0"  |      |       |       |       |       |       | ABUT. TO W.W. S.W.                 |

### FOOTING REINF. FOR TWO ABUTMENTS

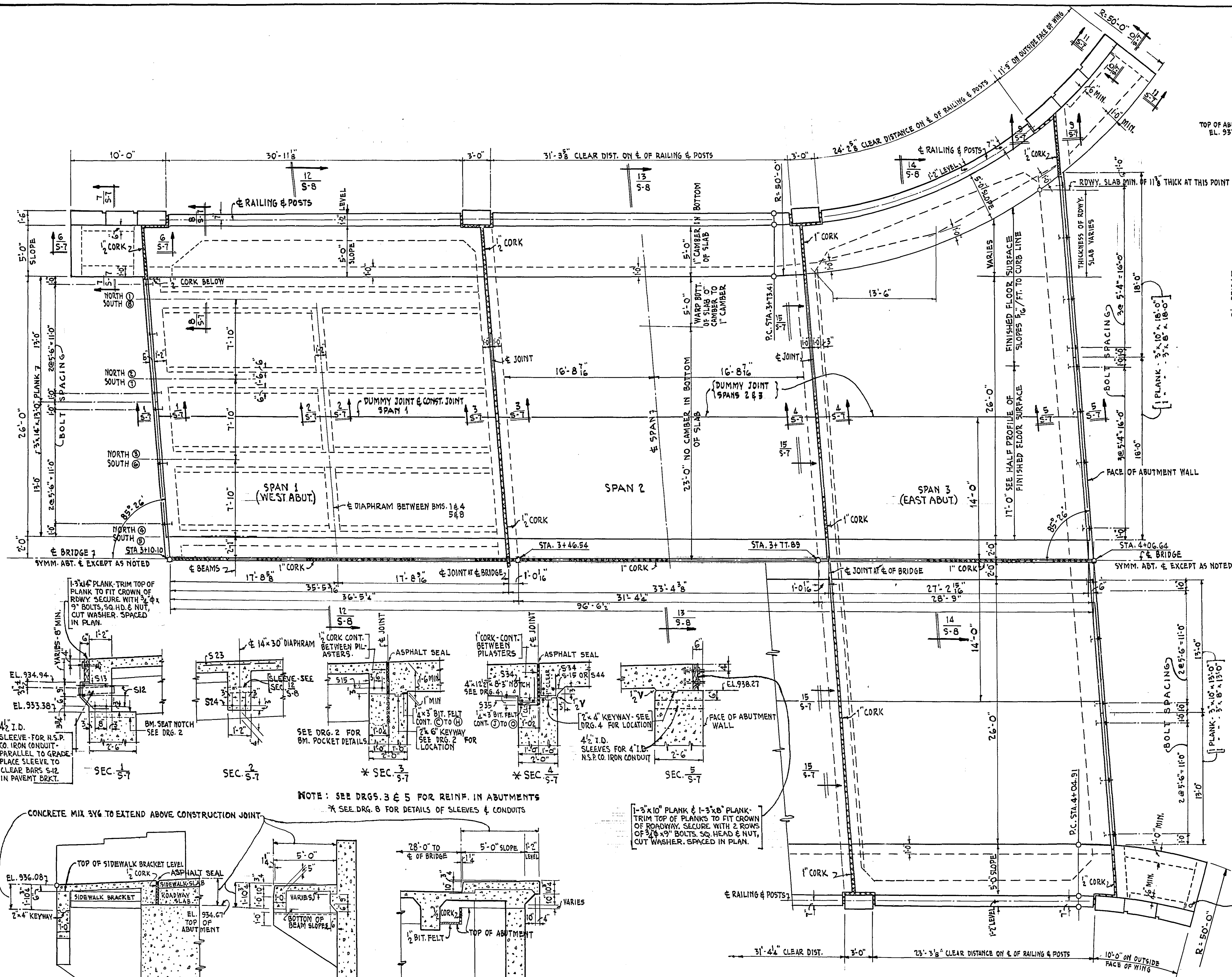
| MARK | NO. | SIZE | LENGTH | MARK | NO. | SIZE | LENGTH |
|------|-----|------|--------|------|-----|------|--------|
| E1   | 3   | 1/2" | 1'-6"  | E13  | 10  | 1/2" | 4'-9"  |
| E2   | 3   | 1/2" | 3'-0"  | E14  | 17  | 1/2" | 5'-2"  |
| E3   | 3   | 1/2" | 4'-10" | E15  | 1   | 1/2" | 5'-0"  |
| E4   | 3   | 1/2" | 5'-9"  | E16  | 1   | 1/2" | 4'-10" |
| E5   | 40  | 1/2" | 6'-5"  | E17  | 1   | 1/2" | 4'-7"  |
| E6   | 3   | 1/2" | 6'-0"  | E18  | 1   | 1/2" | 4'-5"  |
| E7   | 3   | 1/2" | 5'-6"  | E19  | 1   | 1/2" | 4'-3"  |
| E8   | 23  | 1/2" | 5'-0"  | E20  | 1   | 1/2" | 4'-0"  |
| E9   | 3   | 1/2" | 4'-6"  | E21  | 1   | 1/2" | 3'-10" |
| E10  | 3   | 1/2" | 3'-9"  | E22  | 1   | 1/2" | 3'-9"  |
| E11  | 143 | 1/2" | 3'-8"  | E23  | 1   | 1/4" | 3'-0"  |
| E12  | 7   | 1/2" | 3'-10" |      |     |      |        |
|      |     |      |        |      |     |      |        |
|      |     |      |        |      |     |      |        |

### EAST ABUTMENT

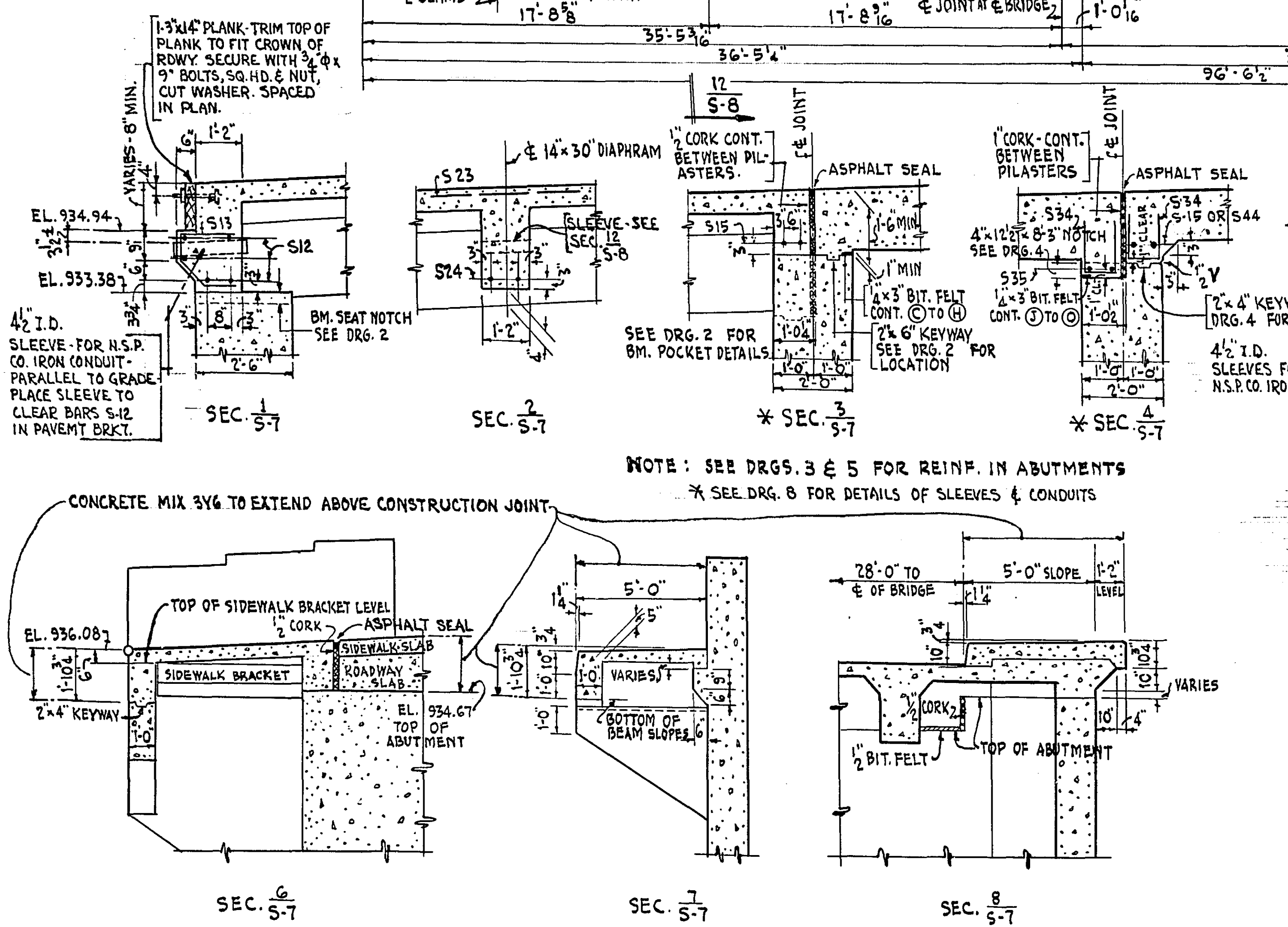
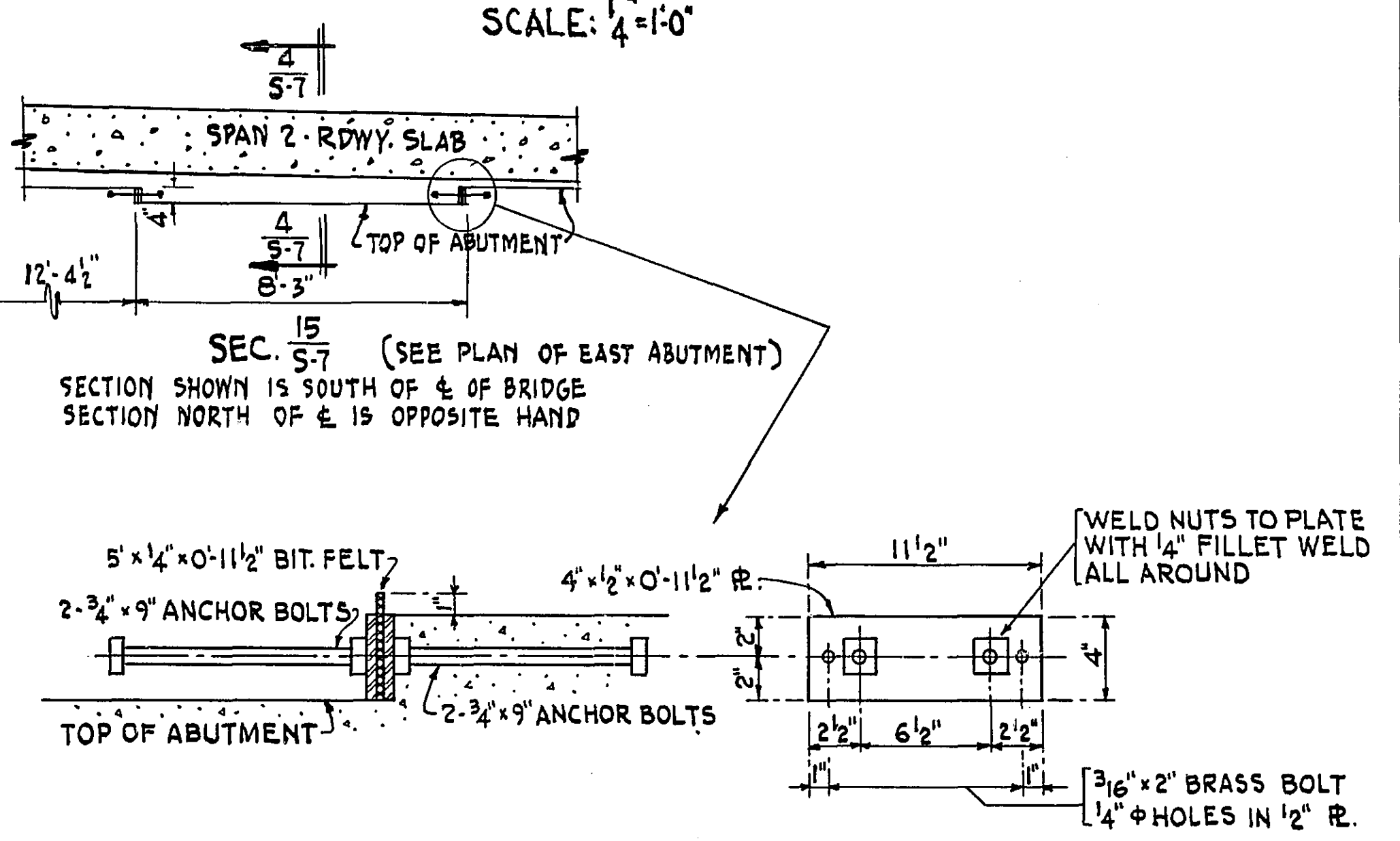
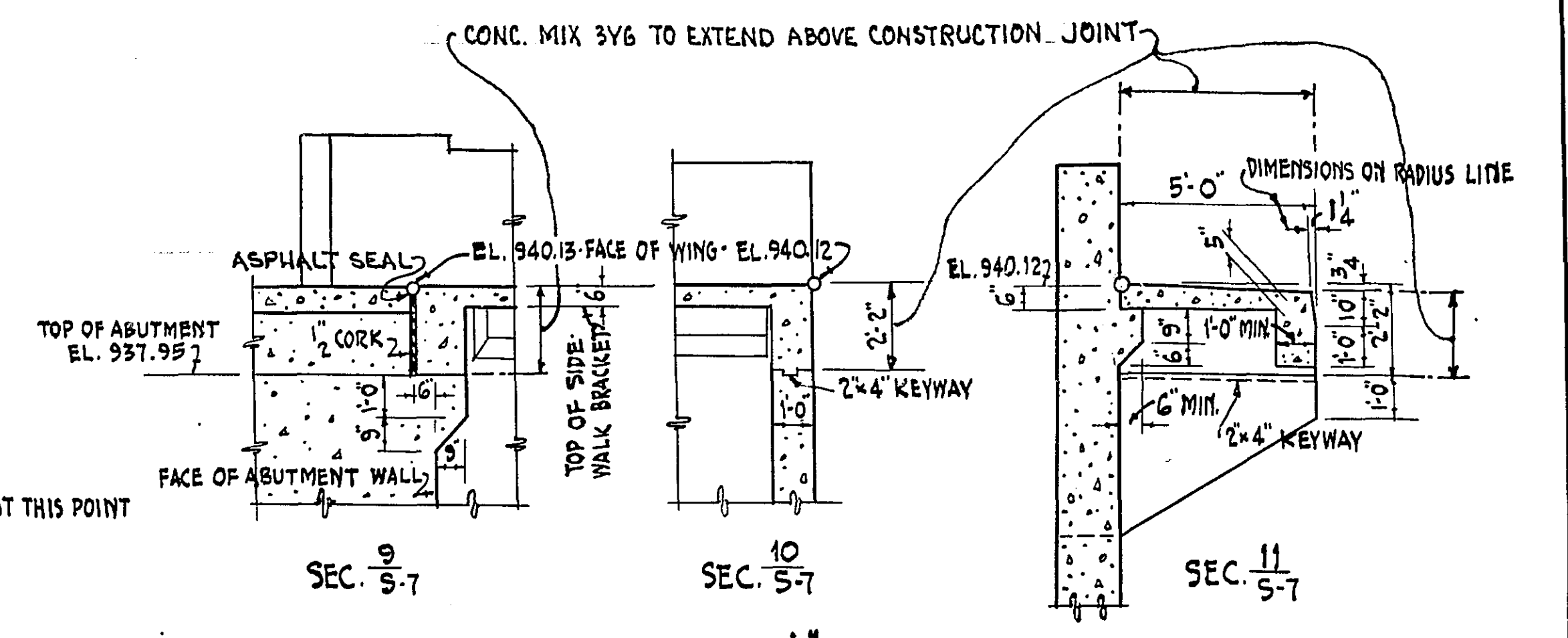
| MARK NO. | SIZE | LENGTH | SKETCH  | TYPE | A     | B         | C       | D      |
|----------|------|--------|---------|------|-------|-----------|---------|--------|
| H1       | 11   | 1/2"   | 2'-7"   | N    | W.W.  | S.W.      | BRACKET |        |
| H3       | 26   | 1/2"   | 3'-8"   | U    | O     | W.W.      | TIES    |        |
| H4       | 12   | 5/8"   | 7'-7"   | L    | P     |           |         |        |
| H5       | 4    | 5/8"   | 5'-9"   | L    | P     |           |         |        |
| H6       | 2    | 5/8"   | 2'-8"   |      |       |           |         |        |
| H7       | 2    | 5/8"   | 6'-0"   |      |       |           |         |        |
| H8       | 18   | 5/8"   | 9'-8"   |      |       |           |         |        |
| H32      | 116  | 5/8"   | 6'-0"   |      |       |           |         |        |
| H40      | 23   | 5/8"   | 12'-0"  | T    |       |           |         |        |
| H41      | 23   | 5/8"   | 7'-8"   | U    |       |           |         |        |
| H44      | 10   | 5/8"   | 9'-6"   | Q    | 1'-6" | 8'-0"     | 1'-0"   |        |
| H100     | 42   | 5/8"   | 10'-6"  |      |       |           |         |        |
| H101     | 2    | 5/8"   | 1'-9"   |      |       |           |         |        |
| H102     | 4    | 5/8"   | 10'-0"  |      |       |           |         |        |
| H103     | 2    | 5/8"   | 7'-0"   |      |       |           |         |        |
| H105     | 6    | 5/8"   | 17'-0"  |      |       |           |         |        |
| H106     | 4    | 5/8"   | 16'-3"  |      |       |           |         |        |
| H107     | 40   | 5/8"   | 45'-2"  |      |       |           |         |        |
| H108     | 20   | 5/8"   | 8'-0"   |      |       |           |         |        |
| H109     | 20   | 5/8"   | 17'-3"  | O    | 3'-0" | 2'-8"     | 11'-7"  |        |
| H110     | 8    | 5/8"   | 5'-6"   | T    |       | 3'-6"     | 2'-0"   |        |
| H111     | 21   | 5/8"   | 7'-6"   |      |       |           |         |        |
| H112     | 21   | 5/8"   | 12'-0"  | P    | 6'-0" | 6'-0"     |         |        |
| H114     | 9    | 1/2"   | 3'-10"  | N    | 1'-8" | 10"       | 1'-4"   | 11'-2" |
| H115     | 16   | 5/8"   | 55'-8"  |      |       |           |         |        |
| H116     | 32   | 5/8"   | 19'-0"  |      |       |           |         |        |
| H117     | 2    | 5/8"   | 9'-0"   |      |       |           |         |        |
| H118     | 2    | 5/8"   | 7'-6"   |      |       |           |         |        |
| H119     | 9    | 5/8"   | 6'-0"   |      |       |           |         |        |
| H120     | 4    | 5/8"   | 4'-6"   |      |       |           |         |        |
| H121     | 2    | 5/8"   | 5'-2"   |      |       |           |         |        |
| H123     | 4    | 5/8"   | 12'-0"  |      |       |           |         |        |
| H124     | 2    | 5/8"   | 9'-3"   |      |       |           |         |        |
| H125     | 36   | 5/8"   | 28'-4"  |      |       |           |         |        |
| H126     | 2    | 5/8"   | 25'-6"  |      |       |           |         |        |
| H127     | 2    | 5/8"   | 24'-0"  |      |       |           |         |        |
| H128     | 2    | 5/8"   | 22'-6"  |      |       |           |         |        |
| H129     | 2    | 5/8"   | 21'-0"  |      |       |           |         |        |
| H130     | 2    | 5/8"   | 19'-6"  |      |       |           |         |        |
| H131     | 2    | 5/8"   | 18'-0"  |      |       |           |         |        |
| H132     | 2    | 5/8"   | 16'-6"  |      |       |           |         |        |
| H133     | 2    | 5/8"   | 15'-0"  |      |       |           |         |        |
| H134     | 2    | 5/8"   | 13'-6"  |      |       |           |         |        |
| H135     | 2    | 5/8"   | 12'-0"  |      |       |           |         |        |
| H136     | 2    | 5/8"   | 10'-6"  |      |       |           |         |        |
| H137     | 2    | 5/8"   | 9'-0"   |      |       |           |         |        |
| H138     | 4    | 5/8"   | 33'-0"  |      |       |           |         |        |
| H141     | 2    | 5/8"   | 3'-3"   |      |       |           |         |        |
| H142     | 11   | 5/8"   | 7'-2"   |      |       |           |         |        |
| H143     | 18   | 5/8"   | 11'-5"  |      |       |           |         |        |
| H144     | 2    | 5/8"   | 10'-6"  |      |       |           |         |        |
| H145     | 2    | 5/8"   | 8'-6"   |      |       |           |         |        |
| H146     | 14   | 5/8"   | 6'-0"   |      |       |           |         |        |
| H149     | 2    | 5/8"   | 9'-6"   |      |       |           |         |        |
| H150     | 2    | 5/8"   | 11'-0"  |      |       |           |         |        |
| H151     | 2    | 5/8"   | 25'-4"  |      |       |           |         |        |
| H152     | 2    | 5/8"   | 23'-11" |      |       |           |         |        |
| H153     | 2    | 5/8"   | 22'-2"  |      |       |           |         |        |
| H154     | 2    | 5/8"   | 20'-8"  |      |       |           |         |        |
| H155     | 2    | 5/8"   | 19'-1"  |      |       |           |         |        |
| H156     | 2    | 5/8"   | 17'-4"  |      |       |           |         |        |
| H157     | 2    | 5/8"   | 15'-9"  |      |       |           |         |        |
| H158     | 2    | 5/8"   | 14'-2"  |      |       |           |         |        |
| H159     | 2    | 5/8"   | 12'-8"  |      |       |           |         |        |
| H160     | 2    | 5/8"   | 10'-11" |      |       |           |         |        |
| H161     | 2    | 5/8"   | 9'-4"   |      |       |           |         |        |
| H162     | 4    | 5/8"   | 32'-0"  |      |       |           |         |        |
| H163     | 10   | 5/8"   | 13'-2"  | Y    | 5'-6" | 2'-2 1/4" | 4"      | 2'-2"  |
| H164     | 10   | 5/8"   | 13'-7"  | Y    | 5'-6" | 2'-7 1/2" | 1'-6"   | 2'-2"  |

### WEST ABUTMENT

| MARK NO. | SIZE | LENGTH | SKETCH | TYPE | A | B     | C     | D     | E      | F     | G          | H          |
|----------|------|--------|--------|------|---|-------|-------|-------|--------|-------|------------|------------|
| H1       | 10   | 1/2"   | 2'-7"  | 7    | N | 1'-0" | 7"    | 1'-0" | 8 1/2" |       | W.W.       | S.W. BRKT. |
| H2       | 4    | 1/2"   | 4'-8"  |      |   |       |       |       |        |       |            |            |
| H3       | 24   | 1/2"   | 3'-8"  | L    | O | 1'-3" | 1'-2" | 1'-3" |        | W.W.  | TIES       |            |
| H4       | 12   | 5/8"   | 7'-7"  | L    | P | 1'-6" | 6'-1" |       |        | W.W.  | BRKT.      |            |
| H5       | 4    | 5/8"   | 5'-9"  | L    | P | 1'-6" | 4'-3" |       |        |       |            |            |
| H6       | 4    | 5/8"   | 2'-8"  |      |   |       |       |       |        |       |            |            |
| H7       | 4    | 5/8"   | 6'-0"  |      |   |       |       |       |        |       |            |            |
| H8       | 36   | 5/8"   | 9'-8"  |      |   |       |       |       |        |       |            |            |
| H9       | 4    | 5/8"   | 9'-2"  |      |   |       |       |       |        |       |            |            |
| H10      | 4    | 5/8"   | 7'-8"  |      |   |       |       |       |        |       |            |            |
| H11      | 4    | 5/8"   | 6'-2"  |      |   |       |       |       |        |       |            |            |
|          |      |        |        |      |   |       |       |       |        |       |            |            |
| H14      | 11   | 5/8"   | 15'-2" | □    | X |       | 2'-6" | 6'-0" | 3'-2"  | 6'-0" | NORTH W.W. | COR.       |
| H15      | 8    | 5/8"   | 16'-0" |      |   |       |       |       |        |       |            |            |
|          |      |        |        |      |   |       |       |       |        |       |            |            |
| H17      | 20   | 5/8"   | 20'-0" |      |   |       |       |       |        |       |            |            |
| H18      | 4    | 5/8"   | 13'-7" |      |   |       |       |       |        |       |            |            |
| H19      | 4    | 5/8"   | 11'-4" |      |   |       |       |       |        |       |            |            |
| H20      | 4    | 5/8"   | 9'-0"  |      |   |       |       |       |        |       |            |            |
| H21      | 2    | 5/8"   | 8'-0"  |      |   |       |       |       |        |       |            |            |
| H22      | 10   | 3/4"   | 43'-1" |      |   |       |       |       |        |       |            |            |
| H23      | 4    | 5/8"   | 43'-1" |      |   |       |       |       |        |       |            |            |
| H24      | 11   | 5/8"   | 13'-8" | □    | X |       | 2'-0" | 6'-0" | 3'-8"  | 4'-0" | SOUTH W.W. | COR.       |
|          |      |        |        |      |   |       |       |       |        |       |            |            |
|          |      |        |        |      |   |       |       |       |        |       |            |            |
| H30      | 2    | 5/8"   | 7'-3"  |      |   |       |       |       |        |       |            |            |
| H31      | 80   | 5/8"   | 11'-0" |      |   |       |       |       |        |       |            |            |
| H32      | 118  | 5/8"   | 6'-0"  |      |   |       |       |       |        |       |            |            |
| H33      | 2    | 5/8"   | 17'-6" |      |   |       |       |       |        |       |            |            |
| H34      | 1    | 5/8"   | 16'-2" |      |   |       |       |       |        |       |            |            |
| H35      | 2    | 5/8"   | 5'-0"  |      |   |       |       |       |        |       |            |            |
| H36      | 1    | 5/8"   | 2'-3"  |      |   |       |       |       |        |       |            |            |
| H37      | 16   | 5/8"   | 7'-10" | W    |   |       | 1'-3" | 2'-5" | 6"     | 2'-5" | 1'-3"      | 1'-8"      |
| H38      | 39   | 5/8"   | 43'-1" |      |   |       |       |       |        |       |            |            |
|          |      |        |        |      |   |       |       |       |        |       |            |            |
| H40      | 28   | 5/8"   | 12'-0" | T    |   |       | 6'-0" | 6'-0" | 6"     |       |            |            |
| H41      | 28   | 5/8"   | 7'-8"  | U    |   | 1'-0" | 5'-8" | 1'-0" | 8 1/2" | 9"    |            |            |
| H42      | 28   | 5/8"   | 12'-0" | S    |   |       | 6'-0" | 6'-0" | 6"     |       |            |            |
| H43      | 28   | 5/8"   | 7'-2"  | U    |   | 1'-0" | 5'-2" | 1'-0" | 8 1/2" | 8"    |            |            |
|          |      |        |        |      |   |       |       |       |        |       |            |            |
|          |      |        |        |      |   |       |       |       |        |       |            |            |
| H46      | 4    | 5/8"   | 11'-6" |      |   |       |       |       |        |       |            |            |
| H47      | 4    | 5/8"   | 14'-0" |      |   |       |       |       |        |       |            |            |
| H48      | 56   | 5/8"   | 36'-0" |      |   |       |       |       |        |       |            |            |
| H49      | 4    | 5/8"   | 31'-6" |      |   |       |       |       |        |       |            |            |
| H50      | 4    | 5/8"   | 30'-0" |      |   |       |       |       |        |       |            |            |
| H51      | 4    | 5/8"   | 28'-6" |      |   |       |       |       |        |       |            |            |
| H52      | 4    | 5/8"   | 27'-0" |      |   |       |       |       |        |       |            |            |
| H53      | 4    | 5/8"   | 25'-6" |      |   |       |       |       |        |       |            |            |
| H54      | 4    | 5/8"   | 24'-0" |      |   |       |       |       |        |       |            |            |
| H55      | 4    | 5/8"   | 22'-6" |      |   |       |       |       |        |       |            |            |
| H56      | 4    | 5/8"   | 21'-0" |      |   |       |       |       |        |       |            |            |
| H57      | 4    | 5/8"   | 19'-6" |      |   |       |       |       |        |       |            |            |
| H58      | 4    | 5/8"   | 18'-0" |      |   |       |       |       |        |       |            |            |
| H59      | 4    | 5/8"   | 16'-6" |      |   |       |       |       |        |       |            |            |
| H60      | 4    | 5/8"   | 15'-0" |      |   |       |       |       |        |       |            |            |
| H61      | 4    | 5/8"   | 13'-6" |      |   |       |       |       |        |       |            |            |
| H62      | 4    | 5/8"   | 12'-0" |      |   |       |       |       |        |       |            |            |
| H63      | 4    | 5/8"   | 10'-6" |      |   |       |       |       |        |       |            |            |
| H64      | 4    | 5/8"   | 9'-0"  |      |   |       |       |       |        |       |            |            |
| H65      | 4    | 5/8"   | 3'-3"  |      |   |       |       |       |        |       |            |            |
| H66      | 4    | 5/8"   | 1'-6"  |      |   |       |       |       |        |       |            |            |
| H67      | 1    | 5/8"   | 7'-7"  | Q    |   | 1'-0" | 6'-7" | 8"    |        |       |            |            |
| H68      | 11   | 5/8"   | 10'-6" | Q    |   | 1'-0" | 9'-6" | 8"    |        |       |            |            |
| H69      | 1    | 5/8"   | 7'-0"  | Q    |   | 1'-0" | 6'-0" | 7"    |        |       |            |            |
| H70      | 11   | 5/8"   | 9'-6"  | Q    |   | 1'-0" | 8'-6" | 7"    |        |       |            |            |
|          |      |        |        |      |   |       |       |       |        |       |            |            |
|          |      |        |        |      |   |       |       |       |        |       |            |            |
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|          |      |        |        |      |   |       |       |       |        |       |            |            |
|          |      |        |        |      |   |       |       |       |        |       |            |            |
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|          |      |        |        |      |   |       |       |       |        |       |            |            |
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|          |      |        |        |      |   |       |       |       |        |       |            |            |
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|          |      |        |        |      |   |       |       |       |        |       |            |            |
|          |      |        |        |      |   |       |       |       |        |       |            |            |
|          |      |        |        |      |   |       |       |       |        |       |            |            |
|          |      |        |        |      |   |       |       |       |        |       |            |            |
|          |      |        |        |      |   |       |       |       |        |       |            |            |
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|          |      |        |        |      |   |       |       |       |        |       |            |            |
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|          |      |        |        |      |   |       |       |       |        |       |            |            |
|          |      |        |        |      |   |       |       |       |        |       |            |            |
|          |      |        |        |      |   |       |       |       |        |       |            |            |
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|          |      |        |        |      |   |       |       |       |        |       |            |            |
|          |      |        |        |      |   |       |       |       |        |       |            |            |
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|          |      |        |        |      |   |       |       |       |        |       |            |            |
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|          |      |        |        |      |   |       |       |       |        |       |            |            |
|          |      |        |        |      |   |       |       |       |        |       |            |            |



PLAN - SUPERSTRUCTURE  
SCALE: 3/16" = 1'-0"



NOTE: SEE DRGS. 3 & 5 FOR REINF. IN ABUTMENTS  
\* SEE DRG. 8 FOR DETAILS OF SLEEVES & CONDUITS

NOTE:  
UNLESS OTHERWISE NOTED, MINIMUM CLEAR  
COVER FOR REINF. STEEL TO BE 2"

MICRO-FILMED

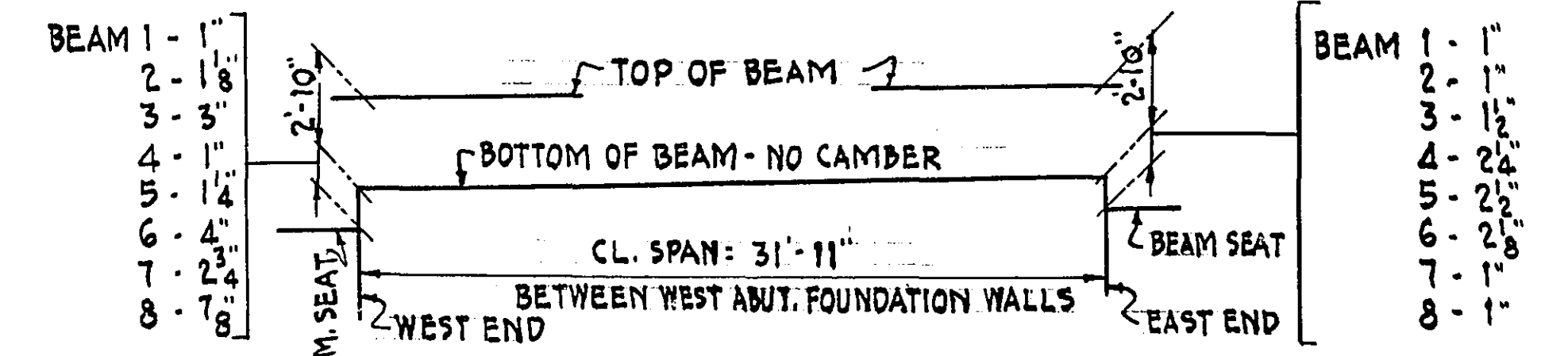
|                                                                                                                                               |                                                                                                                                                                                            |               |
|-----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| STATE OF MINNESOTA<br>DEPARTMENT OF HIGHWAYS<br>BRIDGE NO. 6630<br>LARPENTEUR AVE. OVER MINN. TRANSFER R.R. TRACKS<br>RAMSEY COUNTY MINNESOTA |                                                                                                                                                                                            |               |
| 31'-4" SLAB SPAN - U ABUTMENTS<br>2'-26" ROADWAYS, 1'-4" CTR. ISLAND, 2'-5" SIDEWALKS<br>PLAN OF SUPERSTRUCTURE                               |                                                                                                                                                                                            |               |
| TOLTZ, KING & DAY, INC.<br>ENGINEERS AND ARCHITECTS<br>ST. PAUL, MINNESOTA                                                                    |                                                                                                                                                                                            |               |
| DESIGNED<br>A.G.H.                                                                                                                            | I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED<br>BY ME OR UNDER MY DIRECT SUPERVISION AND THAT<br>I AM A DULY REGISTERED PROFESSIONAL ENGINEER<br>UNDER THE LAWS OF THE STATE OF MINNESOTA. | COMM.<br>3412 |
| DRAWN<br>S.J.K.                                                                                                                               |                                                                                                                                                                                            | DRG.<br>7     |
| CHECKED<br>O.A.O.                                                                                                                             | DATE 15 JAN. 1954 REG. NO. 1366                                                                                                                                                            |               |
| APPROVED<br>M.H.D.                                                                                                                            | DATE 15 JAN. 1954<br>ASST. BRIDGE ENGINEER                                                                                                                                                 |               |

MICROFILMED  
RAMSEY CO. ENGR.

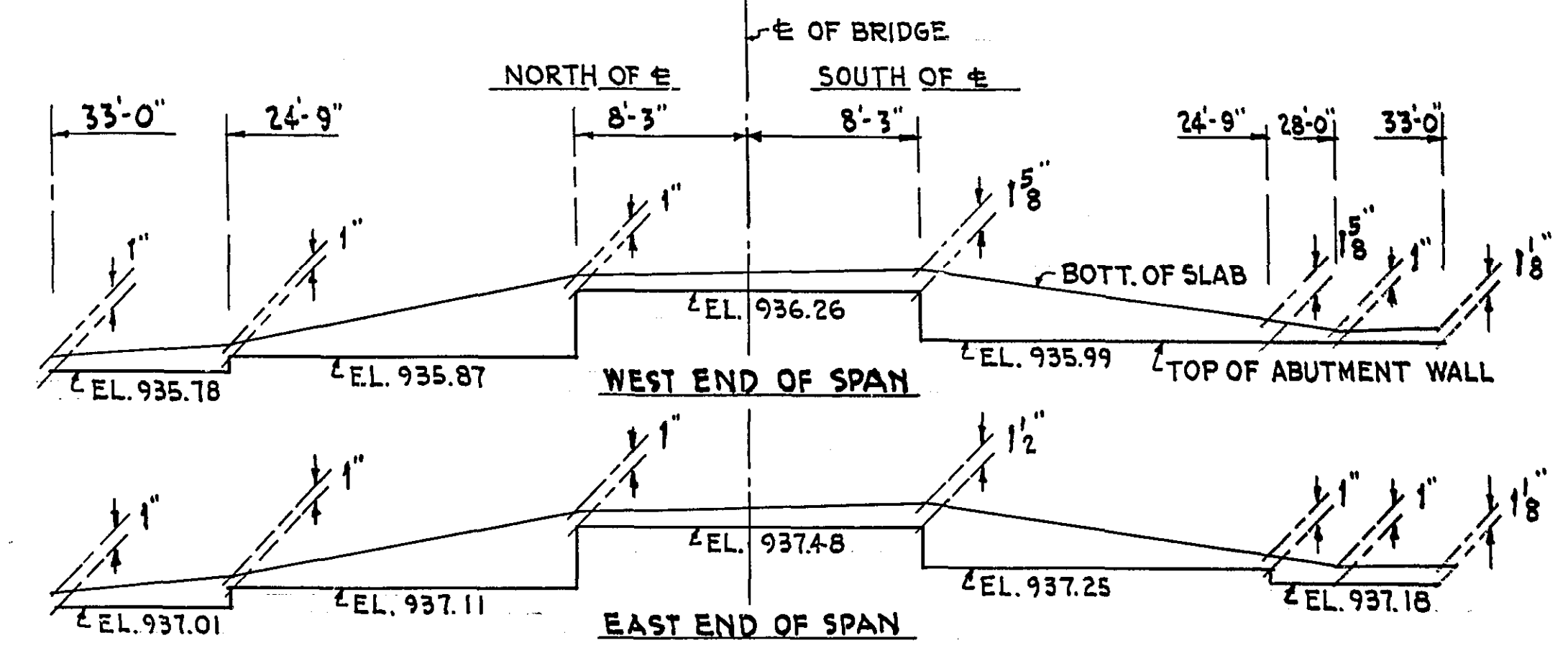
T-102

SHEET 7 OF 13 SHEETS

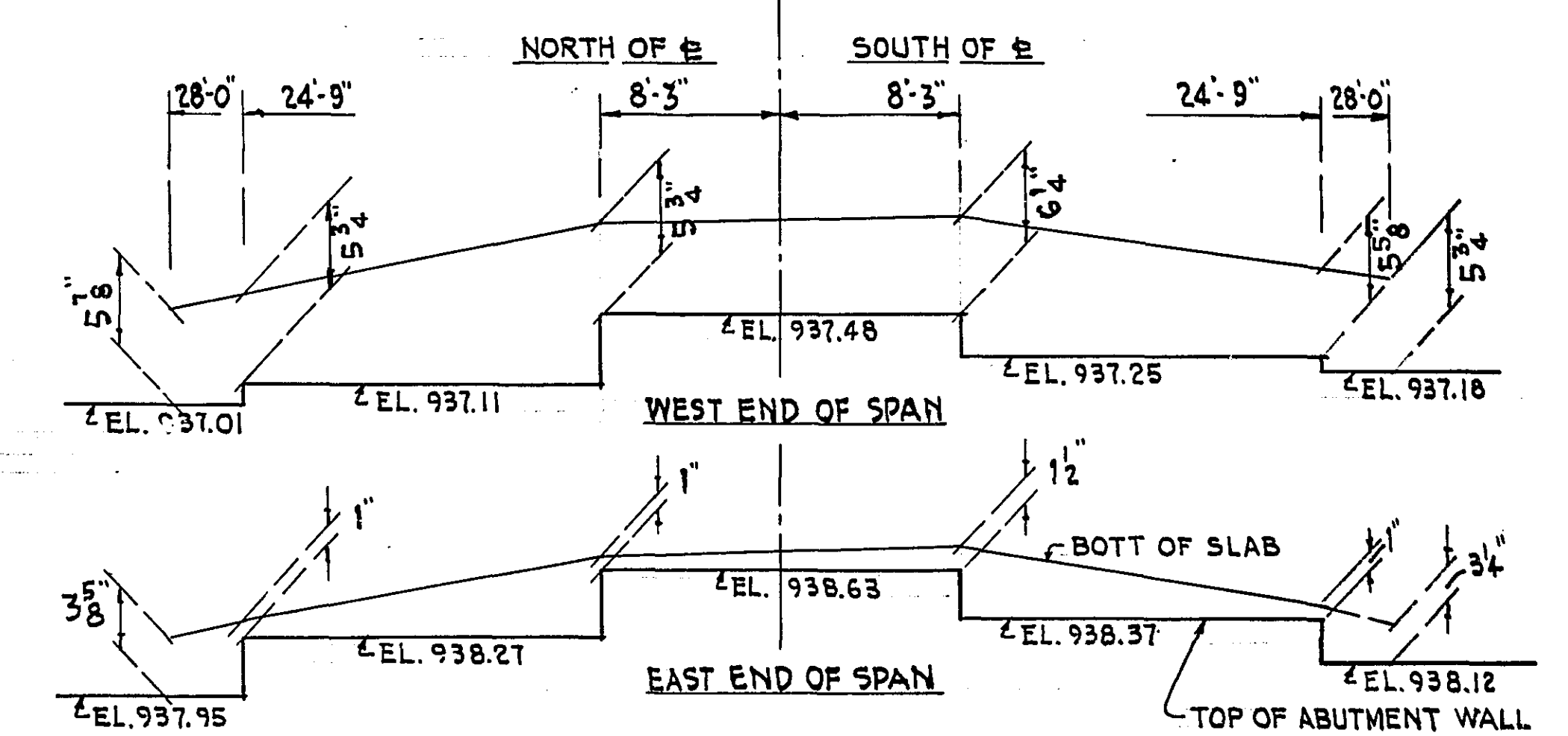
6630



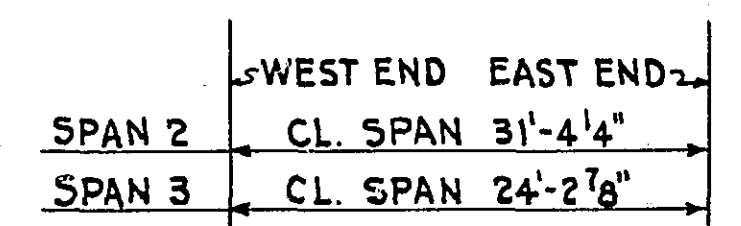
**BEAM HAUNCHES - SPAN 1**  
**(DIMENSIONS ON & OF BEAM)**



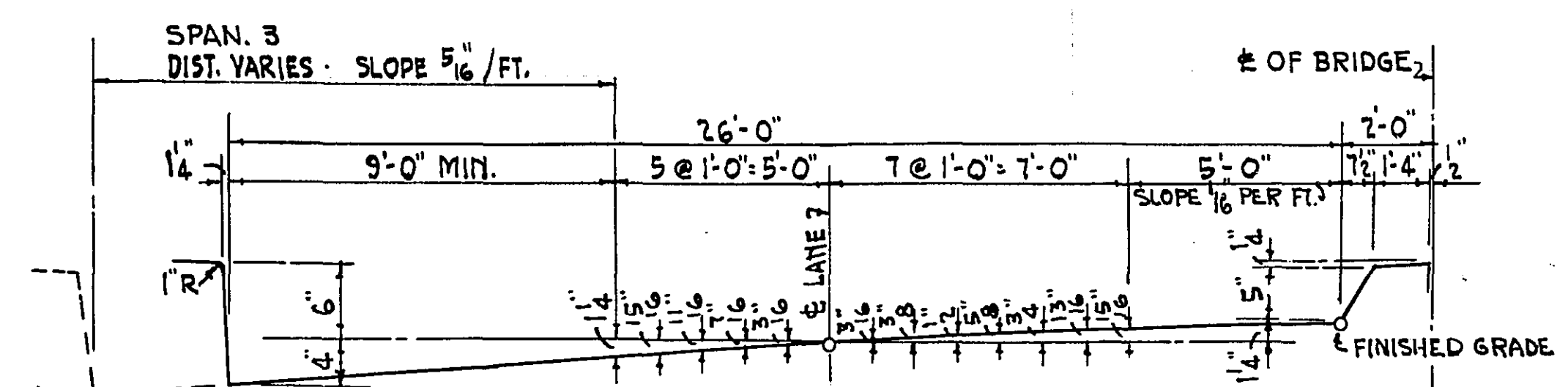
SPAN 2- DISTANCES TOP OF ABUTMENT TO BOTTOM OF SLAB



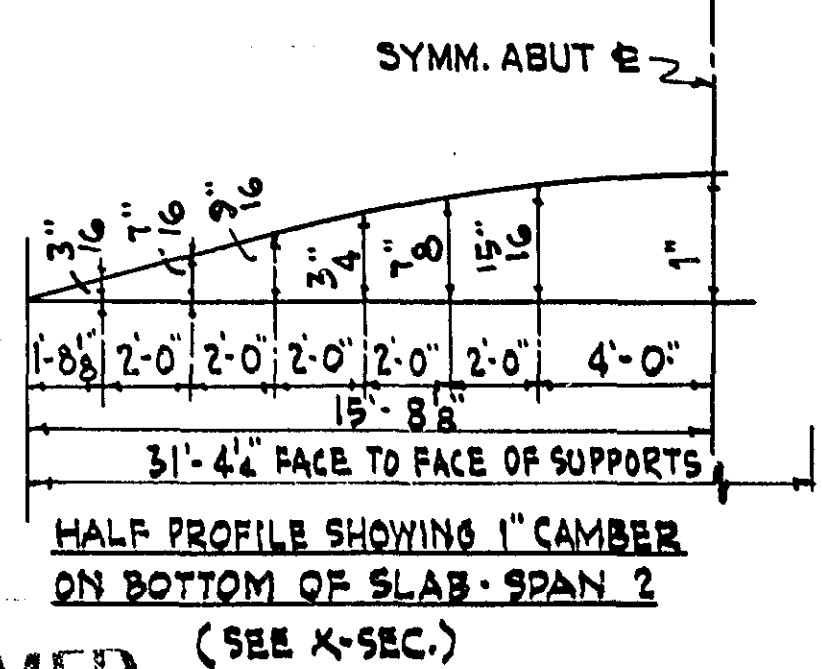
SPAN 3 - DISTANCES TOP OF ABUTMENT TO BOTTOM OF SLAB



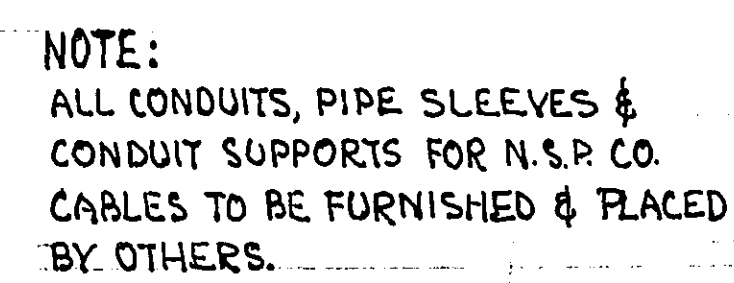
HALF PROFILE OF FINISHED FLOOR SURFACE



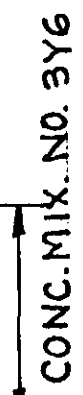
**MICRO-FILMED**



**MICRO-FILMED**

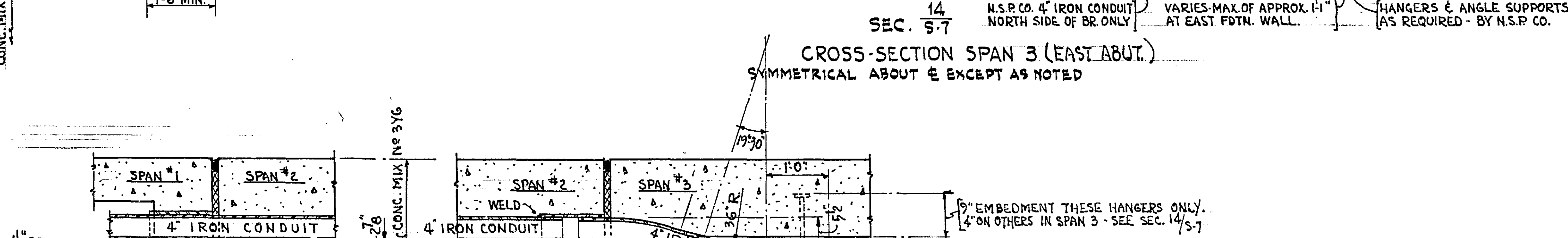


SEC.  $\frac{13}{9.7}$   
CROSS-SECTION SPAN 2  
SYMMETRICAL ABOUT  $\pm$  EXCEPT AS NOTED

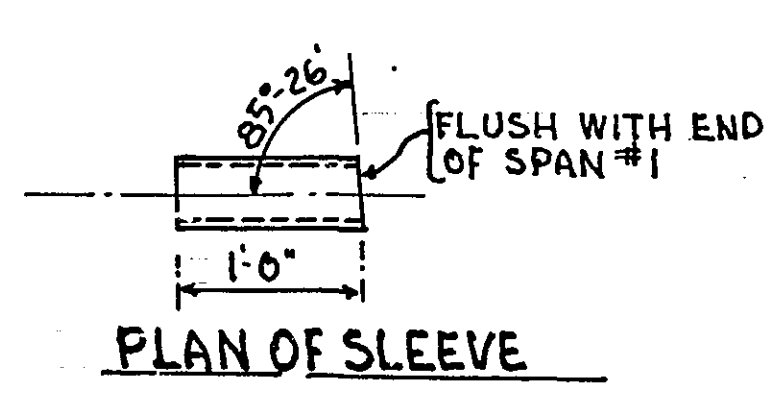


SEC.  $\frac{14}{5.7}$  W.S.P. CO. 4" IRON CONDUIT  
NORTH SIDE OF BR. ONLY

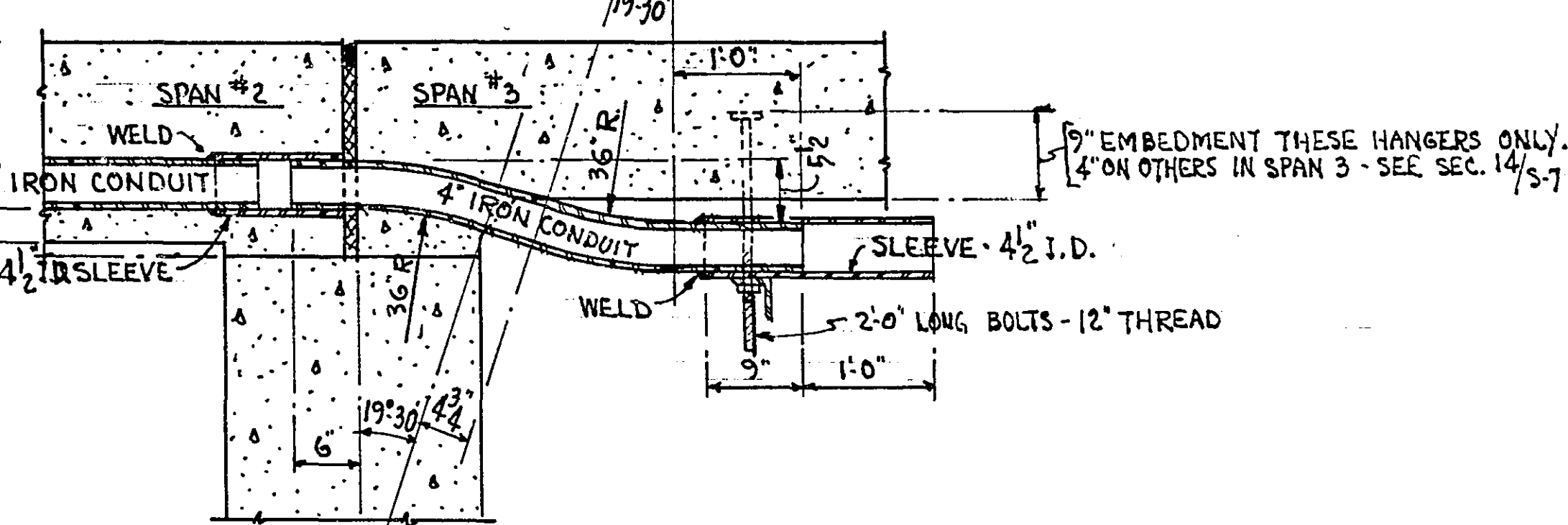
CROSS-SECTION SPAN 3 (EAST ABUT.)  
SYMMETRICAL ABOUT C EXCEPT AS NOTED



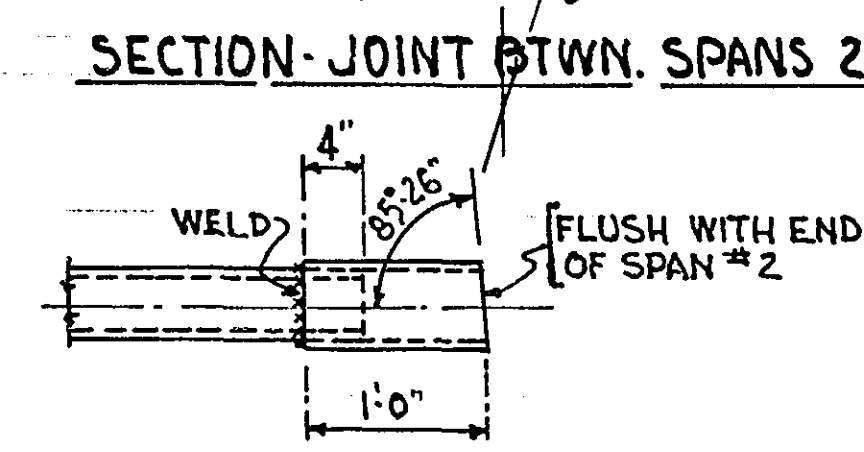
SECTION-JOINT BTWN. SPANS 1 & 2



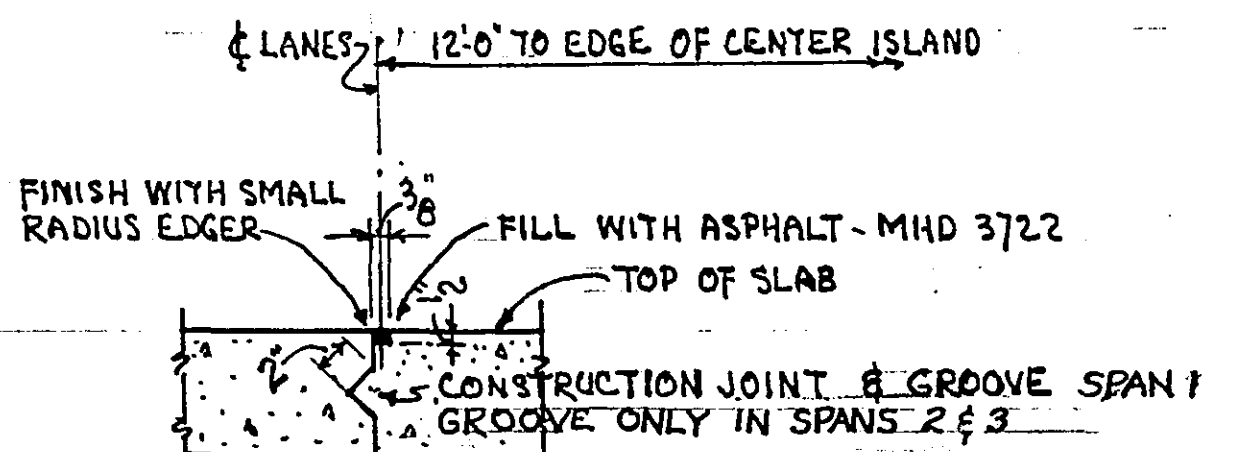
PLAN OF SLEEVE



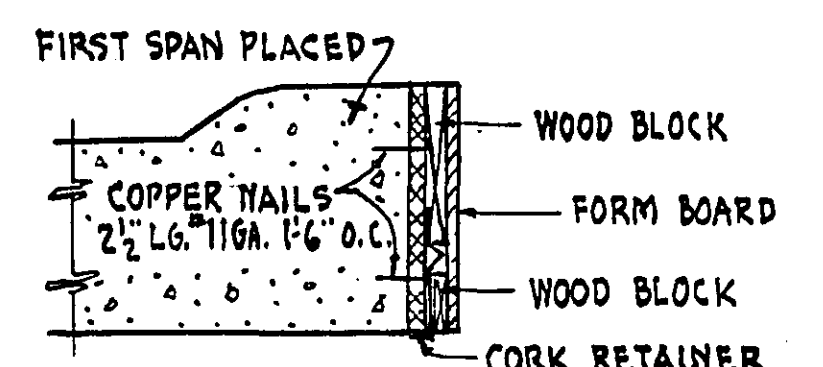
SECTION-JOINT BTWN. SPANS 2 & 3



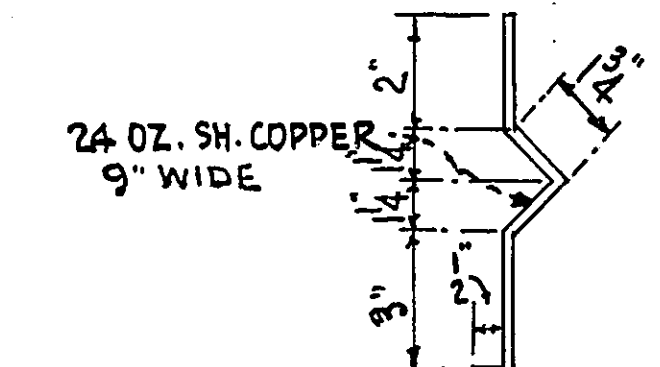
### PLAN OF SLEEVE



### DETAIL OF LONGITUDINAL CONSTRUCTION JOINT



DETAIL OF METHOD FOR FASTENING CORK  
RETAINERS AT LONGITUDINAL JOINT  
COPPER NAILS TO BE INCLUDED IN  
PRICE BID FOR OTHER ITEMS.  
NO DIRECT PAYMENT WILL BE MADE.

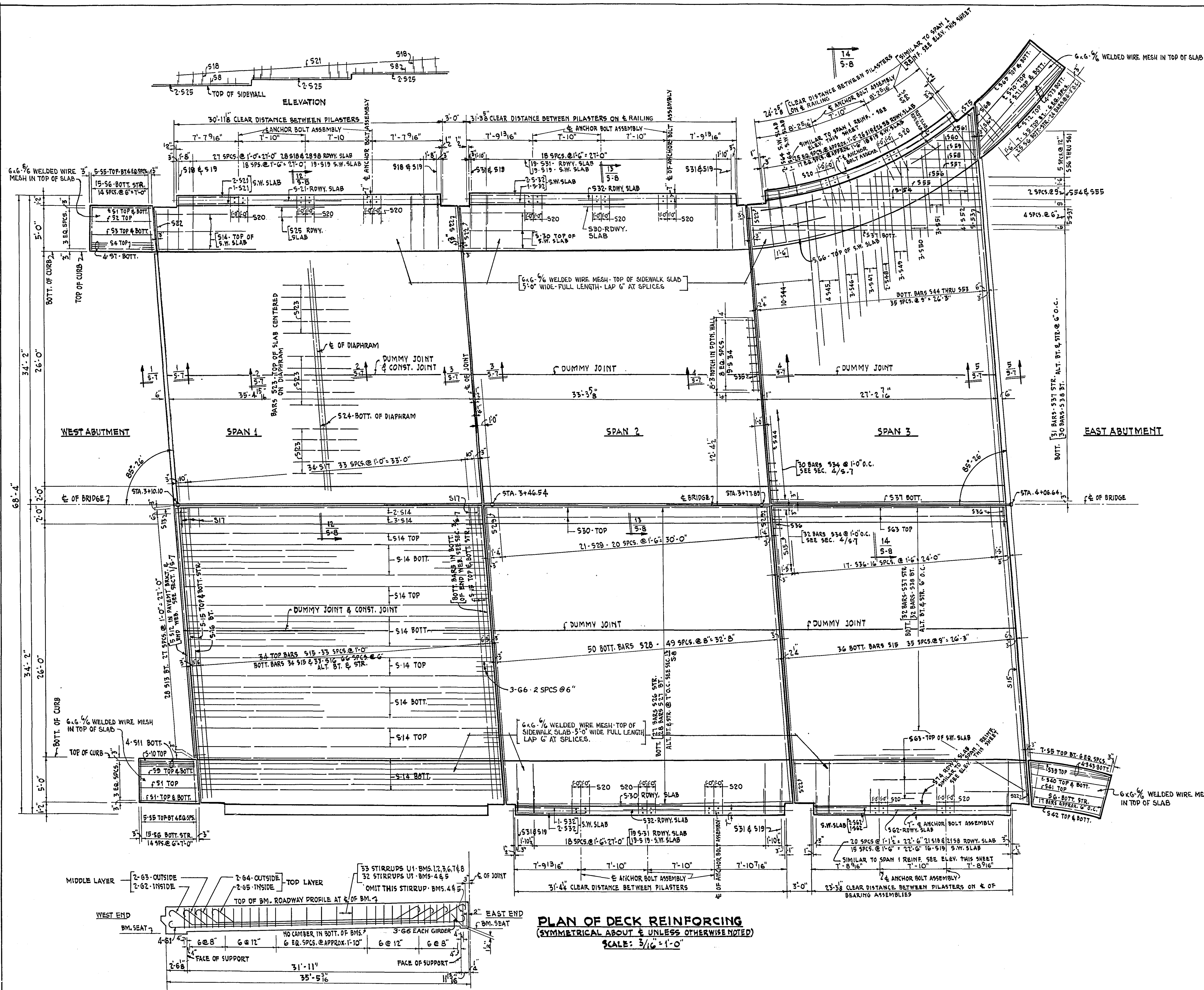


DETAIL OF CORK RETAINER  
FOR LONGITUDINAL JOINT  
LENGTHS TO BE DETERMINED FROM  
PLANS - 10'-0" MAX. LENGTHS, 1" LAPS

NOTE:  
UNLESS OTHERWISE NOTED, MINIMUM CLEAR  
COVER FOR REINF. STEEL TO BE 2"

MICROFILMED  
RAMSEY CO. ENGR.

|                                                                                                                                    |                                                                                                                                                                                                                                                      |                            |
|------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| STATE OF MINNESOTA<br>DEPARTMENT OF HIGHWAYS<br>BRIDGE NO. 6630                                                                    |                                                                                                                                                                                                                                                      |                            |
| LARPEUR AVE. OVER MINN. TRANSFER R.R. TRACKS<br>RAMSEY COUNTY MINNESOTA                                                            |                                                                                                                                                                                                                                                      |                            |
| <b>31'-4" SLAB SPAN-U ABUTMENTS</b><br>2'-26" ROADWAYS, 1'-4'-0" CTR. ISLAND, 2'-5'-0" SIDE WALKS<br>SUPERSTRUCTURE-CROSS SECTIONS |                                                                                                                                                                                                                                                      |                            |
| <b>TOLTZ, KING &amp; DAY, INC.</b><br>ENGINEERS AND ARCHITECTS<br>ST. PAUL, MINNESOTA                                              |                                                                                                                                                                                                                                                      |                            |
| DESIGNED<br>A.G.H.<br>DRAWN<br>S.J.K.<br>CHECKED<br>O.A.Q.                                                                         | I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED<br>BY ME OR UNDER MY DIRECT SUPERVISION AND THAT<br>I AM A DULY REGISTERED PROFESSIONAL ENGINEER<br>UNDER THE LAWS OF THE STATE OF MINNESOTA.<br><i>R. B. LeBeau</i><br>DATE 15 JAN. 1954 REG. NO. 1366 | COMM.<br>3412<br>DRG.<br>8 |
| APPROVED<br>M.H.D.                                                                                                                 | <i>R. B. LeBeau</i><br>1ST BRIDGE ENGINEER                                                                                                                                                                                                           | JAN. 19, 1954<br>DATE      |



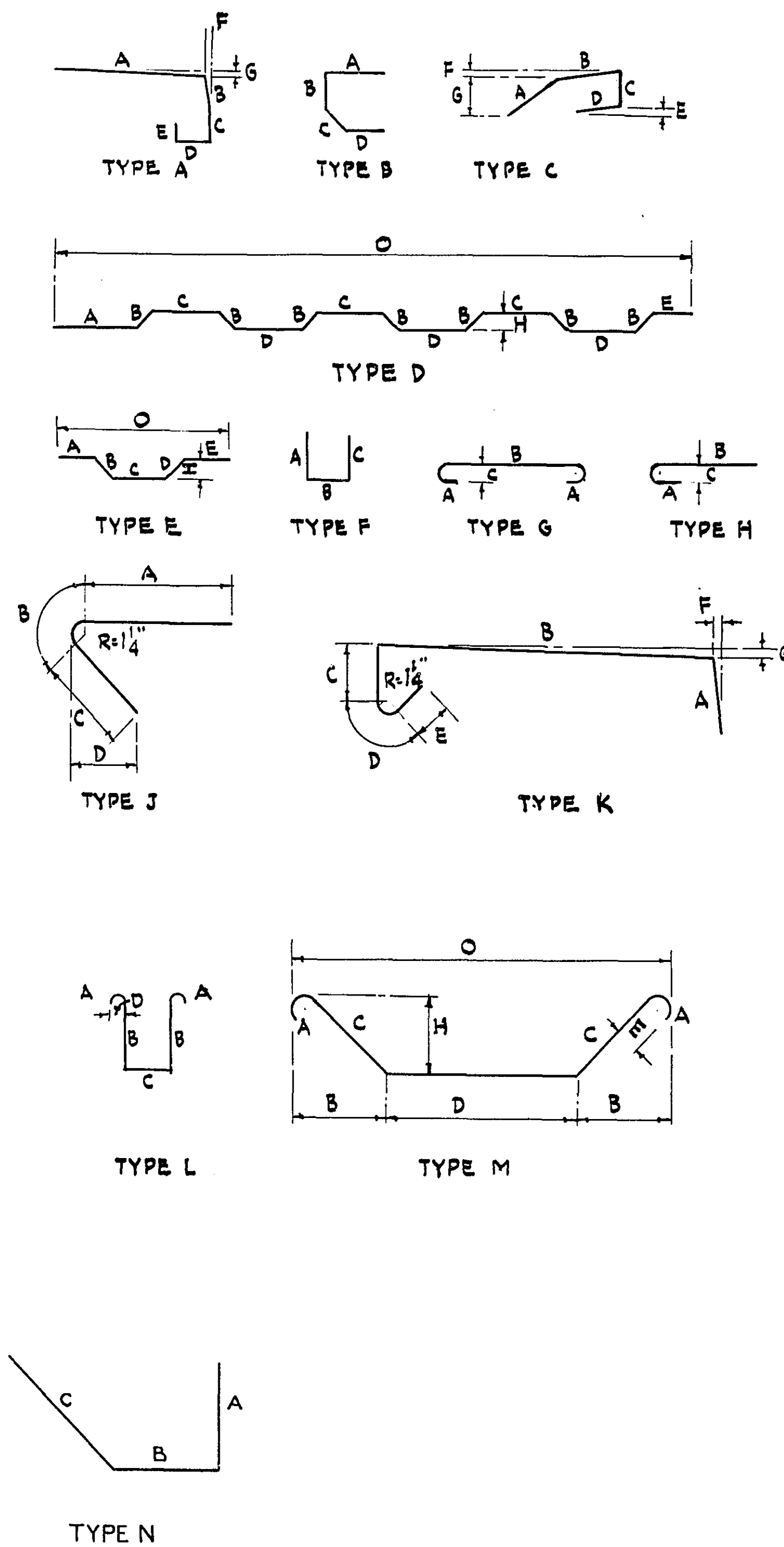
**PLAN OF DECK REINFORCING**  
 (SYMMETRICAL ABOUT & UNLESS OTHERWISE NOTED)  
 SCALE: 3/16" = 1'-0"

**REINFORCING PLACING DIAGRAM FOR BEAMS - SPAN 1**  
 DIMENSIONS ARE ON & OF BEAMS

MICRO-FILMED

|                                                                                                                                                      |                                                                                                                                                                                                                          |               |
|------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| STATE OF MINNESOTA<br>DEPARTMENT OF HIGHWAYS<br><b>BRIDGE NO. 6630</b><br>LARPENTEUR AVE. OVER MINN. TRANSFER R.R. TRACKS<br>RAMSEY COUNTY MINNESOTA |                                                                                                                                                                                                                          |               |
| <b>31'-4" SLAB SPAN-4 ABUTMENTS</b><br>2'-26" ROADWAYS, 1'-4" CTR. ISLAND, 2'-5" SIDEWALKS<br>DECK REINFORCEMENT                                     |                                                                                                                                                                                                                          |               |
| <b>TOLTZ, KING &amp; DAY, INC.</b><br>ENGINEERS AND ARCHITECTS<br>ST. PAUL, MINNESOTA                                                                |                                                                                                                                                                                                                          |               |
| DESIGNED<br>A.G.H.                                                                                                                                   | I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.<br><br>DATE 19 JAN. 1994 REG. NO. 1366 | COMM.<br>3412 |
| DRAWN<br>S.J.K.                                                                                                                                      |                                                                                                                                                                                                                          | DRG.<br>9     |
| CHECKED<br>O.A.O.                                                                                                                                    |                                                                                                                                                                                                                          |               |
| APPROVED<br>M.H.O.                                                                                                                                   |                                                                                                                                                                                                                          |               |

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RAMSEY CO. ENGR.



| REINFORCING FOR SUPERSTRUCTURE |     |      |          | ALL DIMENSIONS ARE OUT TO OUT |            |     |         |         |          |       |       |       |       |         |                       |                                                  |
|--------------------------------|-----|------|----------|-------------------------------|------------|-----|---------|---------|----------|-------|-------|-------|-------|---------|-----------------------|--------------------------------------------------|
| MARK                           | NO. | SIZE | LENGTH   | SKETCH                        | TYPE       | A   | B       | C       | D        | E     | F     | G     | H     | O       |                       |                                                  |
| U1                             | 262 | 1/2  | 1-3 1/2  |                               | L          | 0-6 | 2-6 1/2 | 1-2     | 4        |       |       |       |       |         | BM. STIRRUPS - SPAN 1 |                                                  |
| 61                             | 32  | 1/8  | 37-1     |                               | G          | 1-1 | 34-11   | 10      |          |       |       |       |       |         |                       |                                                  |
| 62                             | 16  | 1/8  | 38-3     |                               | M          | 1-7 | 2-9 1/2 | 3-4 1/2 | 29-4     | 10    |       |       |       | 2-2 1/2 | 34-11                 |                                                  |
| 63                             | 16  | 1/8  | 34-11    |                               | M          | 1-1 | 2-9 1/2 | 3-4 1/2 | 26-0     | 10    |       |       |       | 2-2 1/2 | 31-7                  | BM. REINF. SPAN 1                                |
| 64                             | 16  | 1/8  | 31-4     |                               | M          | 1-1 | 2-6 1/2 | 3-0     | 23-2     | 10    |       |       |       | 1-1 1/2 | 28-3                  |                                                  |
| 65                             | 16  | 1/8  | 28-0     |                               | M          | 1-1 | 2-6 1/2 | 3-0     | 19-10    | 10    |       |       |       | 1-1 1/2 | 24-11                 |                                                  |
| G-6                            | 24  | 3/8  | 4-1      |                               | N          | 1-6 | 0-7     | 2-0     |          |       |       |       |       |         |                       | E. END GIRDERS - SPAN 1                          |
| S-1                            | 5   | 1/2  | 7-2      |                               |            |     |         |         |          |       |       |       |       |         |                       |                                                  |
| S-2                            | 1   | 1/2  | 7-3 1/2  |                               |            |     |         |         |          |       |       |       |       |         |                       |                                                  |
| S-3                            | 2   | 1/2  | 7-9      |                               |            |     |         |         |          |       |       |       |       |         |                       |                                                  |
| S-4                            | 1   | 1/2  | 7-6 1/2  |                               |            |     |         |         |          |       |       |       |       |         |                       |                                                  |
| S-5                            | 24  | 1/2  | 7-7      |                               | A          | 4-7 | 8       | 10 1/2  | 9        | 6     | 1 1/4 | 3 1/4 |       |         |                       | WINGWALL S.W. - TRANS.                           |
| S-6                            | 71  | 1/2  | 4-6      |                               |            |     |         |         |          |       |       |       |       |         |                       | WINGWALL S.W. - TRANS.                           |
| S-7                            | 4   | 3/4  | 7-5      |                               |            |     |         |         |          |       |       |       |       |         |                       | S.W. SLAB - NORTH WING - WEST ABUTMENT - LONGIT. |
| S-8                            | 107 | 1/2  | 2-10     |                               | F          | 10  | 1-2     | 10      |          |       |       |       |       |         |                       | RDWY. SLAB OVER SIDEWALLS - SPANS 1 & 3          |
| S-9                            | 2   | 1/2  | 6-11     |                               |            |     |         |         |          |       |       |       |       |         |                       |                                                  |
| S-10                           | 1   | 1/2  | 6-9 1/2  |                               |            |     |         |         |          |       |       |       |       |         |                       | WINGWALL S.W. - WEST ABUT.                       |
| S-11                           | 4   | 3/4  | 6-10     |                               |            |     |         |         |          |       |       |       |       |         |                       |                                                  |
| S-12                           | 10  | 1/2  | 27-8     |                               |            |     |         |         |          |       |       |       |       |         |                       | END WEB & PAYMENT. BRKT. - TRANS. - WEST ABUT.   |
| S-13                           | 58  | 1/2  | 3-4      |                               | B          | 1-4 | 6       | 8       | 10       |       |       |       |       |         |                       | PAYMENT. BRKT. - WEST ABUT.                      |
| S-14                           | 80  | 3/8  | 35-1     |                               |            |     |         |         |          |       |       |       |       |         |                       | SPAN 1 - LONGIT.                                 |
| S-15                           | 185 | 3/8  | 32-8     |                               |            |     |         |         |          |       |       |       |       |         |                       | SPANS 1 & 3 TRANS.                               |
| S-16                           | 68  | 3/8  | 33-8     |                               | SEE DETAIL | D   | 5-1 1/2 | 5 1/2   | 3-10 1/2 | 3-4   | 3-10  |       |       | 3       | 32-9 1/2              | SPAN 1 - TRANS.                                  |
| S-17                           | 72  | 3/8  | 4-11 1/2 |                               | C          | 1-8 | 1-1 1/2 | 8       | 1-6      | 6 1/2 | 1 1/4 | 11    |       |         |                       | SPAN 1 - CTR. ISLAND                             |
| S-18                           | 107 | 1/2  | 3-5      |                               | J          | 2-0 | 3       | 1-2     | 10       |       |       |       |       |         |                       | RDWY. SLAB OVER SIDEWALLS - SPAN 1 & 3           |
| S-19                           | 118 | 1/2  | 6-6 1/2  |                               | K          | 8   | 5-9 1/2 | 6       | 3        | 6     | 1 1/4 | 3 1/4 |       |         |                       | S.W. SPANS 1, 2 & 3                              |
| S-20                           | 48  | 1/2  | 3-0      |                               | H          | 6   | 2-6     | 4       |          |       |       |       |       |         |                       | S.W. SLAB AT ANCHOR BOLT ASSEMBLIES              |
| S-21                           | 8   | 1/2  | 30-6     |                               |            |     |         |         |          |       |       |       |       |         |                       | S.W. SLAB SPAN 1                                 |
| S-22                           | 13  | 1/2  | 5-3      |                               | K          | 8   | 4-7     |         |          |       |       | 1 1/4 | 3 1/4 |         |                       | S.W. SPANS 1, 2 & 3                              |
| S-23                           | 30  | 1/2  | 7-6      |                               |            |     |         |         |          |       |       |       |       |         |                       | TOP LONGIT. BARS OVER DIAPHRAM SPAN 1            |
| S-24                           | 4   | 1/8  | 24-0     |                               |            |     |         |         |          |       |       |       |       |         |                       | TRANS. DIAPHRAM - SPAN 1                         |
| S-25                           | 12  | 1/2  | 11-6     |                               |            |     |         |         |          |       |       |       |       |         |                       | RDWY. SLAB OVER SIDEWALL - SPAN 1                |
| S-26                           | 58  | 1/8  | 33-0     |                               |            |     |         |         |          |       |       |       |       |         |                       | SPAN 2 LONGIT.                                   |
| S-27                           | 56  | 1/8  | 34-0     |                               | E          | 4-2 | 1-10    | 22-0    | 1-10     | 4-2   |       |       |       | 1-3 1/2 | 32-11                 | SPAN 2 - LONGIT.                                 |
| S-28                           | 100 | 3/8  | 32-8 1/2 |                               |            |     |         |         |          |       |       |       |       |         |                       | SPAN 2 TRANS.                                    |
| S-29                           | 46  | 3/8  | 5-4 1/2  |                               | C          | 1-8 | 1-1 1/2 | 1-7     | 1-0      | 0     | 1 1/4 | 11    |       |         |                       | SPAN 2 CTR. ISLAND                               |
| S-30                           | 12  | 1/2  | 33-0     |                               |            |     |         |         |          |       |       |       |       |         |                       | SPAN 2 LONGIT.                                   |
| S-31                           | 42  | 1/2  | 3-11     |                               | J          | 2-0 | 3       | 1-8     | 1-2 1/4  |       |       |       |       |         |                       | SPAN 2 - COPING TIES                             |
| S-32                           | 8   | 1/2  | 30-10    |                               |            |     |         |         |          |       |       |       |       |         |                       | SPAN 2 LONGIT.                                   |
| S-33                           |     |      |          |                               |            |     |         |         |          |       |       |       |       |         |                       | NO BAR 5-33                                      |
| S-34                           | 80  | 1/2  | 3-2 1/2  |                               | F          | 1-3 | 8 1/2   | 1-3     |          |       |       |       |       |         |                       | EAST END OF SPAN 2 - BRKT. TIES                  |
| S-35                           | 4   | 1/2  | 7-9      |                               |            |     |         |         |          |       |       |       |       |         |                       |                                                  |
| S-36                           | 38  | 1/2  | 5-1 1/2  |                               | C          | 1-8 | 1-1 1/2 | 1-4     | 1-0      | 0     | 1 1/4 | 11    |       |         |                       | SPAN 3 - CTR. ISLAND                             |
| S-37                           | 68  | 1/8  | 26-11    |                               |            |     |         |         |          |       |       |       |       |         |                       | WEST END OF SPAN 3-31 - SPAN 3 - LONGIT.         |
| S-38                           | 62  | 1/8  | 27-9     |                               | E          | 3-3 | 1-5     | 17-4    | 1-5      | 4-4   |       |       |       | 1-0     | 26-11                 | SPAN 3 - LONGIT.                                 |
| S-39                           | 1   | 1/2  | 9-4      |                               |            |     |         |         |          |       |       |       |       |         |                       | BEND IN FIELD                                    |
| S-40                           | 2   | 1/2  | 9-0      |                               |            |     |         |         |          |       |       |       |       |         |                       |                                                  |
| S-41                           | 1   | 1/2  | 8-6      |                               |            |     |         |         |          |       |       |       |       |         |                       | S.W. SOUTH WING - EAST ABUT.                     |
| S-42                           | 2   | 1/2  | 7-8      |                               |            |     |         |         |          |       |       |       |       |         |                       | BEND IN FIELD                                    |
| S-43                           | 4   | 3/4  | 9-1      |                               |            |     |         |         |          |       |       |       |       |         |                       |                                                  |
| S-44                           | 10  | 3/8  | 32-10    |                               |            |     |         |         |          |       |       |       |       |         |                       |                                                  |
| S-45                           | 4   | 3/8  | 34-0     |                               |            |     |         |         |          |       |       |       |       |         |                       | SPAN 3 TRANS.                                    |
| S-46                           | 3   | 3/8  | 34-10    |                               |            |     |         |         |          |       |       |       |       |         |                       |                                                  |

| REINFORCING FOR SUPERSTRUCTURE |     |      |         | ALL DIMENSIONS ARE OUT TO OUT |      |     |     |        |   |   |       |       |   |       |       |                                                  |
|--------------------------------|-----|------|---------|-------------------------------|------|-----|-----|--------|---|---|-------|-------|---|-------|-------|--------------------------------------------------|
| MARK                           | NO. | SIZE | LENGTH  | SKETCH                        | TYPE | A   | B   | C      | D | E | F     | G     | H | O     |       |                                                  |
| S-47                           | 3   | 3/8  | 35-7    |                               |      |     |     |        |   |   |       |       |   |       |       |                                                  |
| S-48                           | 2   | 3/8  | 36-6    |                               |      |     |     |        |   |   |       |       |   |       |       | SPAN 3 - TRANS.                                  |
| S-49                           | 3   | 3/8  | 37-2    |                               |      |     |     |        |   |   |       |       |   |       |       |                                                  |
| S-50                           | 3   | 3/8  | 38-2    |                               |      |     |     |        |   |   |       |       |   |       |       |                                                  |
| S-51                           | 3   | 3/8  | 39-3    |                               |      |     |     |        |   |   |       |       |   |       |       |                                                  |
| S-52                           | 4   | 3/8  | 40-9    |                               |      |     |     |        |   |   |       |       |   |       |       |                                                  |
| S-53                           | 2   | 3/8  | 42-9    |                               |      |     |     |        |   |   |       |       |   |       |       |                                                  |
| S-54                           | 2   | 1/2  | 18-9    |                               |      |     |     |        |   |   |       |       |   |       |       |                                                  |
| S-55                           | 1   | 1/2  | 15-8    |                               |      |     |     |        |   |   |       |       |   |       |       |                                                  |
| S-56                           | 1   | 1/2  | 13-0    |                               |      |     |     |        |   |   |       |       |   |       |       |                                                  |
| S-57                           | 1   | 1/2  | 10-0    |                               |      |     |     |        |   |   |       |       |   |       |       | SPAN 3 LONGIT.                                   |
| S-58                           | 1   | 1/2  | 8-0     |                               |      |     |     |        |   |   |       |       |   |       |       |                                                  |
| S-59                           | 1   | 1/2  | 6-6     |                               |      |     |     |        |   |   |       |       |   |       |       |                                                  |
| S-60                           | 1   | 1/2  | 4-6     |                               |      |     |     |        |   |   |       |       |   |       |       |                                                  |
| S-61                           | 1   | 1/2  | 3-3     |                               |      |     |     |        |   |   |       |       |   |       |       |                                                  |
| S-62                           | 4   | 1/2  | 22-11   |                               |      |     |     |        |   |   |       |       |   |       |       | SPAN 3 LONGIT.                                   |
| S-63                           | 3   | 1/2  | 26-11   |                               |      |     |     |        |   |   |       |       |   |       |       | S.W. SLAB LONGIT. - SPAN 3                       |
| S-64                           | 4   | 1/2  | 23-10   |                               |      |     |     |        |   |   |       |       |   |       |       | BEND IN FIELD                                    |
| S-65                           | 6   | 1/2  | 8-6     |                               |      |     |     |        |   |   |       |       |   |       |       | BEND IN FIELD - SPAN 3 - NORTH S.W. & RDWY. SLAB |
| S-66                           | 3   | 1/2  | 28-6    |                               |      |     |     |        |   |   |       |       |   |       |       | BEND IN FIELD                                    |
| S-67                           | 1   | 1/2  | 5-9 1/2 |                               | A    | 3-0 | 8   | 10 1/2 | 9 | 6 | 1 1/4 | 3 1/4 |   |       |       | S.W. - NORTH WING - EAST                         |
| S-68                           | 1   | 1/2  | 6-2     |                               | K    | 8   | 5-6 |        |   |   |       |       |   | 1 1/4 | 3 1/4 | ABUT. TRANS.                                     |
| S-69                           | 2   | 1/2  | 9-4     |                               |      |     |     |        |   |   |       |       |   |       |       | BEND IN FIELD                                    |
| S-70                           | 1   | 1/2  | 10-10   |                               |      |     |     |        |   |   |       |       |   |       |       |                                                  |
| S-71                           | 2   | 1/2  | 12-5    |                               |      |     |     |        |   |   |       |       |   |       |       | S.W. LONGIT. - NORTH WING - EAST ABUT.           |
| S-72                           | 1   | 1/2  | 14-0    |                               |      |     |     |        |   |   |       |       |   |       |       | BEND IN FIELD                                    |
| S-73                           | 4   | 3/4  | 13-0    |                               |      |     |     |        |   |   |       |       |   |       |       |                                                  |
| S-74                           | 6   | 1/2  | 8-10    |                               |      |     |     |        |   |   |       |       |   |       |       | SPAN 3 RDWY. SLAB OVER SIDEWALL                  |
| S-75                           | 1   | 1/2  | 5-11    |                               | K    | 8   | 5-3 |        |   |   |       |       |   | 1 1/4 | 3 1/4 | SPAN 3 S.W.                                      |
| D1                             | 189 | 1/2  | 2-0     |                               | H    | 6   | 1-6 | 4      |   |   |       |       |   |       |       | S.W. DOWELS - SPANS 2 & 3                        |
| D2                             | 24  | 1/2  | 2-9     |                               | H    | 6   | 2-3 | 4      |   |   |       |       |   |       |       | DOWELS AT RAIL POSTS - SPAN 2 & 3                |
| D3                             | 12  | 1/2  | 2-9     |                               | G    | 6   | 1-9 | 4      |   |   |       |       |   |       |       | DOWELS AT RAIL POSTS - SPAN 1                    |
| D4                             | 108 | 1/2  | 2-2     |                               | G    | 6   | 1-2 | 4      |   |   |       |       |   |       |       | S.W. DOWELS - SPAN 1                             |

| BITUMINOUS FELT |                         |                                      |
|-----------------|-------------------------|--------------------------------------|
| NO. PCS.        | DIMENSIONS              | LOCATION                             |
| 1               | 1/2" x 14" x 22'-0"     | TOP OF WEST WALL - WEST ABUT.        |
| 6               | 1/2" x 5" x 1'-6"       | BM. POCKETS - W. WALL - WEST ABUT.   |
| 2               | 1/2" x 12" x 1'-6"      | BM. #4 & 5                           |
| 10              | 1/2" x 3" x 2'-6"       | BM. POCKETS - " "                    |
| 2               | 1/2" x 5 3/4" x 2'-6"   | BM. #1 - " "                         |
| 8               | 1/2" x 3" x 1'-6"       | BM. POCKETS - E. WALL - WEST ABUT.   |
| 1               | 1/2" x 9" x 2'-0"       | FACE OF STEPS - E. WALL - WEST ABUT. |
| 1               | 1/2" x 12 1/2" x 15'-5" | BM. POCKETS - E. WALL - W. ABUT.     |
| 1               | 1/2" x 18" x 2'-3"      | TOP OF SIDEWALLS - W. ABUT.          |
| 1               | 1/2" x 3" x 6'-3"       | E. WALL - W. ABUT.                   |
| 1               | 1/2" x 10" x 2'-0"      | E. WALL - E. ABUT.                   |
| 1               | 1/2" x 22" x 2'-0"      | SIDEWALL - E. ABUT.                  |
| 1               | 1/2" x 15" x 2'-6"      | STEPS - E. WALL - W. ABUT.           |
| 1               | 1/2" x 3" x 6'-3"       | W. WALL - E. ABUT.                   |

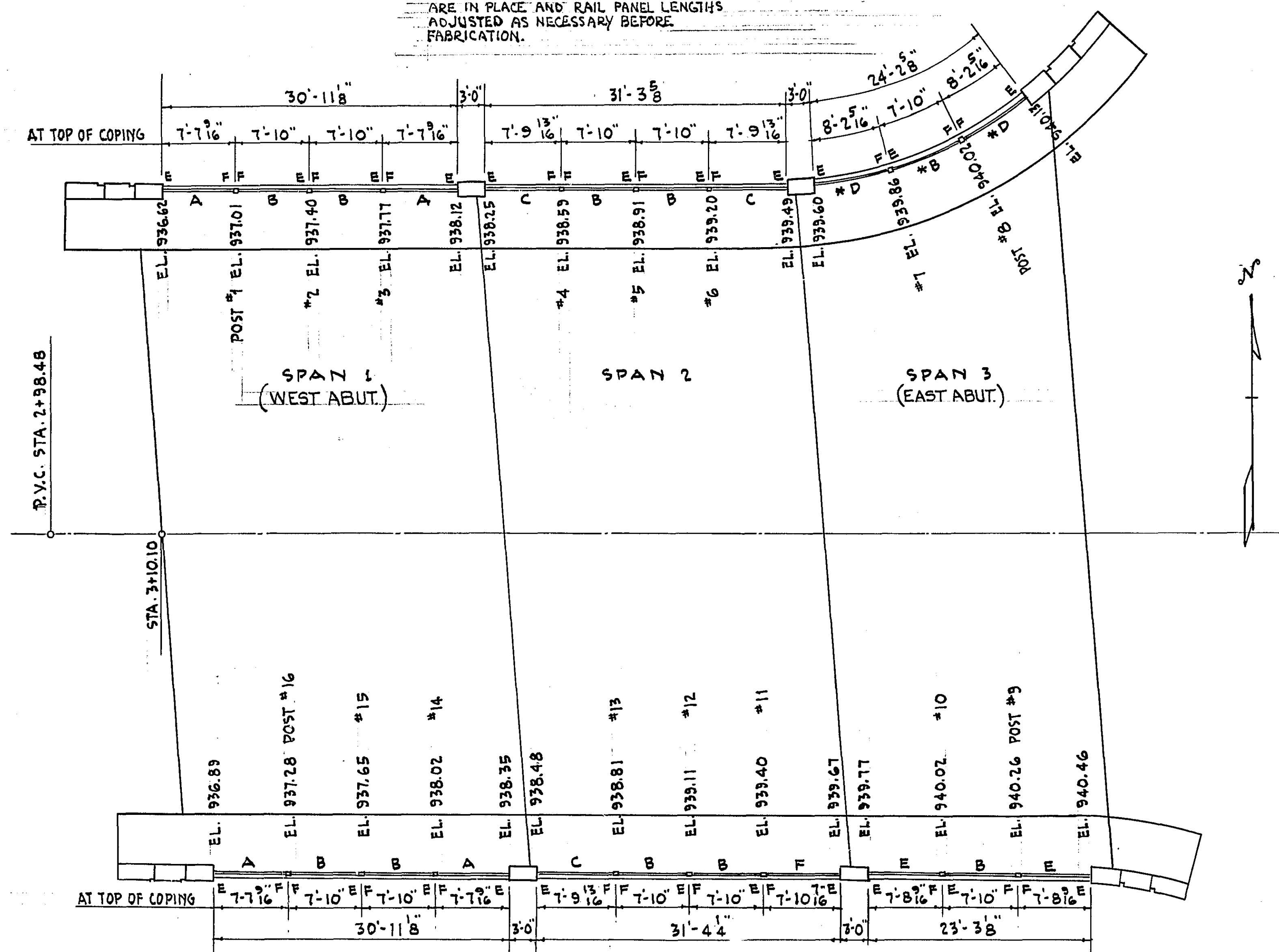
| CORK     |                        |                                             |
|----------|------------------------|---------------------------------------------|
| NO. PCS. | DIMENSIONS             | LOCATION                                    |
| 6        | 1/2" x 18 1/2" x 3'-0" | BM. POCKETS - BMS. 1, 2, 3, 6, 7 & 8        |
| 2        | 1/2" x 19" x 3'-5"     | BM. POCKETS - BMS. 4 & 5                    |
| 4        | 1/2" x 12" x 1'-6"     | " " " "                                     |
| 1        | 1/2" x 22" x 4'-10"    | TRANS. BTWN. SPANS 1 & 2                    |
| 1        | 1" x 22" x 5'-3"       | " " " " 2 & 3                               |
| 2        | 1/2" x 20" x 5'-0"     | BETWN. SIDEWALK & DECK - (W. END OF BRIDGE) |
| 8        | 1/2" x 14" x 1'-9"     | AROUND PILASTERS & ENDS OF WINGS            |
| 6        | 1/2" x 30" x 3'-0"     | " " " " " "                                 |
| 1        | 1" x 12" x 3'-6"       | LONGIT. ON BR. & SPAN 1                     |
| 1        | 1" x 24" x 3'-6"       | " " " " " 2                                 |
| 1        | 1" x 21" x 27'-3"      | " " " " " 3                                 |
| 1        | 1/2" x 2'-6" x 9'-0"   | BTWN. SW. & DECK - E. END OF BR.            |
| 1        | 1/2" x 2'-6" x 6'-0"   | " " " " " "                                 |
| 2        | 1" x 2'-6" x 5'-0"     | TRANS. AT SW. BTWN. SPANS 2 & 3             |
| 2        | 1/2" x 2'-6" x 5'-0"   | " " " " " 1 & 2                             |
| 4        | 1" x 1'-9" x 1'-2"     | AROUND PILASTERS - SPAN 2 & 3               |
| 2        | 1" x 2'-6" x 3'-0"     | " " " " " "                                 |
| 2        | 1/2" x 1'-6" x 1'-2"   | W. END OF W. ABUT. - SEE SEC. 18-5-7        |

| SUMMARY OF QUANTITIES FOR WEST ABUTMENT               |                |
|-------------------------------------------------------|----------------|
| CLASS "U" EXCAVATION                                  | 380 CU. YDS.   |
| CONCRETE MIX NO. 1A6                                  | 297.5 CU. YDS. |
| REINFORCEMENT BARS                                    | 19485 LBS.     |
| 12 U-BOLTS FOR RAILING (SEE DETAIL SH. 11)            |                |
| 24" SECTIONAL CONCRETE PIPE CULVERT                   | 68.0 LIN. FT.  |
| 3-PLY JOINT WATERPROOFING                             | 12 LIN. FT.    |
| TREATED TIMBER PILING                                 | 153.0 LIN. FT. |
| BITUMINOUS FELT AND CORK (SEE SCHEDULE - THIS SHEET)  |                |
| BEARING ASSEMBLIES (BILLED WITH SUPERSTRUCTURE)       |                |
| 1- STANDARD NAME PLATE (FEDERAL) (DATE 1954) (BRONZE) |                |

| SUMMARY OF QUANTITIES FOR EAST ABUTMENT                         |                |
|-----------------------------------------------------------------|----------------|
| CLASS "U" EXCAVATION                                            | 600 CU. YDS.   |
| CONCRETE MIX NO. 1A6                                            | 320.5 CU. YDS. |
| REINFORCEMENT BARS                                              | 17,355 LBS.    |
| 12 U-BOLTS FOR RAILING (SEE DETAIL SH. 11)                      |                |
| TREATED TIMBER PILING                                           | 186.5 LIN. FT. |
| BITUMINOUS FELT AND CORK (SEE SCHEDULE - THIS SHEET)            |                |
| BEARING ASSEMBLIES (BILLED WITH SUPERSTRUCTURE)                 |                |
| 1- STANDARD NAME PLATE (STATE - BR. #6630 - DATE 1954 - BRONZE) |                |
| 1- BENCH MARK DISC - SEE STD. PL. #9300                         |                |
| 3-PLY JOINT WATERPROOFING                                       | 20 LIN. FT.    |

| SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE |              |
|------------------------------------------|--------------|
| CONCRETE MIX NO. 3Y6                     | 360 CU. YDS. |
| REINFORCEMENT BARS                       | 67,870 LBS.  |
| STRUCTURAL STEEL                         | 470 LBS.     |
| WROUGHT BRONZE                           | 5            |

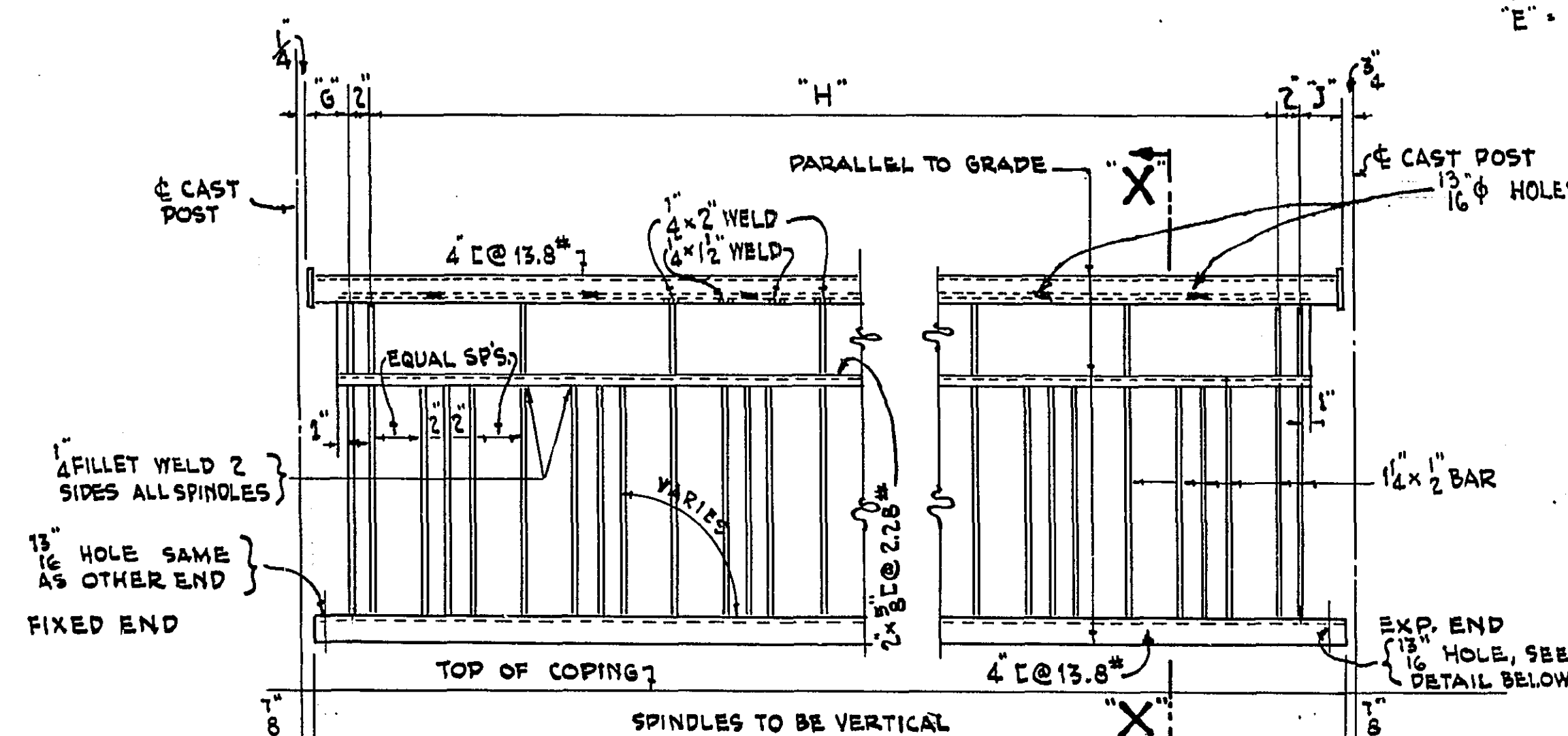
NOTE:  
DIMENSIONS FACE TO FACE OF PILASTERS  
TO BE VERIFIED IN FIELD AFTER ABUT.  
ARE IN PLACE AND RAIL PANEL LENGTHS  
ADJUSTED AS NECESSARY BEFORE  
FABRICATION.



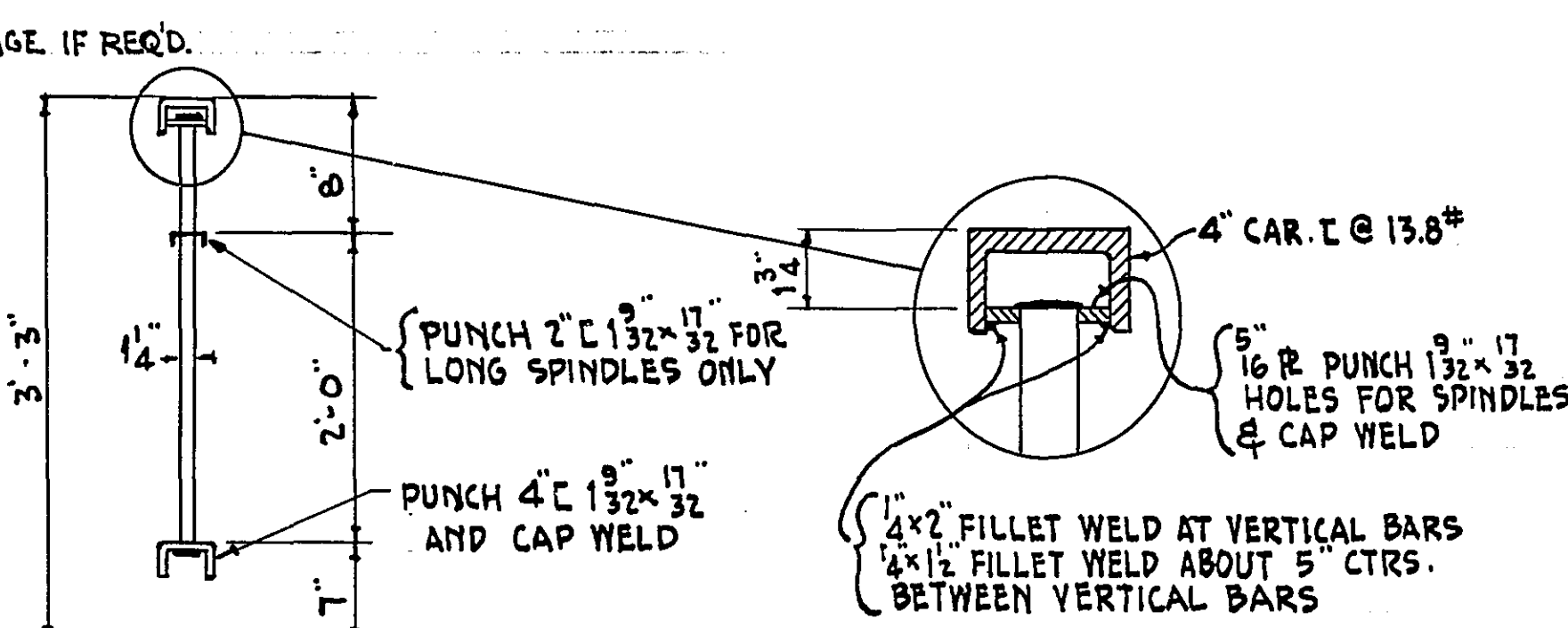
NOTE: ELEV. GIVEN ARE AT TOP OF COPING

### PLAN

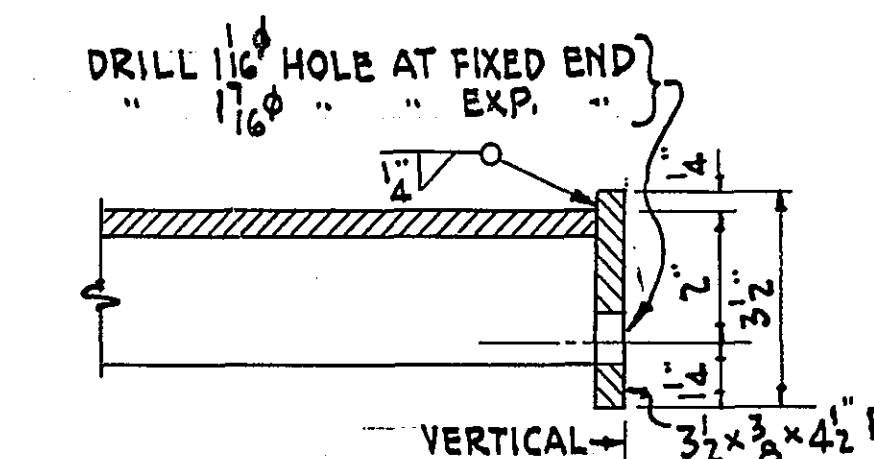
"F" = FIXED END  
"E" = EXPANSION END



### ELEVATION OF PANELS B



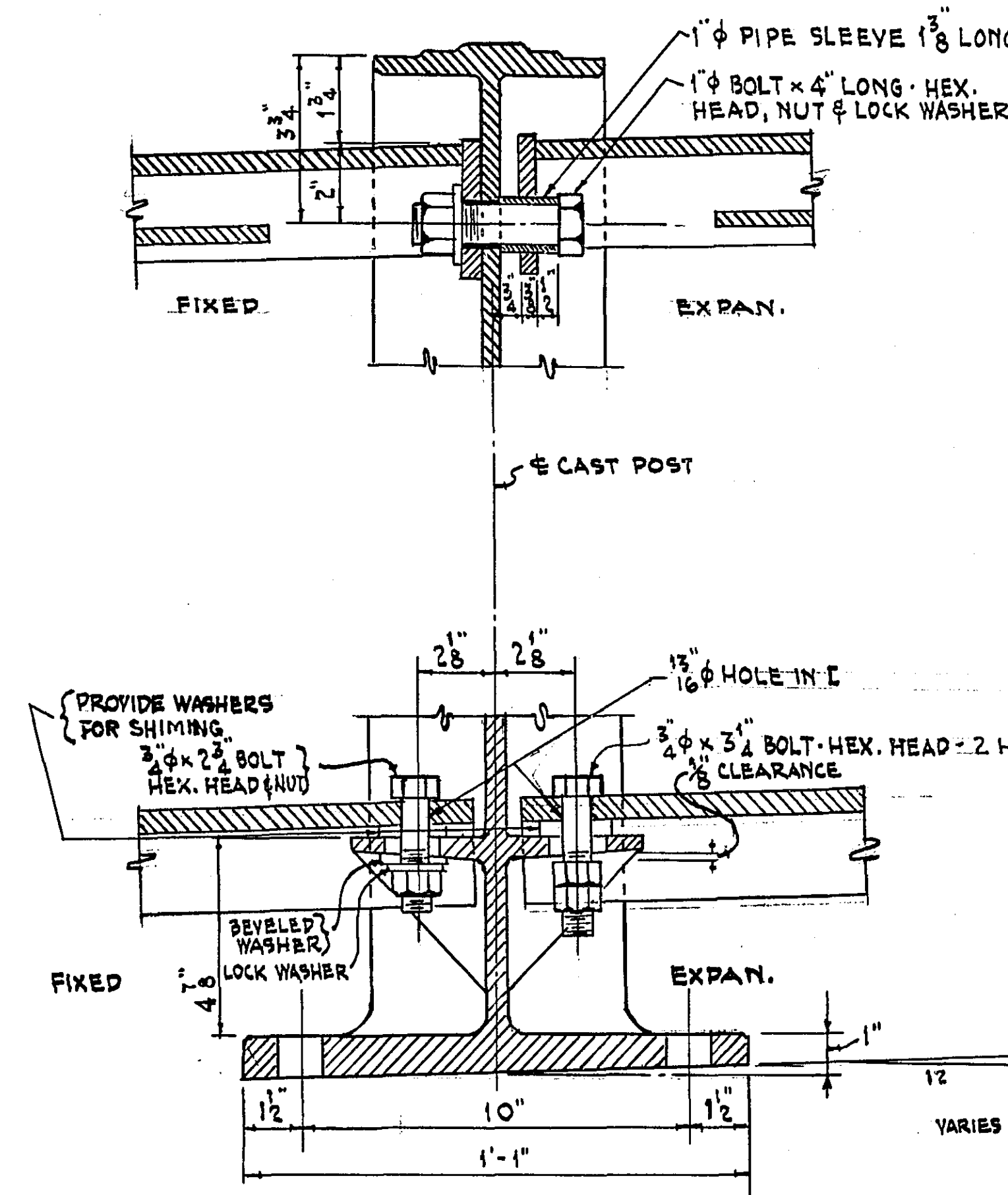
### SECTION X-X



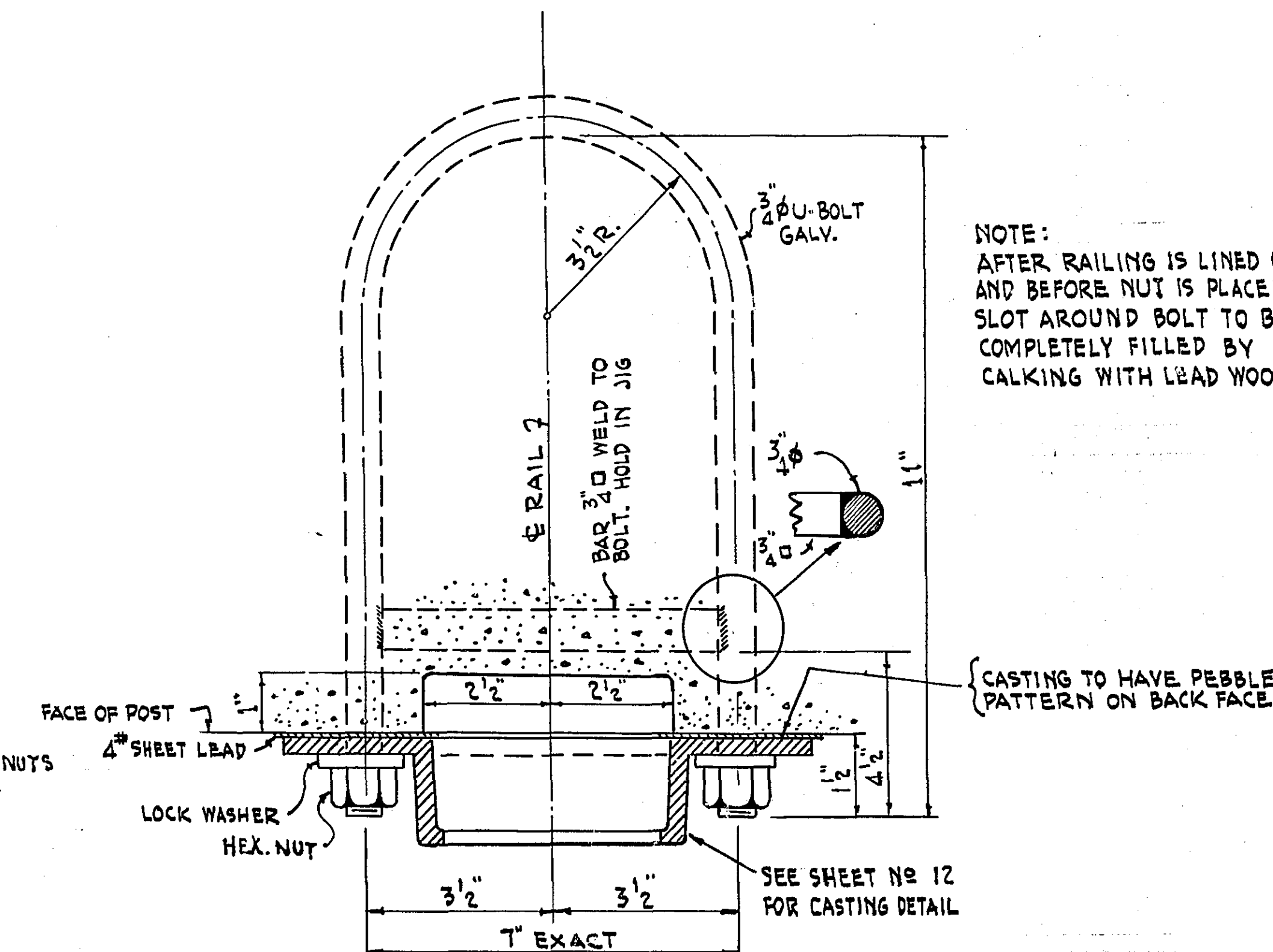
### DETAIL OF END PLATE TOP RAIL ONLY AT CAST POSTS

| DIMENSIONS OF RAIL PANELS |     |                                |         |        |  |
|---------------------------|-----|--------------------------------|---------|--------|--|
| PANEL                     | Nº. | "H"                            | "G"     | "J"    |  |
| A                         | 4   | 5 SPS. @ 1'-2 1/4" = 6'-1 1/4" | 5' 3"   | 8"     |  |
| * B                       | 10  | 5 SPS. @ 1'-3" = 6'-3"         | 7' 2"   | 6 3/4" |  |
| C                         | 3   | 5 SPS. @ 1'-3" = 6'-3"         | 6' 1/2" | 8"     |  |
| * D                       | 2   | 5 SPS. @ 1'-4 1/4" = 6'-8 1/4" | 5' 2"   | 8"     |  |
| E                         | 2   | 5 SPS. @ 1'-2 3/4" = 6'-5 1/4" | 5' 1/2" | 8"     |  |
| F                         | 1   | 5 SPS. @ 1'-3" = 6'-3"         | 7' 1/2" | 7 1/4" |  |

\* BEND TO 44'-5" RADIUS IN SPAN 3 ON NORTH SIDE



### SECTION THRU POSTS



### PLAN OF RAIL CONNECTION AT CONCRETE POSTS (24 U-BOLTS REQ'D. THUS GALV.)

NOTE:  
AFTER RAILING IS LINED UP  
AND BEFORE NUT IS PLACED,  
SLOT AROUND BOLT TO BE  
COMPLETELY FILLED BY  
CALKING WITH LEAD WOOL.

### NOTE:

ALL RAIL PANELS, CONNECTIONS AND FITTINGS TO BE  
GALVANIZED AFTER FABRICATION AS PER M.H.D. 3394.  
NO PAINT REQUIRED.  
LENGTH OF RAILING FOR PAYMENT WILL BE MEASURED  
FACE TO FACE OF CONCRETE AT TOP OF CONCRETE POSTS.  
ALL RAIL PANELS, MALLEABLE CAST IRON POSTS, SOCKETS,  
ANCHOR BOLT ASSEMBLIES, RAIL CONNECTIONS, BOLTS & SHEET  
LEAD TO BE INCLUDED IN PRICE BID FOR ORNAMENTAL METAL  
RAILING.  
ALL RAILING PANELS TO BE SAND BLASTED AFTER  
FABRICATION AND BEFORE GALVANIZING.  
LENGTH OF RAILING FOR ENTIRE BRIDGE 172.00 LIN. FT.

MICRO-FILMED

|                                                                                                                                                      |                                                                                                                  |                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------------------------|
| STATE OF MINNESOTA<br>DEPARTMENT OF HIGHWAYS<br><b>BRIDGE NO. 6630</b><br>LARPENTEUR AVE. OVER MINN. TRANSFER R.R. TRACKS<br>RAMSEY COUNTY MINNESOTA |                                                                                                                  |                             |
| <b>31'-4" SLAB SPAN U-ABUTMENTS</b><br>2'-26" ROADWAYS, 1' 4" O.C. ISLAND, 2' 5" O.C. SIDEWALKS<br>RAILING DETAILS                                   |                                                                                                                  |                             |
| <b>TOLTZ, KING &amp; DAY, INC.</b><br>ENGINEERS AND ARCHITECTS<br>ST. PAUL, MINNESOTA                                                                |                                                                                                                  |                             |
| DESIGNED<br>S.J.K.                                                                                                                                   | I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED<br>BY ME OR UNDER MY DIRECT SUPERVISION AND THAT<br>DRAWN<br>S.J.K. | COMM.<br>3412<br>DRG.<br>11 |
| CHECKED<br>O.A.O.                                                                                                                                    | DATE<br>15 JAN 1954                                                                                              | REG. NO. 1366               |
| APPROVED<br>M.H.D. DIST. BRIDGE ENGINEER                                                                                                             |                                                                                                                  | JAN. 19 1954                |

MICROFILMED  
RAMSEY CO. ENGR.

T-102

**SECTION A-A**

SEE DETAIL BELOW

DETAIL AT TOP OF POST

RAIL POSTS  
16 REQUIRED

4\* SHEET LEAD REQUIRED.

32 PCS. 10"x1'1" PUNCHED TO MATCH RAIL POST BASE

24 PCS. 5 1/4"x10" WITH HOLES PUNCHED TO MATCH SOCKETS

**MATERIAL FOR RAIL POSTS:**  
**MALLEABLE CAST IRON, GRADE N2 35018**  
**A.S.T.M. N2 A-47, AS PER M.H.D. N2 3324**  
**AFTER GALVANIZING**

**SECTION**

RAIL SOCKETS  
24 REQUIRED

### ELEVATION

**MATERIAL FOR RAIL SOCKETS:**  
**MALLEABLE IRON CASTING, GRADE N-35018**  
**A.S.T.M. N-2-A-47, AS PER M.H.D. N-3324**  
**AFTER GALVANIZING.**

| BEVELS AT BASE OF POSTS |                 |          |                 |
|-------------------------|-----------------|----------|-----------------|
| POST NO.                | "X"             | POST NO. | "X"             |
| 1                       | $5\frac{1}{8}"$ | 9        | $3\frac{1}{8}"$ |
| 2                       | $5\frac{1}{8}"$ | 10       | $\frac{1}{2}"$  |
| 3                       | $5\frac{1}{8}"$ | 11       | $\frac{1}{2}"$  |
| 4                       | $\frac{1}{2}"$  | 12       | $\frac{1}{2}"$  |
| 5                       | $\frac{1}{2}"$  | 13       | $\frac{1}{2}"$  |
| 6                       | $\frac{1}{2}"$  | 14       | $5\frac{1}{8}"$ |
| 7                       | $3\frac{1}{8}"$ | 15       | $5\frac{1}{8}"$ |
| 8                       | $\frac{1}{4}"$  | 16       | $5\frac{1}{8}"$ |

\* SEE SHEET 11 FOR LOCATION OF POSTS

**NOTE:**  
FOR DETAIL OF RAIL POST ANCHOR BOLT  
ASSEMBLY & RAIL SOCKET ANCHOR BOLTS  
SHEET No. 11

ALL RAIL POSTS AND RAIL SOCKETS TO BE  
SAND BLASTED BEFORE GALVANIZING.

ALL RAIL POSTS AND SOCKETS TO BE  
GALVANIZED AS PER M.H.D. 3392

USE LEAD WOOL FOR PLUMBING & ALIGNING POSTS  
WHERE NECESSARY.

MICRO-FILMED

STATE OF MINNESOTA  
DEPARTMENT OF HIGHWAYS  
**BRIDGE NO. 6630**  
LARPEUTEUR AVE. OVER MINN. TRANSFER R.R. TRACKS  
RAMSEY COUNTY MINNESOTA

**3'-4" SLAB SPAN - U ABUTMENTS**  
**2'-26" ROADWAYS, 1'-4'-0" CTR. ISLAND, 2'-5'-0" SIDEWALKS**  
**DETAILS OF RAIL POSTS & SOCKETS**

**TOLTZ, KING & DAY, INC.**  
ENGINEERS AND ARCHITECTS  
ST. PAUL, MINNESOTA

|                                            |                                                                                                                                                                                                                                                                              |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DESIGNED<br>S. J. K.                       | I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED<br>BY ME OR UNDER MY DIRECT SUPERVISION AND THAT<br>I AM A DULY REGISTERED PROFESSIONAL ENGINEER<br>UNDER THE LAWS OF THE STATE OF MINNESOTA.<br><br><u><i>W. J. Clark</i></u><br>DATE <u>15 JAN. 1954</u> REG. NO. <u>1366</u> |
| DRAWN<br>S. J. K.                          |                                                                                                                                                                                                                                                                              |
| CHECKED<br>O. A. O.                        |                                                                                                                                                                                                                                                                              |
| APPROVED<br>M. H. D. ASST. BRIDGE ENGINEER |                                                                                                                                                                                                                                                                              |

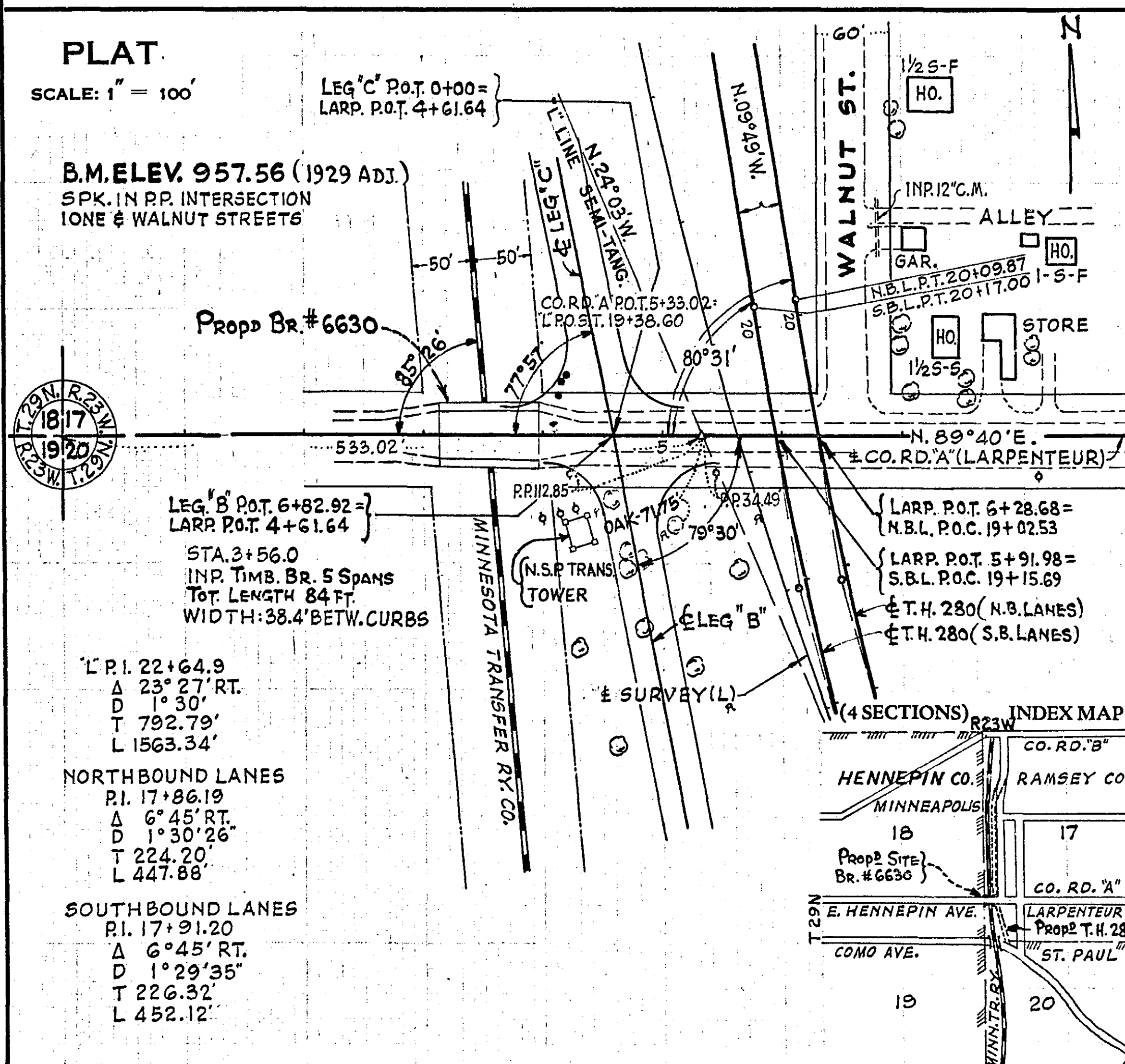
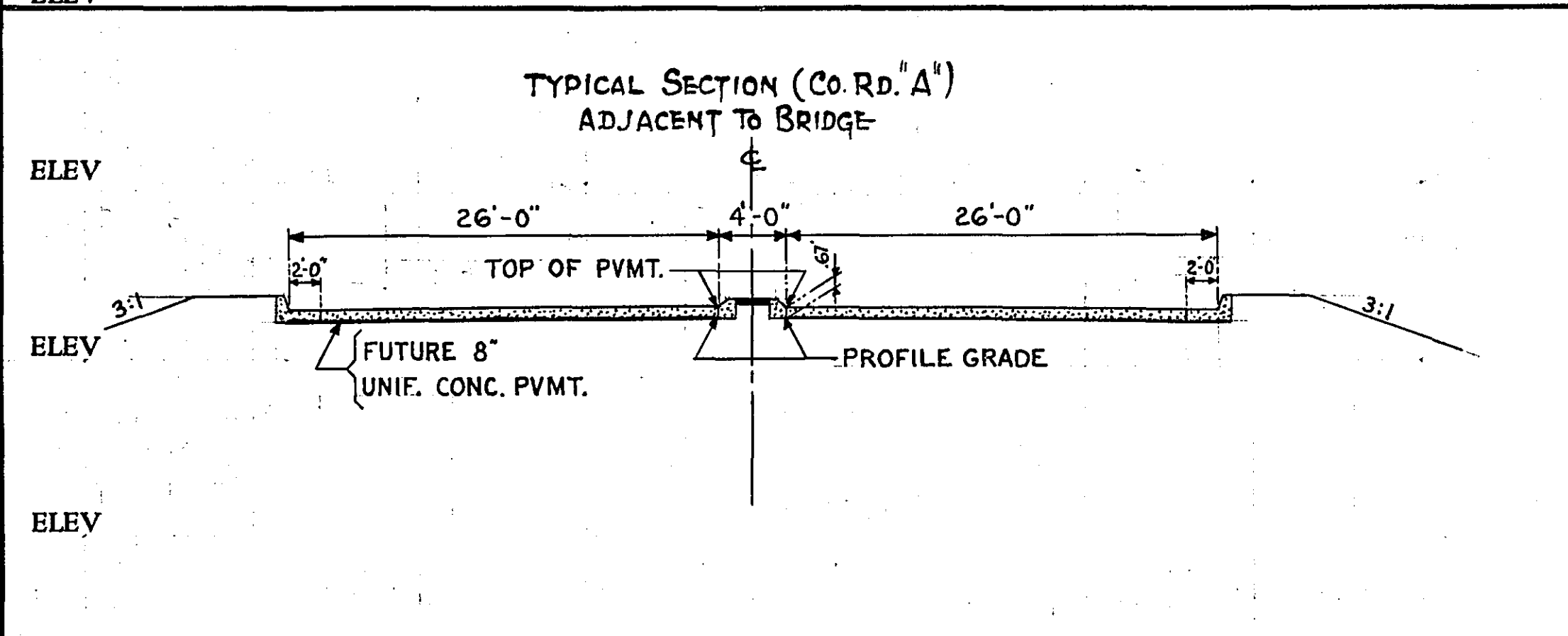
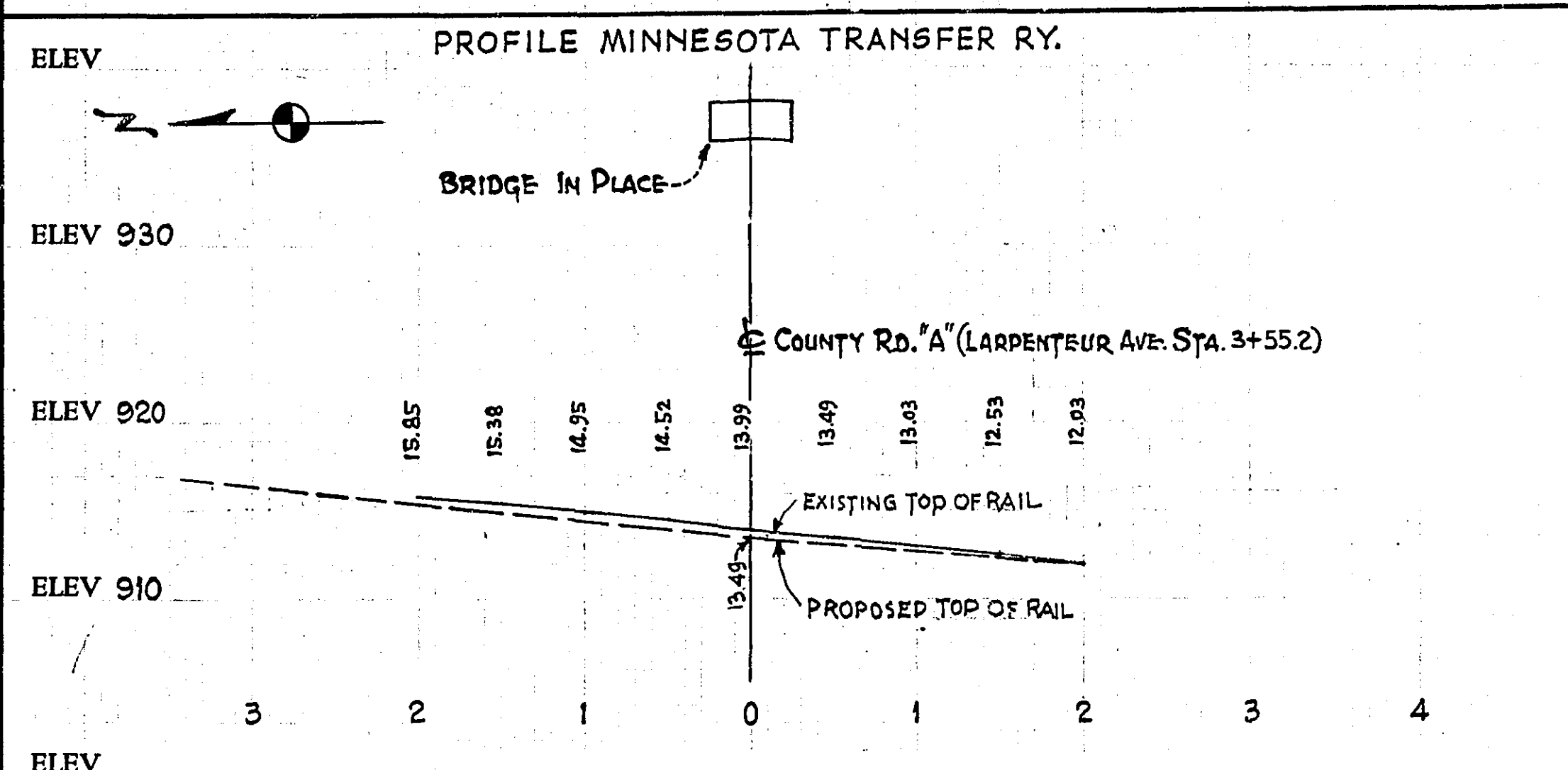
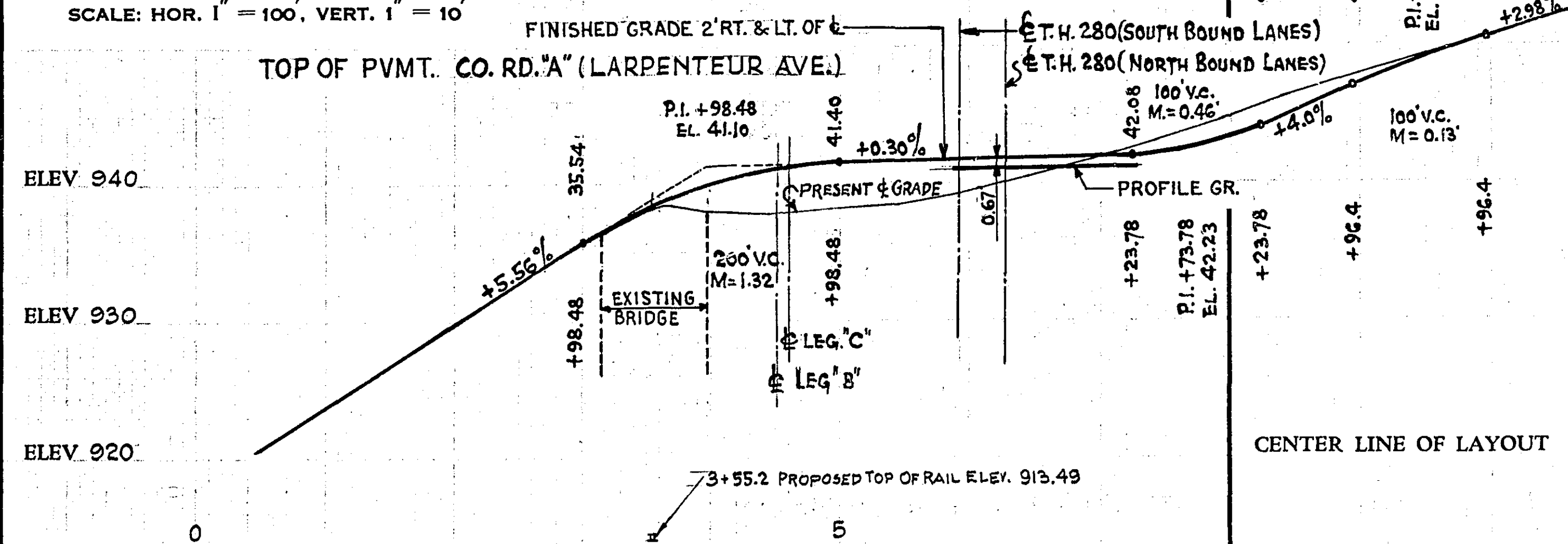
Jan. 19, 1954  
DATE

|       |      |
|-------|------|
| COMM. | 3412 |
| DRG.  | 12   |

MICROFILMED  
RAMSEY CO, ENGL

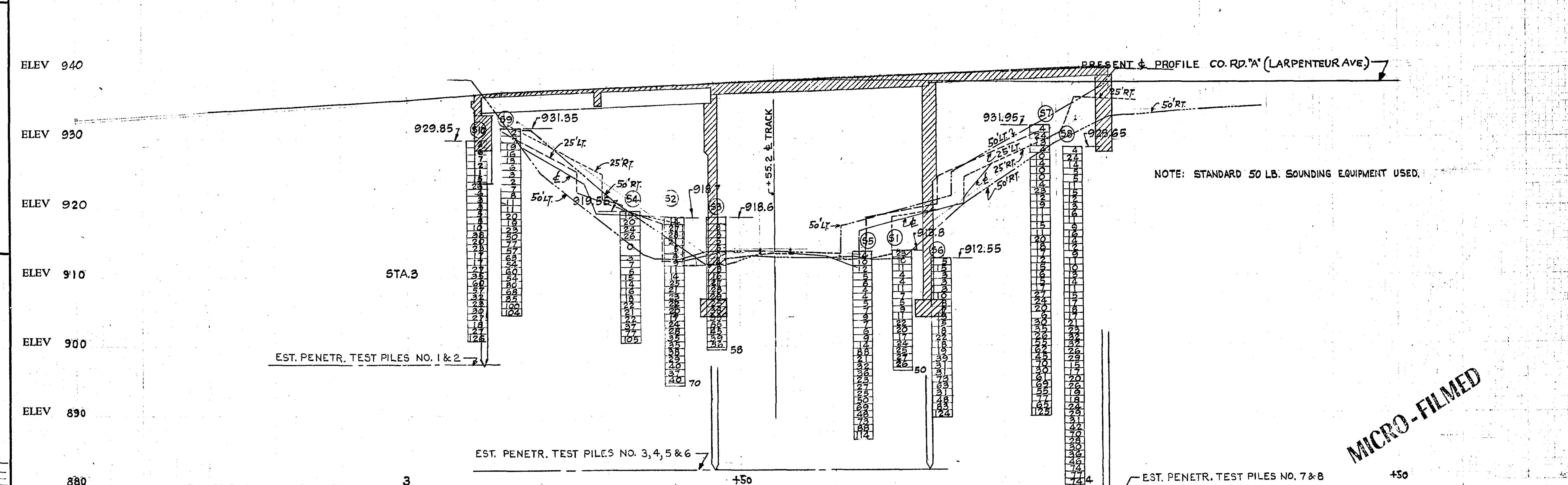
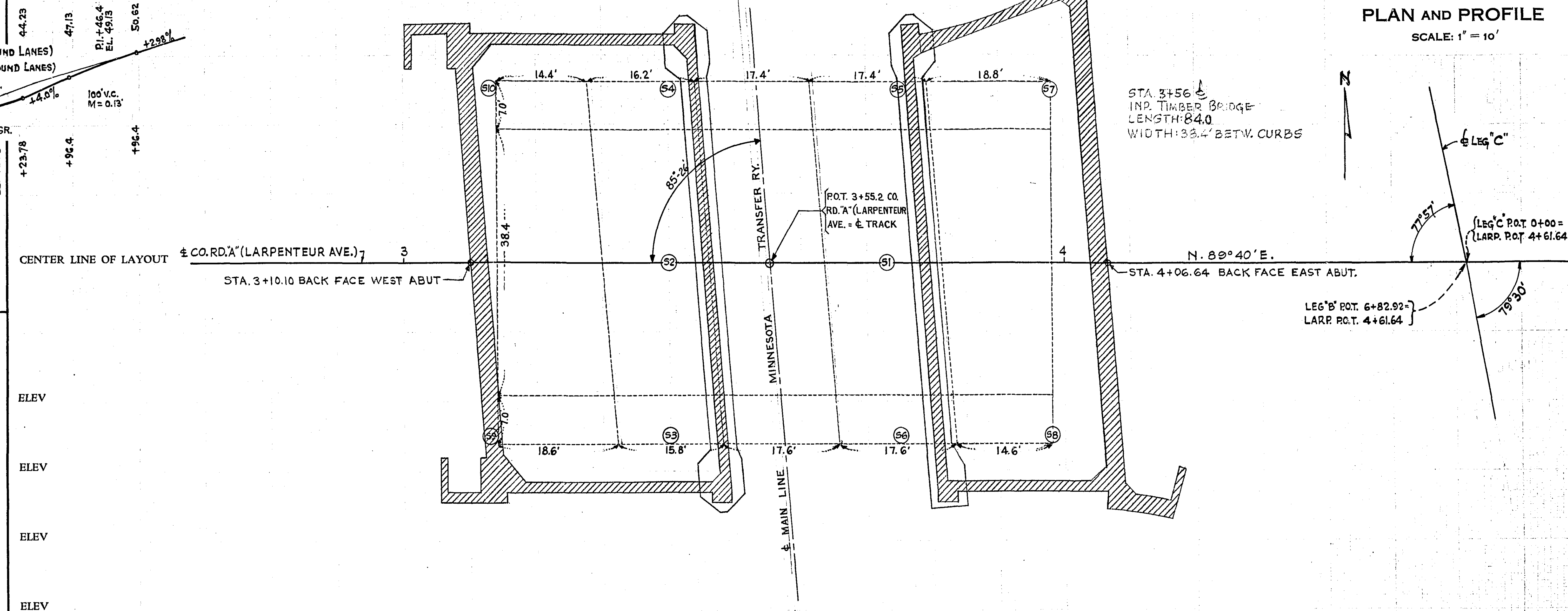
# CONTRACTED PROFILE

SCALE: HOR. 1" = 100', VERT. 1" = 10'



# PLAN AND PROFILE

SCALE: 1" = 10'



FOLLOW SEPARATE "INSTRUCTIONS FOR PREPARATION OF BRIDGE SURVEYS" WHEN MAKING BRIDGE SURVEYS.

## DATA

- Preliminary recommendations of Engineer:
  - Net Span Length and Type of Bridge: 31'-4" SLAB SPAN - 11 ABUTMENTS
  - Width of Roadway on Bridge: 2'-26" ROADWAYS, 4'-0" CTR. ISLAND
  - Number and width of Sidewalks, if any: 2'-5" SIDEWALKS
  - Locate center of Bridge at Station: STA. 3+58.37
  - If a skew bridge is recommended, the angle of skew should be 4°-34'
  - Is piling required? YES
- Special features: Waterfalls, dams, exceptional floods, ice, driftwood, sliding banks, logging, etc.
- Changes: In height or length from that of old bridge, and reasons why.

## DATA (Contd.)

- Other bridges in vicinity:
  - Over same stream (particularly structures which carry high water without overflow of roadway); give location, length, height above water, net cross-sectional area at high water stage and estimated age
  - Over or under same highway or railroad; give location, length, horizontal and vertical clearances and estimated age
  - Reasons why these bridges are, or are not, fair indications of what length the proposed bridge should be?
- If structure is over a drainage ditch, is ditch gradient liable to be altered?
- State navigation or boating clearances required, if any:
- Information and evidence in regard to high water stages was obtained as follows.
- Must contractor provide for traffic during construction of proposed bridge? NO  
If so, by what means?

## MATERIAL

Proposed Bridge is AT NO. CITY LIMITS OF ST. PAUL.  
which is the nearest

Railroad shipping point.

\*(Give name of town, station or siding)

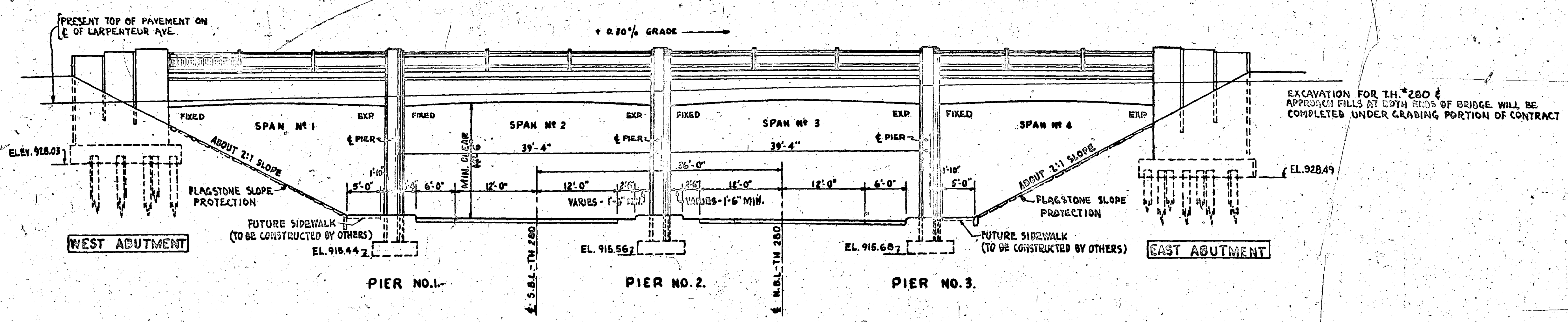
Date 7-3-53  
Project or County Engineer  
District Engineer  
Bridge Engineer

## STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS BRIDGE SURVEY

ON  
COUNTY ROAD "A" (LARPENTEUR AVE.)  
(DESIGNATE COUNTY AID - STATE AID OR TRUNK HIGHWAY NUMBER)

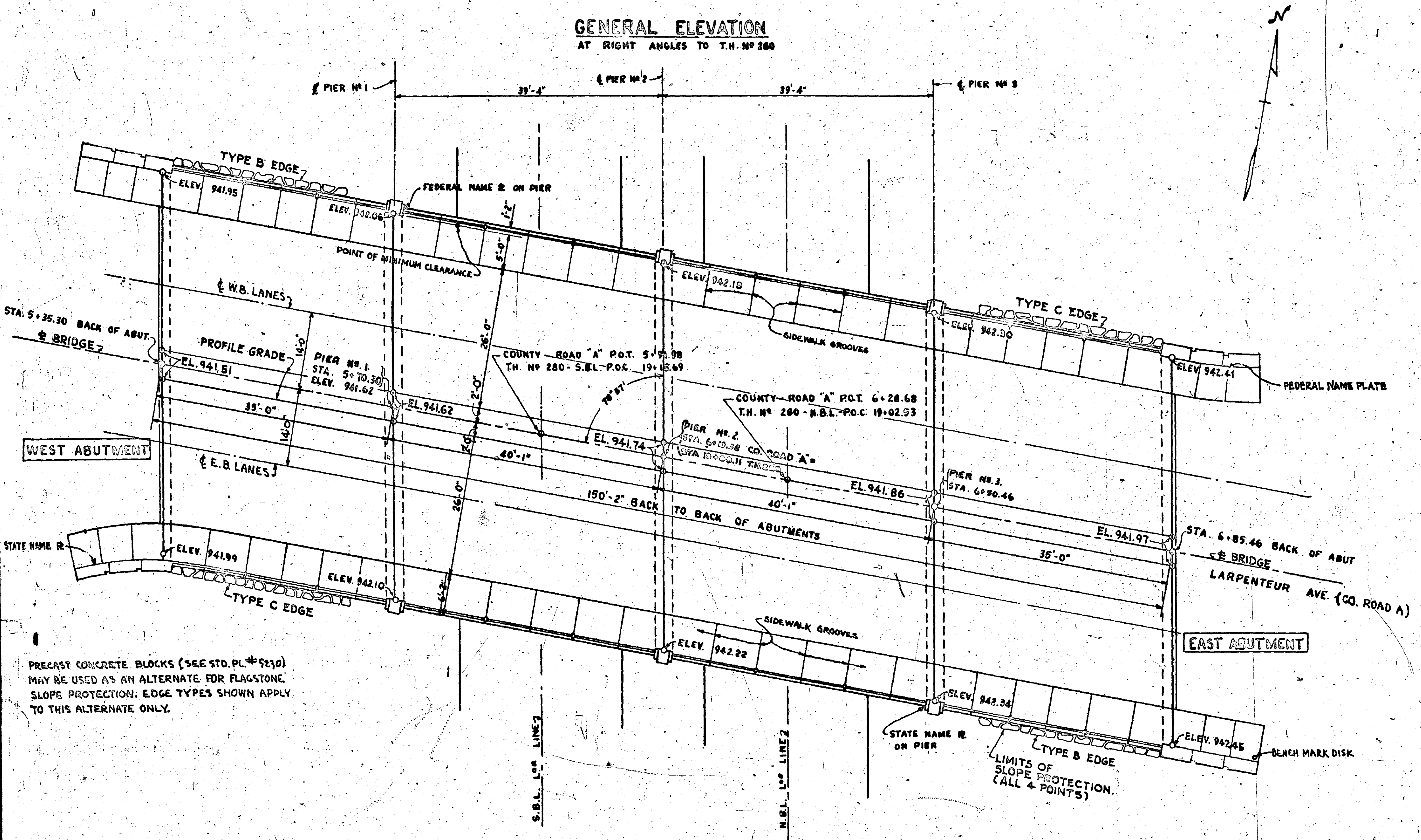
17 & 20 29 N. 23 W.  
SEC. TWP. R.  
ROSE TOWNSHIP  
RAMSEY COUNTY  
SURVEY MADE DURING MONTH OF APRIL 1952  
SURVEY MADE BY G.L. MARTZ  
BRIDGE NO. 6630  
SURVEY SHEET MADE IN CENTRAL OFFICE FROM MARTZ'S SURVEY BY L.V. PEARSON.

DESIGN DATA  
 1993 DESIGN SPECIFICATION M20-516  
 LOADING WITH IMPACT  
 $f_c = 20,000 \text{ psi}$   $f_s = 1200 \text{ psi}$   $n = 10$   
 AASHTO STANDARD SPECIFICATIONS  
 FOR HIGHWAY BRIDGES 6<sup>TH</sup> ED. 1953.



CONSTRUCTION NOTES:  
 THE SPECIFICATIONS FOR HIGHWAY CONSTRUCTION DATED JULY 1, 1947 AND SUBMITTED FOR APPROVAL BY THE DIVISION ENGINEER OF THE BUREAU OF PUBLIC ROADS ON OCT. 15, 1947, AND SUPPLEMENT NO. 1, EFFECTIVE APR. 15, 1953 SHALL GOVERN.

ALL REINFORCEMENT BARS SHALL BE INTERMEDIATE GRADE DEFORMED BARS AS PER A.S.T.M. SPECIF A305.  
 LISTING OF JOINT FILLER MATERIALS IS INTENDED TO BE COMPLETE. ANY ADDITIONAL FILLER MATERIALS REQUIRED TO COVER JOINT AREAS AS DETAILED IN THE PLANS ARE TO BE FURNISHED BY THE CONTRACTOR AT NO EXTRA COST.



| LIST OF SHEETS |                                         |
|----------------|-----------------------------------------|
| SHNO           | TITLE                                   |
| 1              | GENERAL PLAN & ELEVATION                |
| 2              | EAST ABUTMENT FRAMING DETAILS           |
| 3              | EAST ABUTMENT REINFORCEMENT             |
| 4              | WEST ABUTMENT FRAMING DETAILS           |
| 5              | WEST ABUTMENT REINFORCEMENT             |
| 6              | BEARING ASSEMBLIES & BILL OF MATERIAL   |
| 7              | FRAMING DETAILS FOR PIERS               |
| 8              | PIER REINFORCEMENT                      |
| 9              | ASSEMBLY DETAILS                        |
| 10             | DECK REINFORCEMENT                      |
| 11             | SUBSTRUCTURE-CROSS SECTIONS & END VIEWS |
| 12             | SUBSTRUCTURE-DETAILS & BILL OF MATERIAL |
| 13             | RAILING DETAILS                         |
| 14             | DETAILS OF RAIL POST & SOCKETS          |
| 15             | SURVEY SHEET                            |

PRECAST CONCRETE BLOCKS (SEE STD. PL. #5230) MAY BE USED AS AN ALTERNATE FOR FLAGSTONE SLOPE PROTECTION. EDGE TYPES SHOWN APPLY TO THIS ALTERNATE ONLY.

B.M. ELEV. 957.56 (M.S.L. DATUM - 1929 ADJ.) SPIKE IN P.P. INTERSECTION OF 10TH AND WALNUT STREETS.

GENERAL PLAN  
 NOT TO SCALE

T.H. NO. 280  
 STATE OF MINNESOTA  
 DEPARTMENT OF HIGHWAYS  
**BRIDGE NO. 6738**  
 LARPENTEUR AVE. OVER T.H. 280  
 RAMSEY COUNTY MINNESOTA  
 35' 40'-1", 40'-1", 35' CONC. DECK GIRDER  
 2-26' ROADWAYS, 1-4'-0" CTR. ISLAND, 2-5'-0" SIDEWALKS  
 GENERAL PLAN AND ELEVATION

TOLTZ, KING & DAY, INC.  
 ENGINEERS AND ARCHITECTS  
 ST. PAUL, MINNESOTA  
 DESIGNED BY A. G. H.  
 DRAWN BY A. F.  
 CHECKED BY O. A. O.  
 DATE 7 JAN 1954  
 I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 COMM. 3411  
 DRG. 1

| SCHEDULE OF QUANTITIES FOR ENTIRE BRIDGE |                    |                      |                      |                                |                          |                |              |                                 |                              |                            |                            |                      |                                   |                                               |
|------------------------------------------|--------------------|----------------------|----------------------|--------------------------------|--------------------------|----------------|--------------|---------------------------------|------------------------------|----------------------------|----------------------------|----------------------|-----------------------------------|-----------------------------------------------|
| ITEM NO.                                 | 2401.525           | 2401.501             | 2401.501             | 2402.521                       | 2401.541                 | 2402.561       | 2402.505     | 2402.507                        | 2452.503                     | 2452.504                   | 2481.501                   | 2514.501             | 2402.517                          | 452.562                                       |
| ITEM                                     | CLASS U EXCAVATION | CONCRETE MIX NO. 1A6 | CONCRETE MIX NO. 3Y6 | STRUCTURAL REINFORCEMENT STEEL | ORNAMENTAL METAL RAILING | WROUGHT BRONZE | SHEET COPPER | TREATED TIMBER PILING DELIVERED | TREATED TIMBER PILING DRIVEN | 3-PLY JOINT WATER-PROOFING | FLAGSTONE SLOPE PROTECTION | STANDARD NAME PLATES | LOAD TESTING FOR BEARING CAPACITY | TREATED TIMBER TEST PILES IN PLACE 20 FT. LF. |
| UNIT                                     | CU. YD.            | CU. YD.              | CU. YD.              | LB.                            | LB.                      | LN. FT.        | LB.          | LN. FT.                         | LN. FT.                      | LN. FT.                    | SQ. YD.                    | UNIT                 | LOAD TEST                         | PILE                                          |
| QUANTITY                                 | 1057               | 479                  | 494                  | 6770                           | 159255                   | 277.08         | 692          | 413                             | 2310                         | 2082                       | 135                        | 475                  | 4                                 | 6                                             |

\*THIS ITEM APPLIES TO PIERS ONLY SEE SPEC. PROV.

STATE OF MINNESOTA  
 DEPARTMENT OF HIGHWAYS  
**BRIDGE NO. 6738**  
 APPROVED JAN. 19, 1954  
 ASST. BRIDGE ENGR.  
 CHIEF ENGR.



END VIEW OF NORTH WING  
END VIEW OF SOUTH WING OPPOSITE HAND

ELEVATION - NORTH WING

SEC. 1-1  
SEC. 2-2 OPPOSITE HAND

SEC. 3-3

ELEVATION - SOUTH WING

SOUTH SIDE

NORTH SIDE

PLAN OF SIDEWALK SOUTH WING

PLAN OF SIDEWALK - NORTH WING

SECTION AT TOP OF FOOTING

REINFORCEMENT FOR EAST ABUTMENT

DETAILS NOT TO SCALE

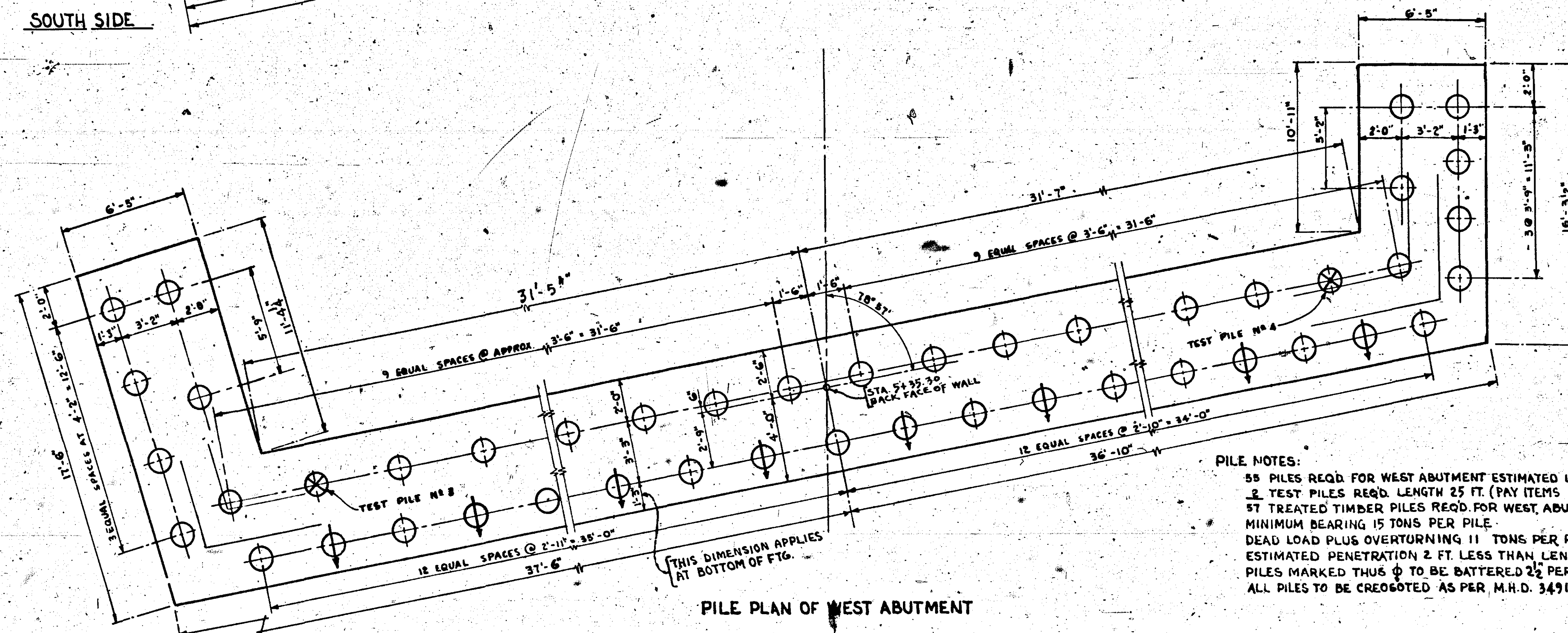
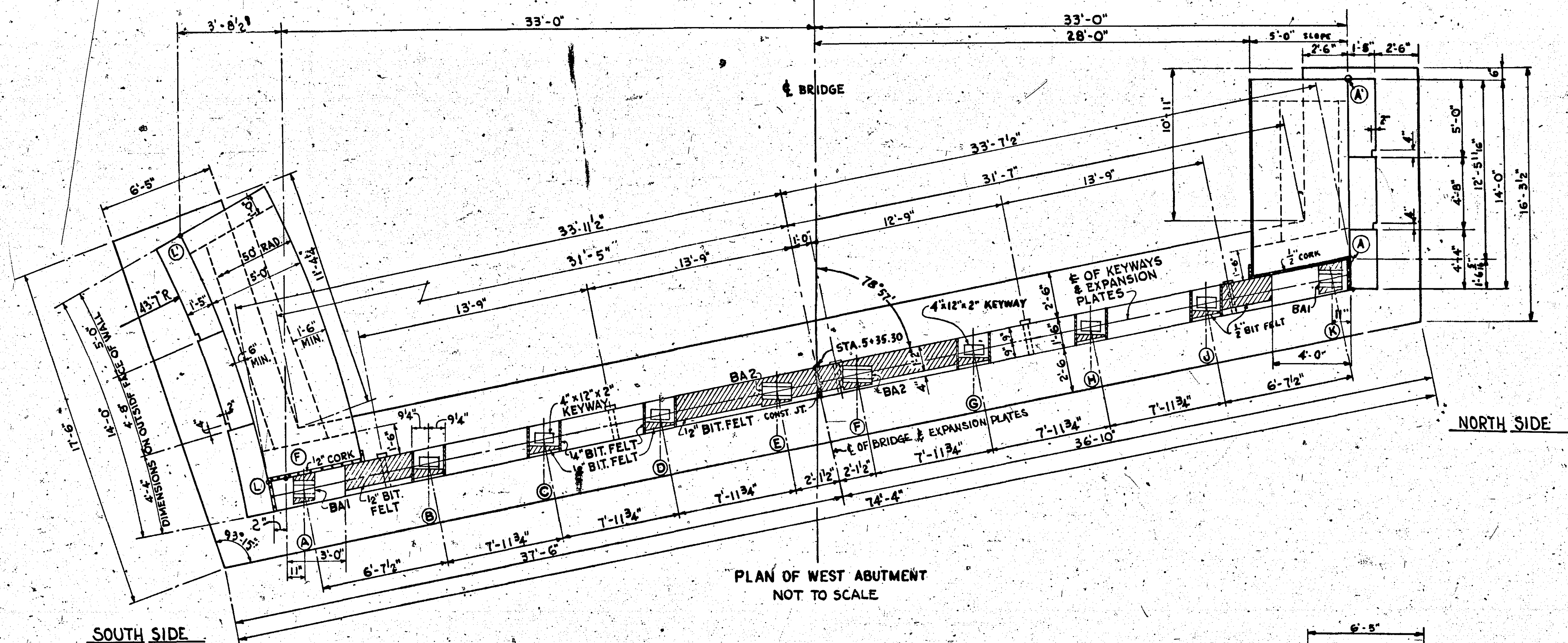
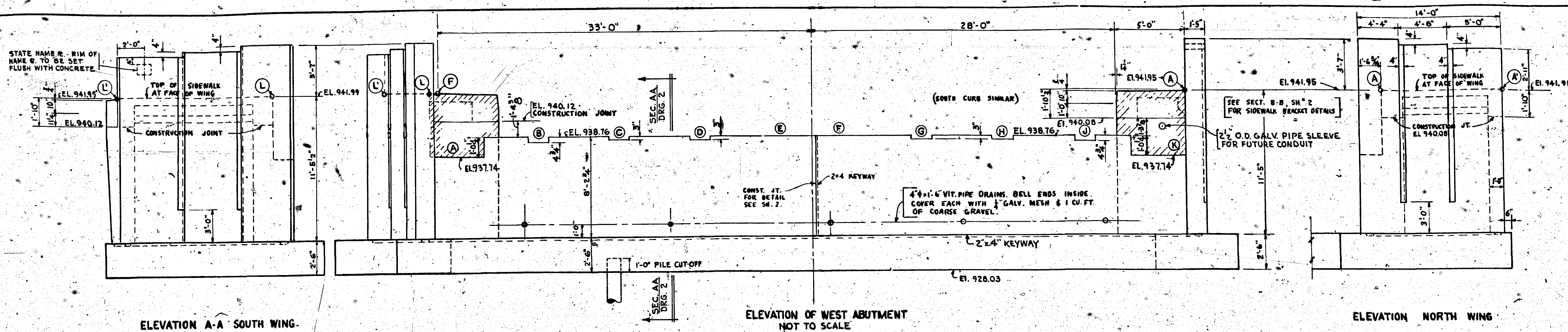
SECTION ABOVE BRIDGE SEAT

|                                                                                                                                     |                                                                                                                                                                                                                                 |                       |
|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| STATE OF MINNESOTA<br>DEPARTMENT OF HIGHWAYS<br><b>BRIDGE NO. 6738</b><br>LARPEN TEUR AVE. OVER T.H. 280<br>RAMSEY COUNTY MINNESOTA |                                                                                                                                                                                                                                 |                       |
| 35', 40'-1", 40'-1", 35', CONC. DECK GIRDER<br>2-26' ROADWAYS 1'-4" CTR. ISLAND 2'-5" SIDEWALKS<br>EAST ABUTMENT REINFORCEMENT      |                                                                                                                                                                                                                                 |                       |
| TOLTZ, KING & DAY, INC.<br>ENGINEERS AND ARCHITECTS<br>ST. PAUL, MINNESOTA                                                          |                                                                                                                                                                                                                                 |                       |
| DESIGNED<br>A.G.H.                                                                                                                  | I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED<br>BY ME OR UNDER MY DIRECT SUPERVISION AND THAT<br>I AM A DULY REGISTERED PROFESSIONAL ENGINEER<br>UNDER THE LAWS OF THE STATE OF MINNESOTA.<br><br>DATE 7 JAN 1954 REG. NO. 1366 | COMM.<br>3411'        |
| DRAWN<br>S.J.K.                                                                                                                     |                                                                                                                                                                                                                                 | DRG.<br>3             |
| CHECKED<br>G.N.C.                                                                                                                   |                                                                                                                                                                                                                                 |                       |
| O.A.O.                                                                                                                              |                                                                                                                                                                                                                                 |                       |
| APPROVED<br>M.H.O.                                                                                                                  | <i>A.P. de Bont</i><br>ASST. BRIDGE ENGINEER                                                                                                                                                                                    | JAN. 19, 1954<br>DATE |

T-102

SHEET 3 OF 15 SHEETS

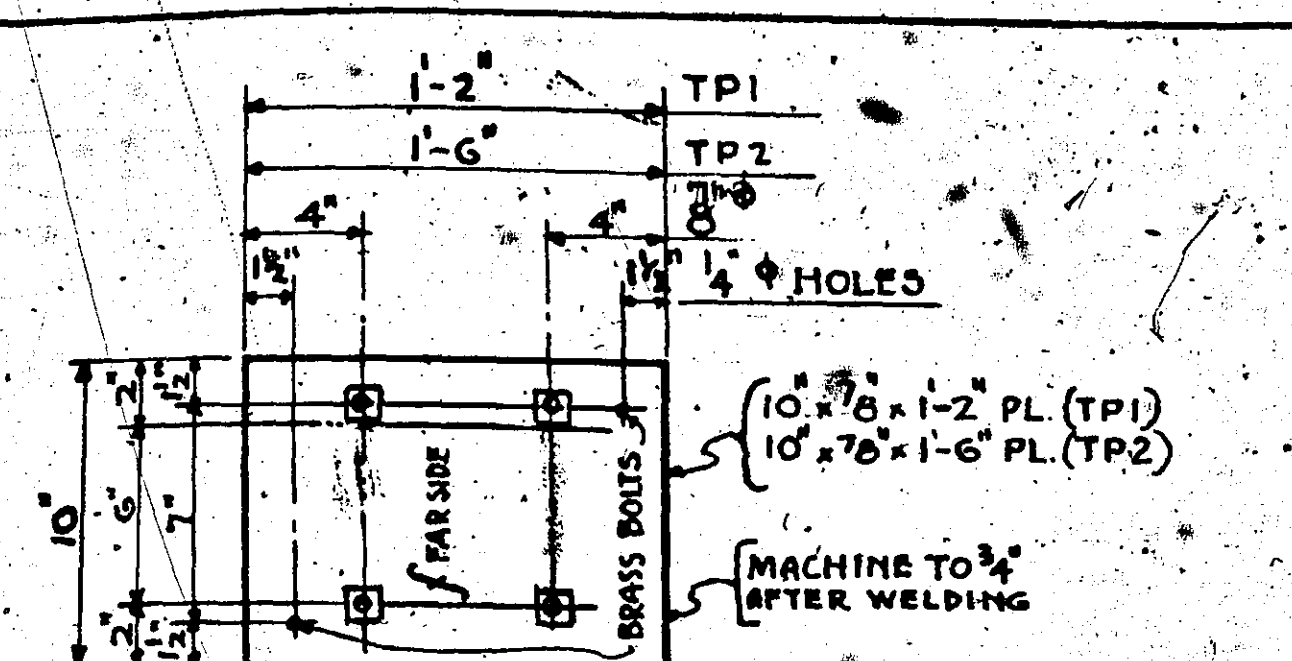
6738



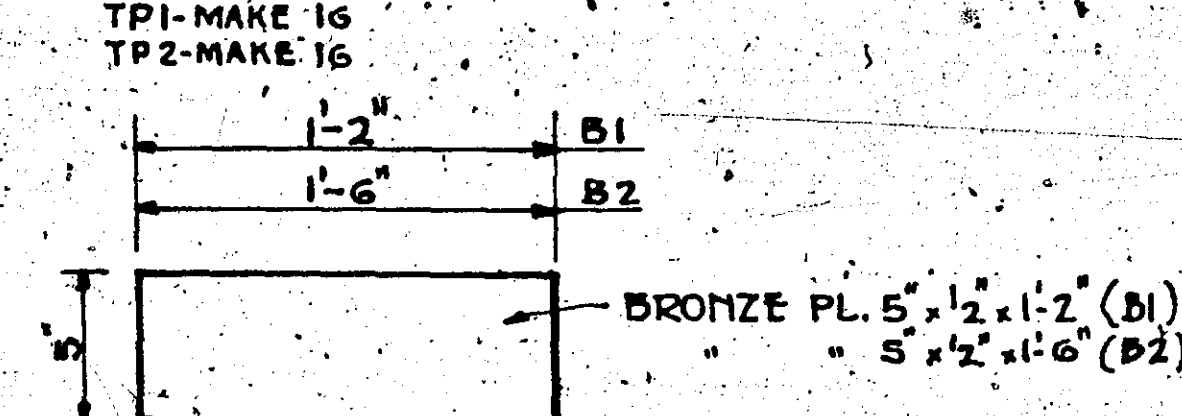
ALL CONCRETE EXCEPT SIDEWALK TO BE MIX'N<sup>o</sup> 1A6

|                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATE OF MINNESOTA<br>DEPARTMENT OF HIGHWAYS<br><b>BRIDGE NO. 6738</b><br>LARPENTEUR AVE. OVER T.H. 280<br>RAMSEY COUNTY MINNESOTA            |                                                                                                                                                                                                                                                                                                                                   |
| 35', 40'-1", 40'-1", 35', CONC. DECK GIRDER<br>2-26' ROADWAYS, 1-4'-0" CTR. ISLAND, 2-5'-0" SIDEWALKS<br><b>WEST ABUTMENT FRAMING DETAILS</b> |                                                                                                                                                                                                                                                                                                                                   |
| <b>TOLTZ, KING &amp; DAY, INC.</b><br>ENGINEERS AND ARCHITECTS<br>ST. PAUL, MINNESOTA                                                         |                                                                                                                                                                                                                                                                                                                                   |
| DESIGNED<br><b>AGH</b><br>DRAWN<br><b>A-F</b><br>CHECKED<br><b>O.A.O.</b>                                                                     | I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED<br>BY ME OR UNDER MY DIRECT SUPERVISION AND THAT<br>I AM A DULY REGISTERED PROFESSIONAL ENGINEER<br>UNDER THE LAWS OF THE STATE OF MINNESOTA<br><br>DATE <u>7 JAN 1954</u> REG. NO. <u>1366</u> |
| APPROVED<br><br>ASST. BRIDGE ENGINEER                    | <b>COMM. 3411</b><br><b>DRG. 4</b><br><b>JAN 19 1954</b><br>DATE                                                                                                                                                                                                                                                                  |

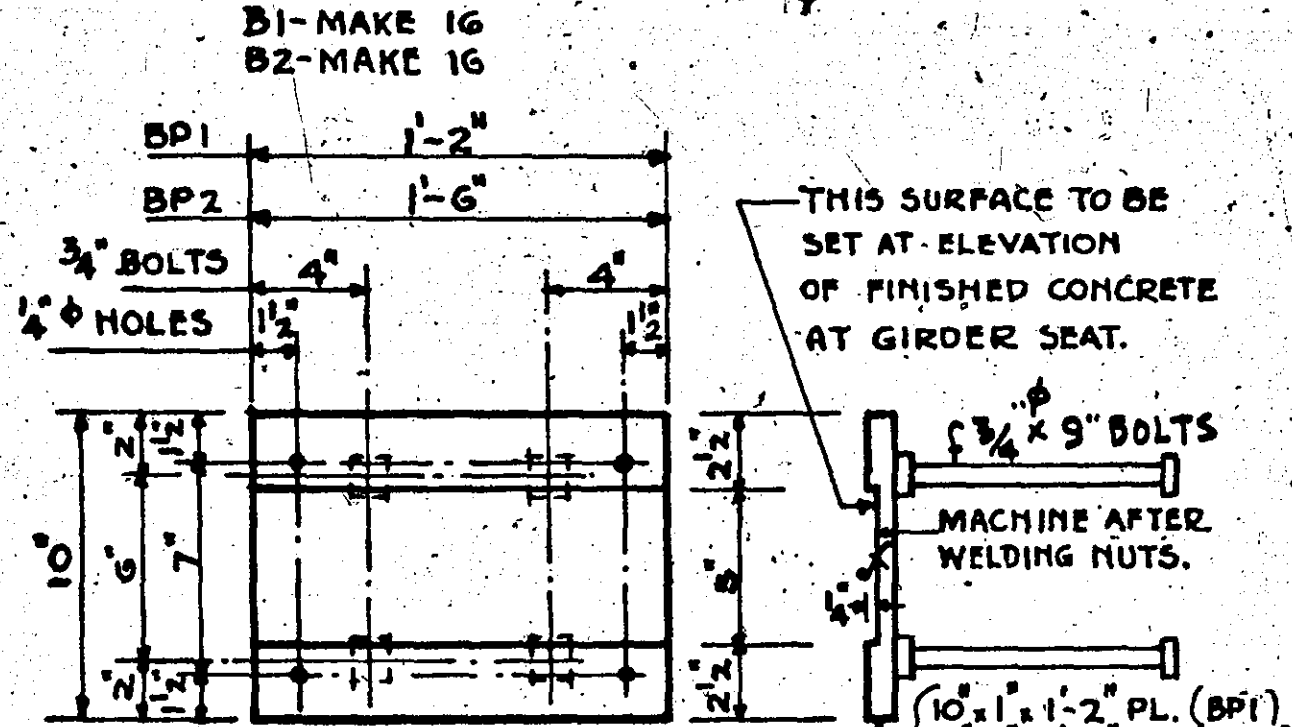




TOP PLATE TP1 & TP2



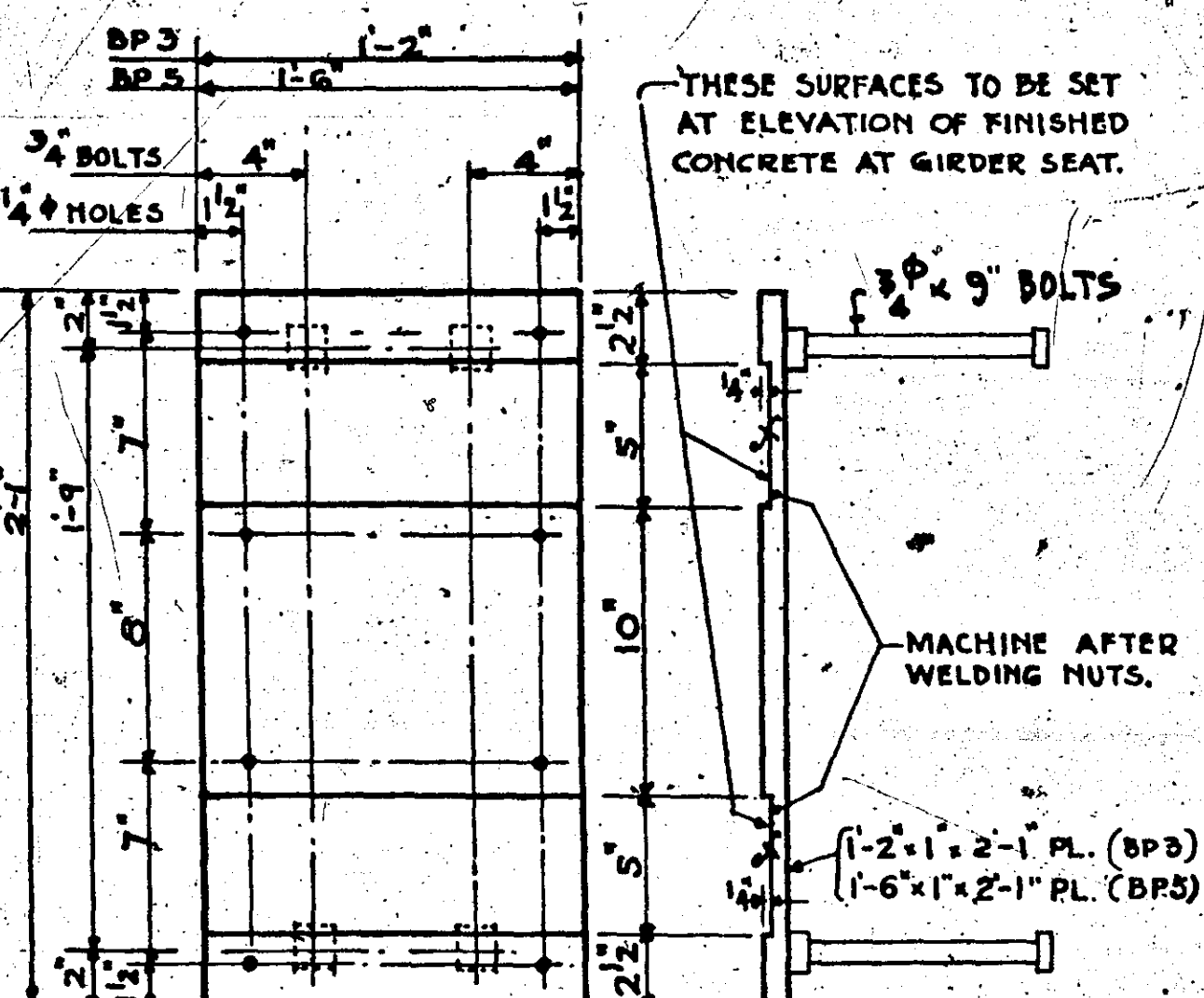
BRONZE PLATE B1 & B2



BOTTOM PLATE BP1 & BP2

### BEARING ASSEMBLY BA1 & BA2

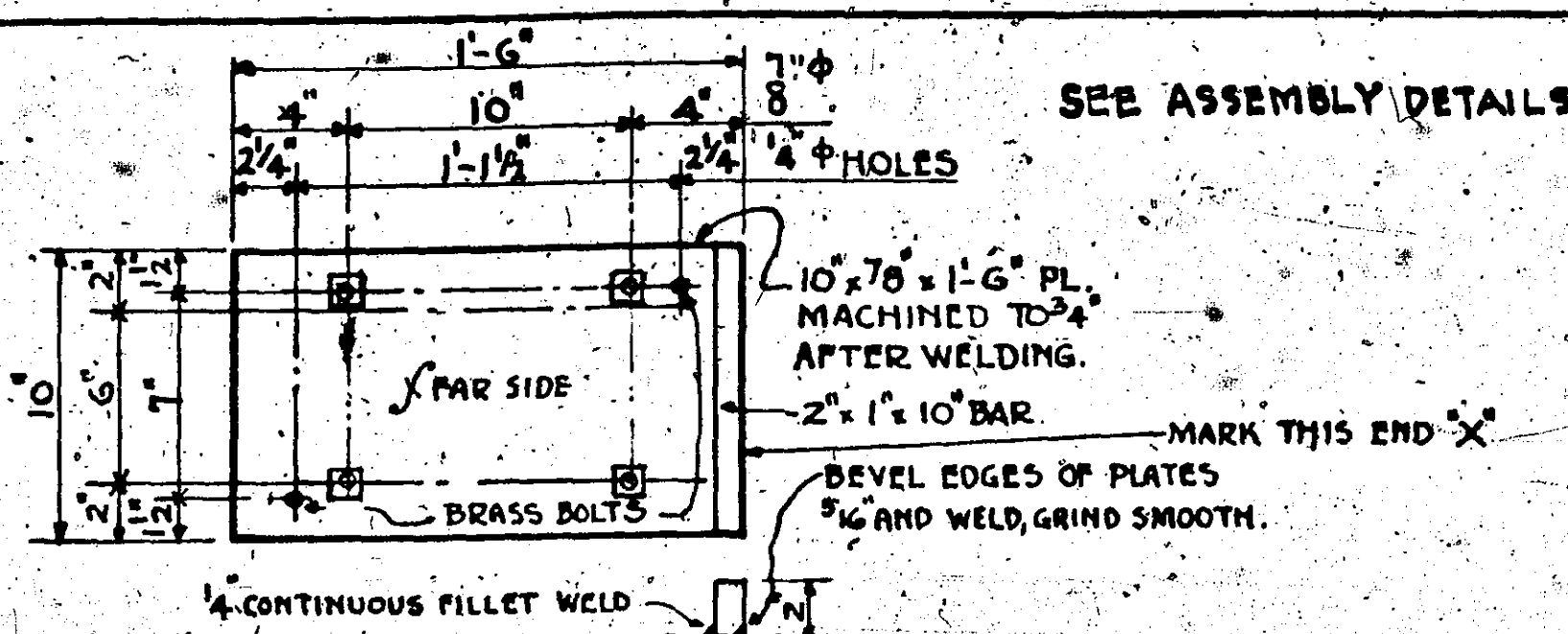
4-BA1 ASSEMBLIES REQ'D. EACH BA1 ASSEMBLY CONSISTS OF 1-TP1, 1-B1, & 1-BP1.  
4-BA2 ASSEMBLIES REQ'D. EACH BA2 ASSEMBLY CONSISTS OF 1-TP2, 1-B2, & 1-BP2.



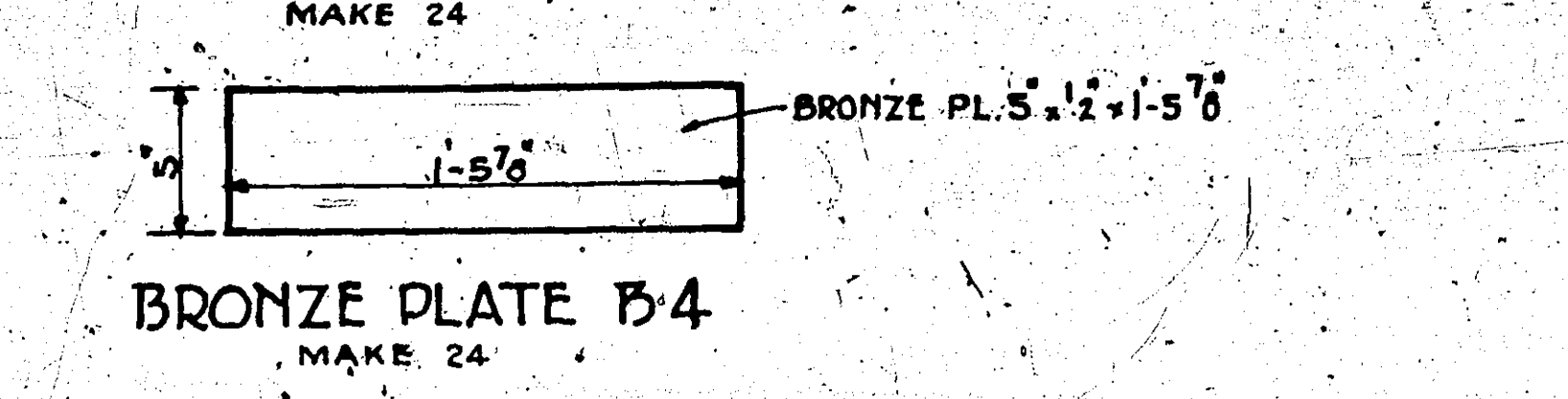
BOTTOM PLATE BP3 & BP5

### BEARING ASSEMBLY BA3 & BA5

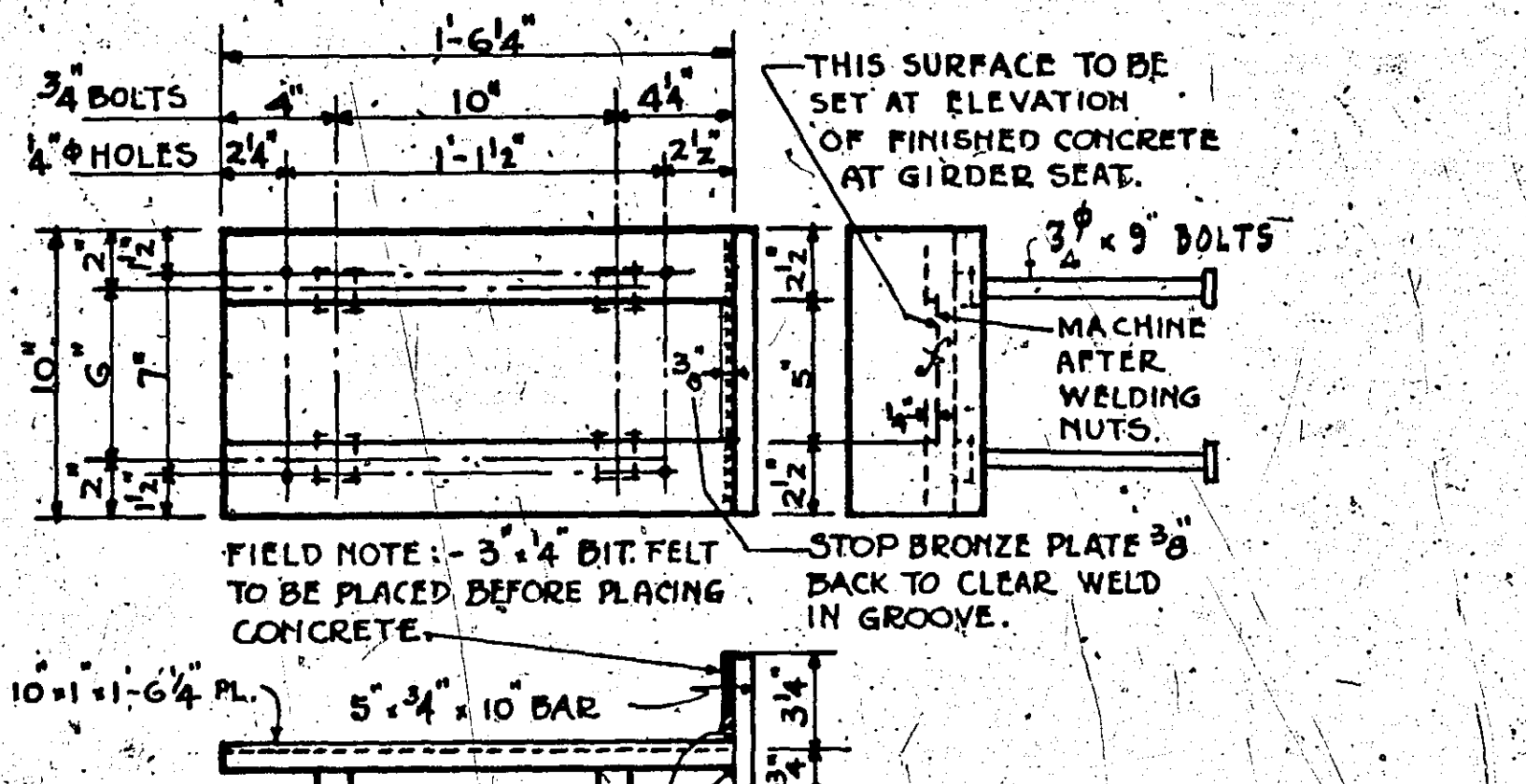
6-BA3 ASSEMBLIES REQ'D. EACH BA3 ASSEMBLY CONSISTS OF 2-TP1, 2-B1, & 1-BP3.  
6-BA5 ASSEMBLIES REQ'D. EACH BA5 ASSEMBLY CONSISTS OF 2-TP2, 2-B2, & 1-BP5.



TOP PLATE TP4



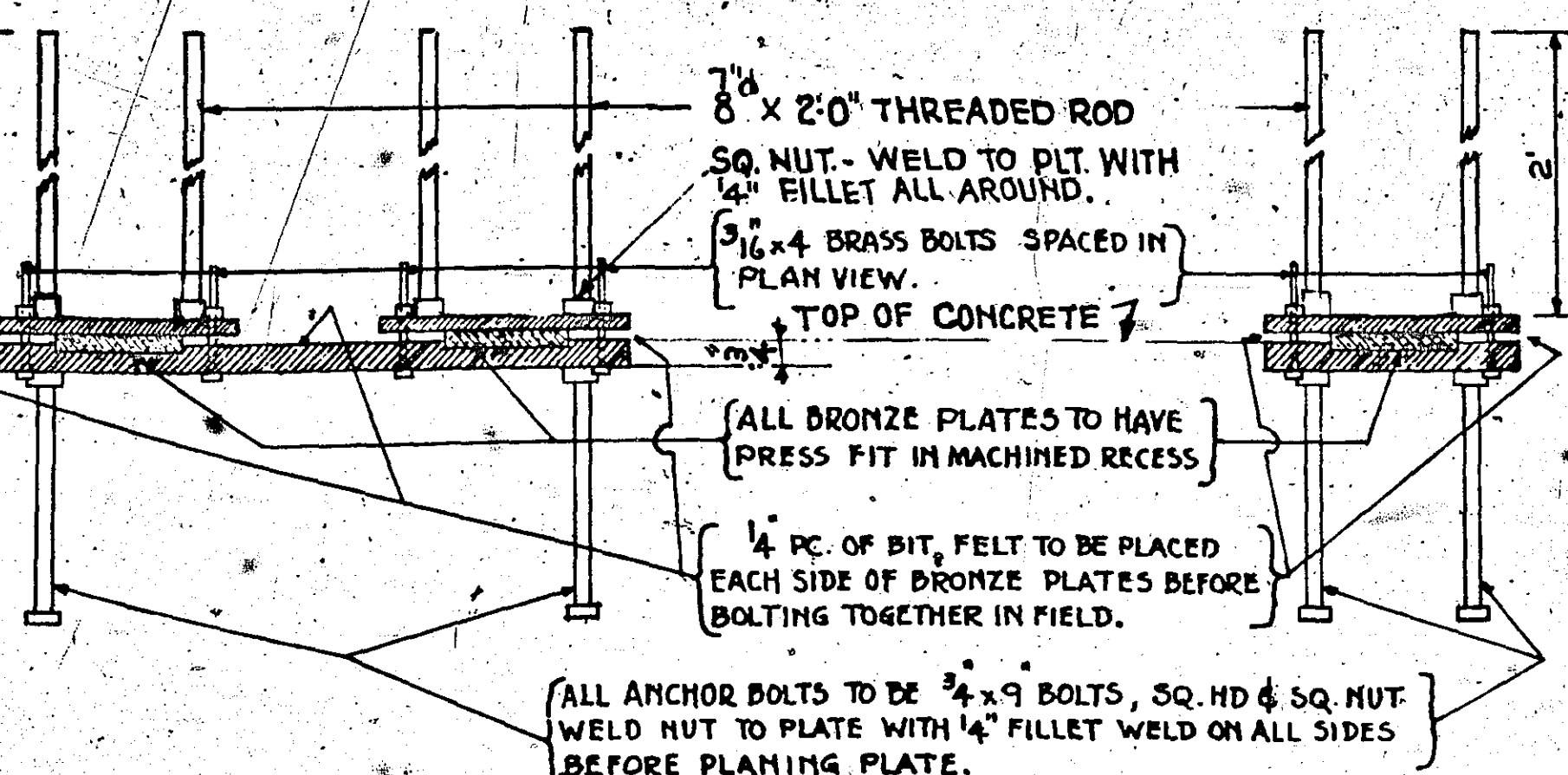
BRONZE PLATE B4



BOTTOM PLATE BP4

### BEARING ASSEMBLY BA4

24-BA4 ASSEMBLIES REQ'D. EACH BA4 ASSEMBLY CONSISTS OF 1-TP4, 1-B4, & 1-BP4.



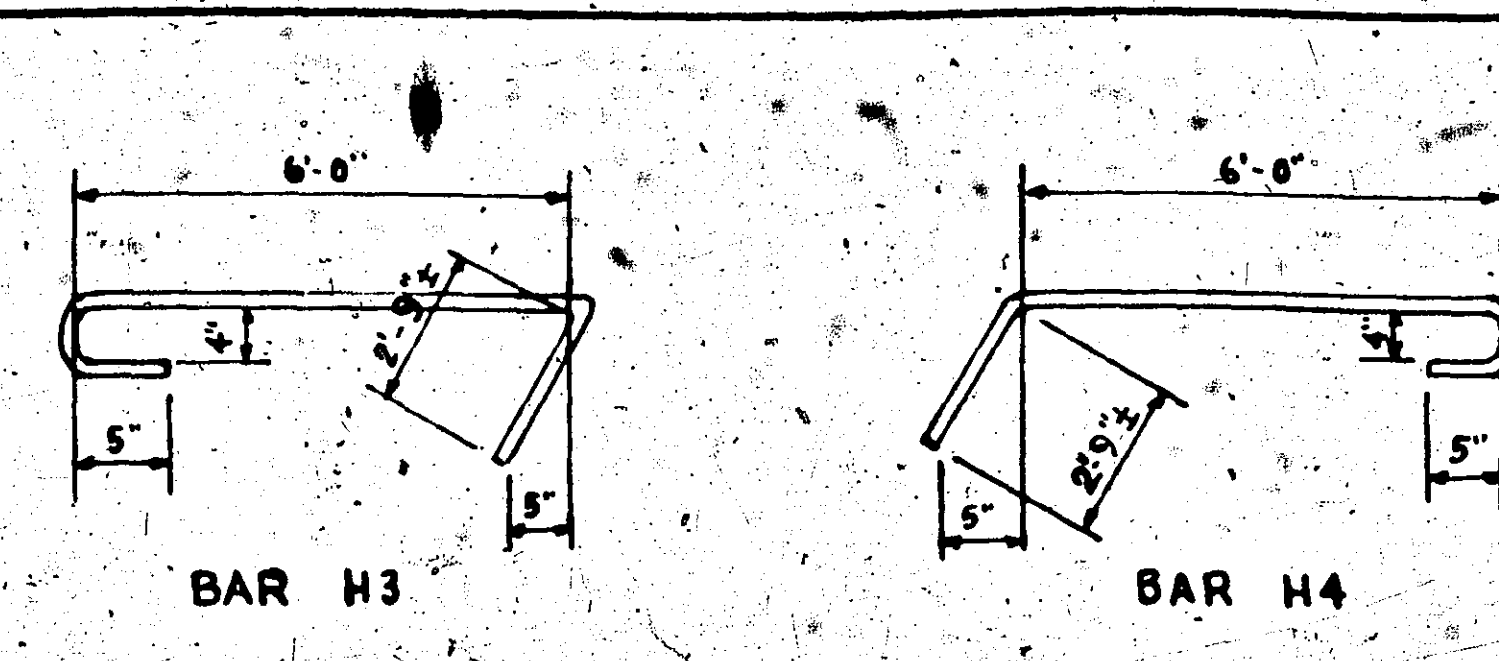
BA3 & BA5

BA1, BA2, & BA4

### BEARING ASSEMBLIES

#### NOTES FOR BEARING PLATES:

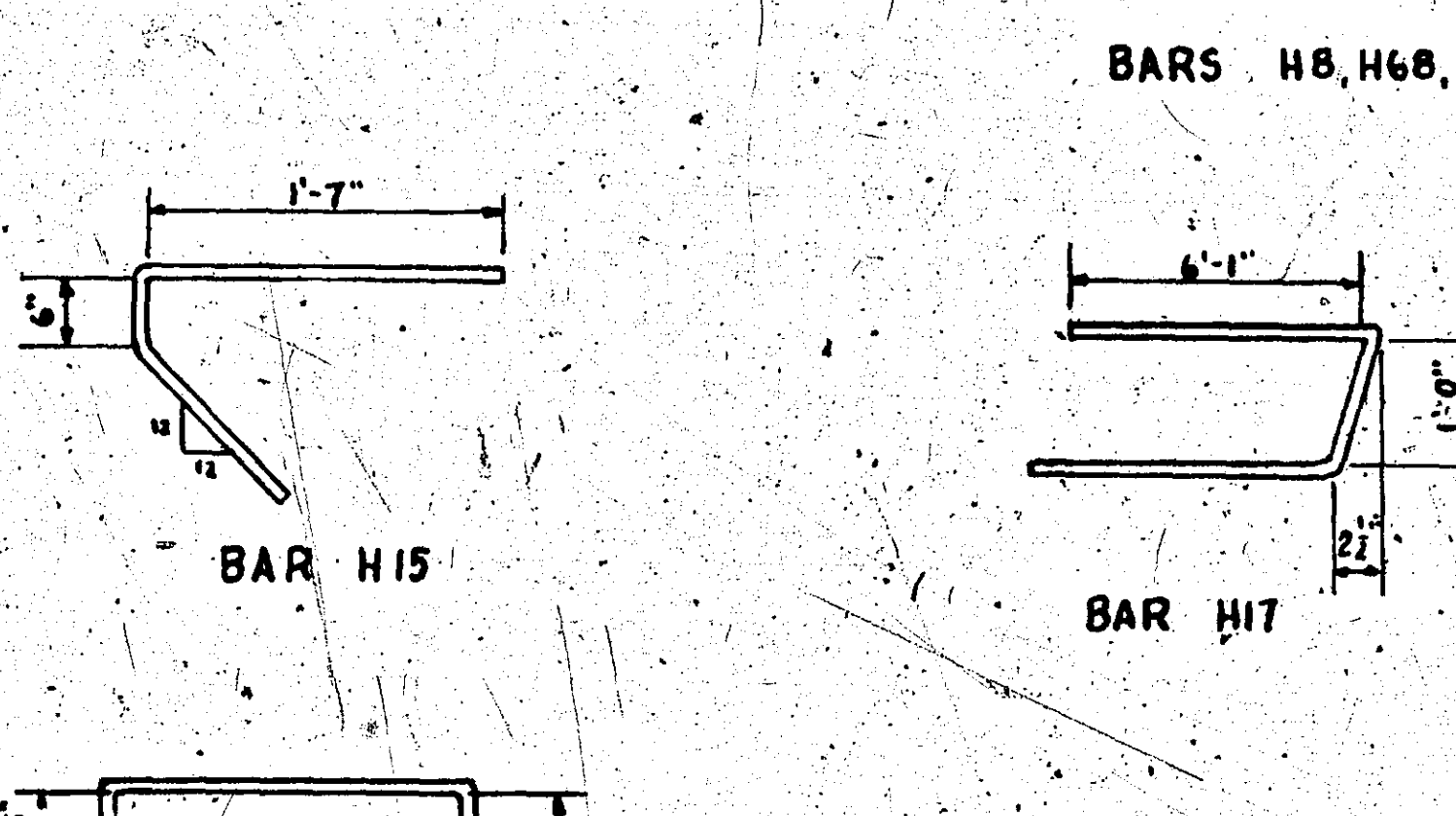
\* WROUGHT BRONZE PLATES TO MEET SPECIFICATIONS OF A.S.T.M. DESIGNATION B-100 TYPE A OR B HOT ROLLED, COLD-ROLLED FINISH, NO PAINT.  
STEEL BEARING PLATES TO BE GIVEN ONE COAT OF RED LEAD IN SHOP.  
BOTTOM AND TOP PLATES TO BE BOLTED TOGETHER WITH 3/4" x 4" BRASS BOLTS (2 1/2" THREAD) BEFORE PLACING SUPERSTRUCTURE CONCRETE. EACH ASSEMBLY TO BE BOLTED TOGETHER FOR SHIPMENT. BRASS BOLTS TO REMAIN IN PLACE IN FINISHED STRUCTURE.  
THE COMPLETE BEARING ASSEMBLIES (EXCEPT BRONZE PLATES) TO BE MEASURED AND PAID FOR AS STRUCTURAL STEEL.  
\* CAST BRONZE AS PER M.H.D. 3328, CLASS A, OR M. MAY BE SUBSTITUTED FOR WROUGHT BRONZE.



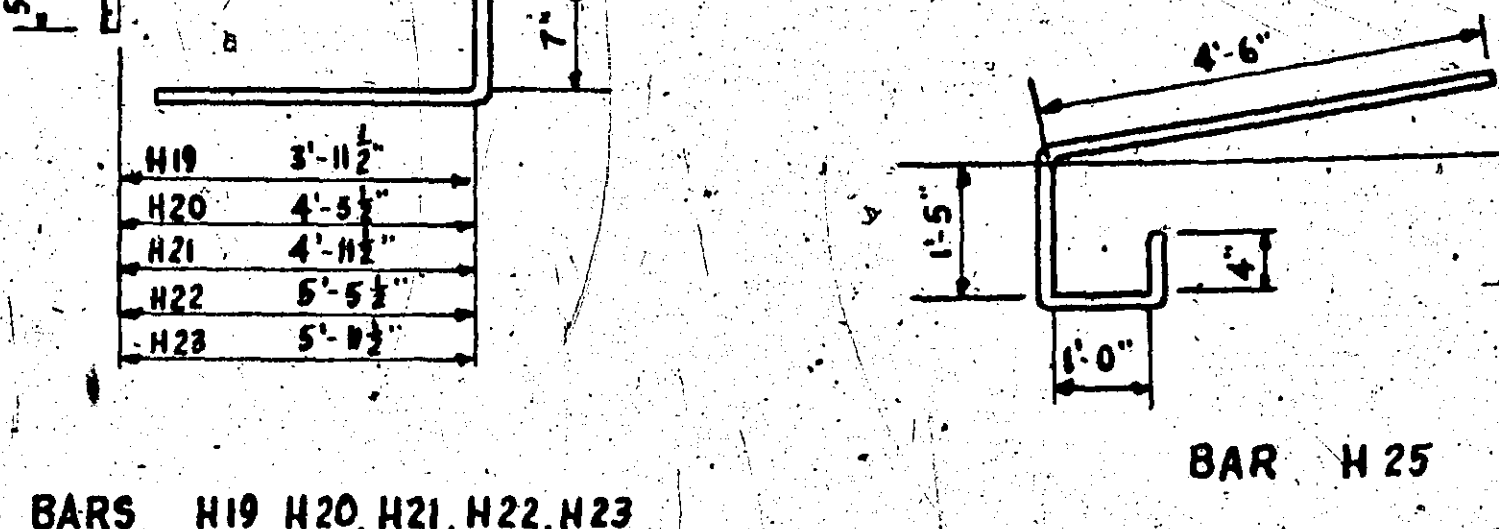
BAR H3



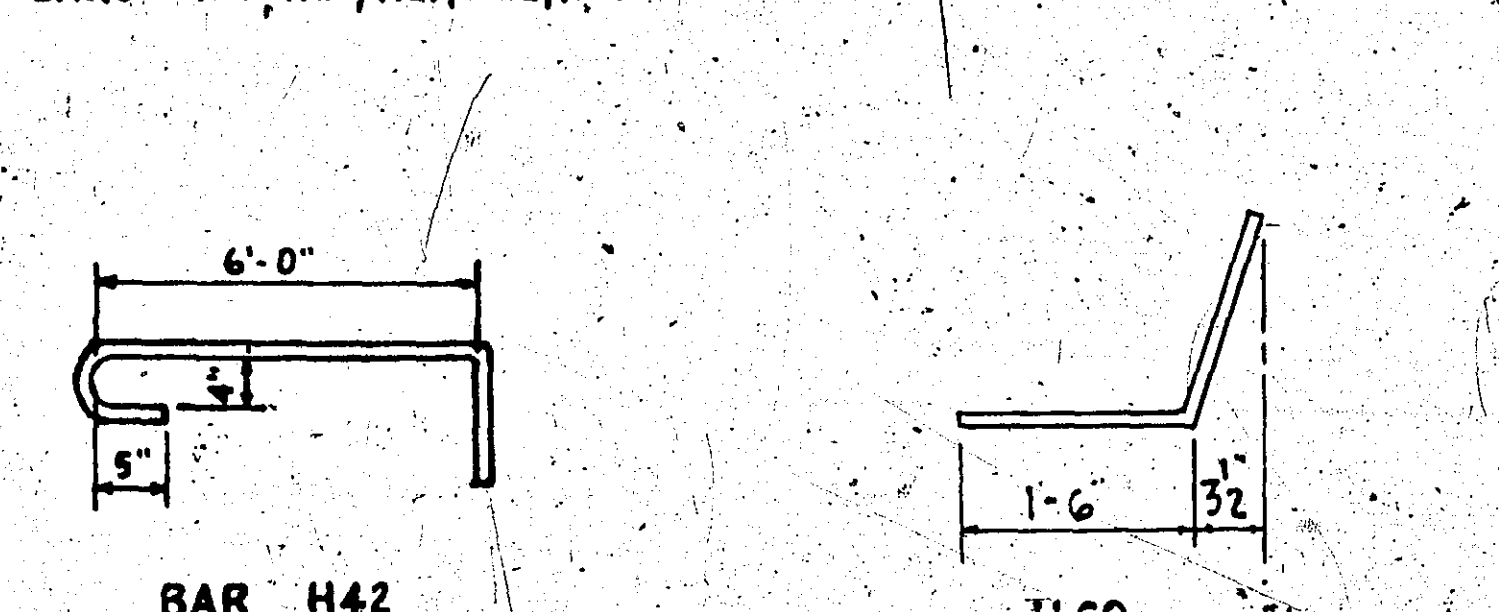
BAR H4



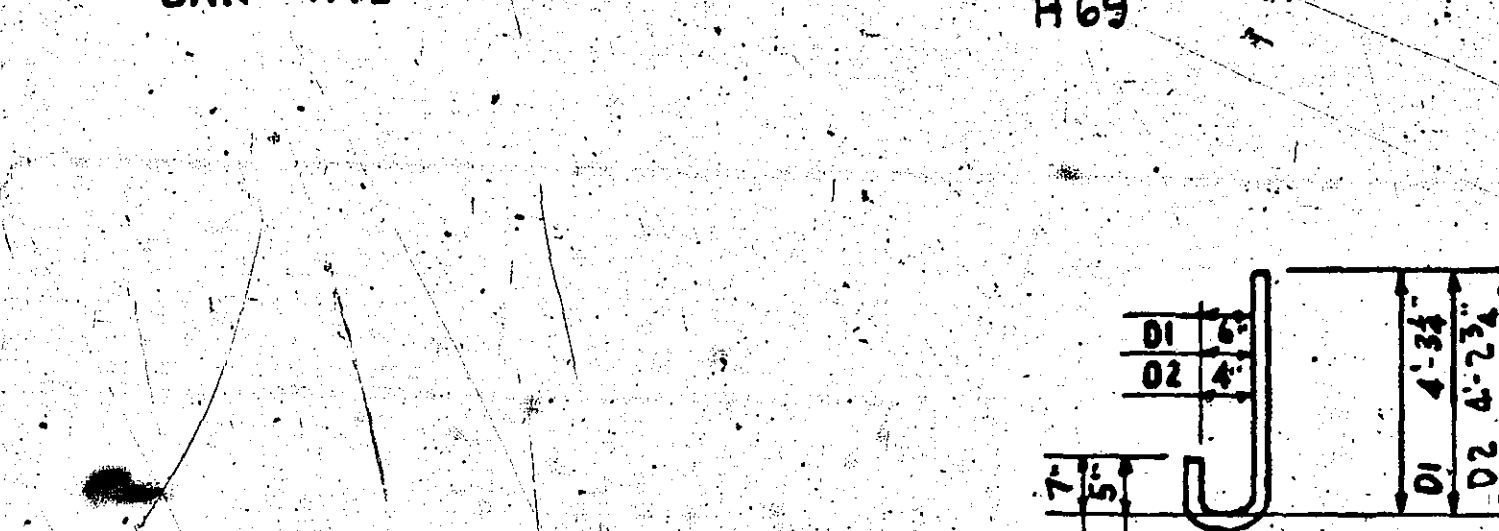
BAR H7



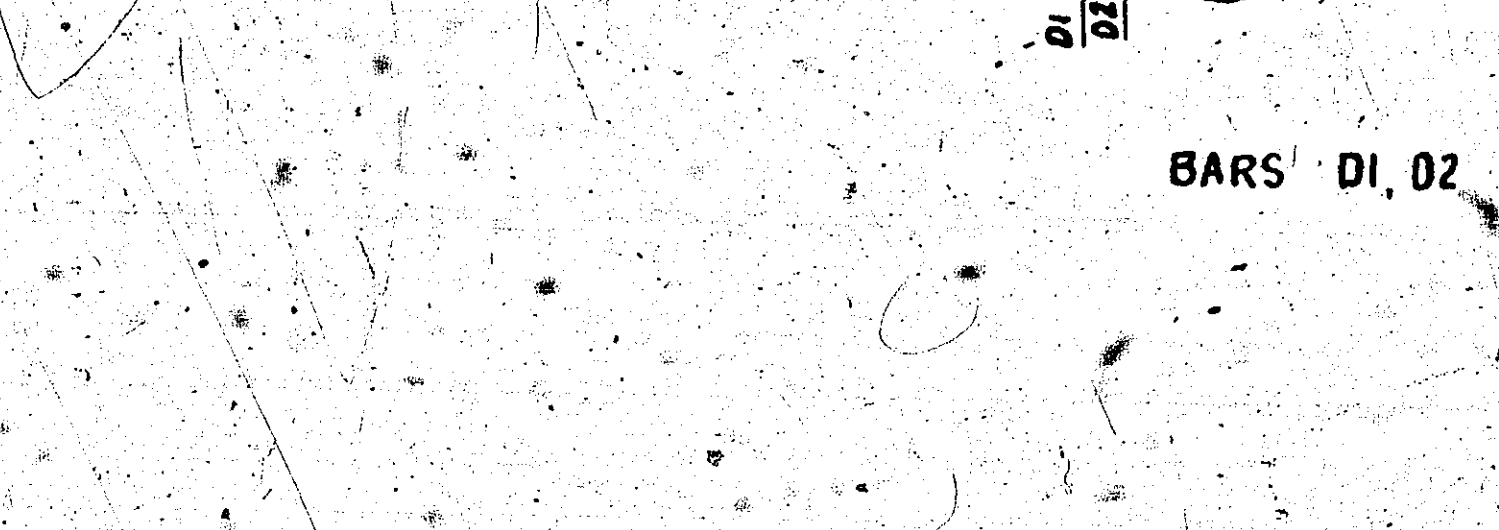
BAR H8, H68, TI



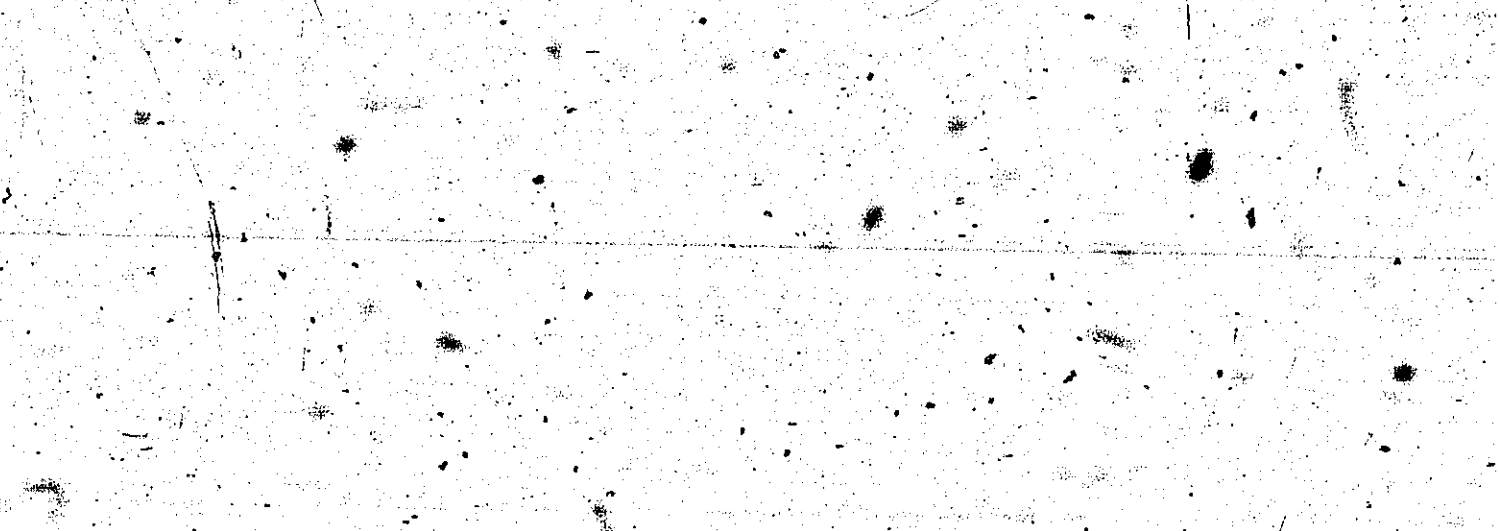
BAR H15



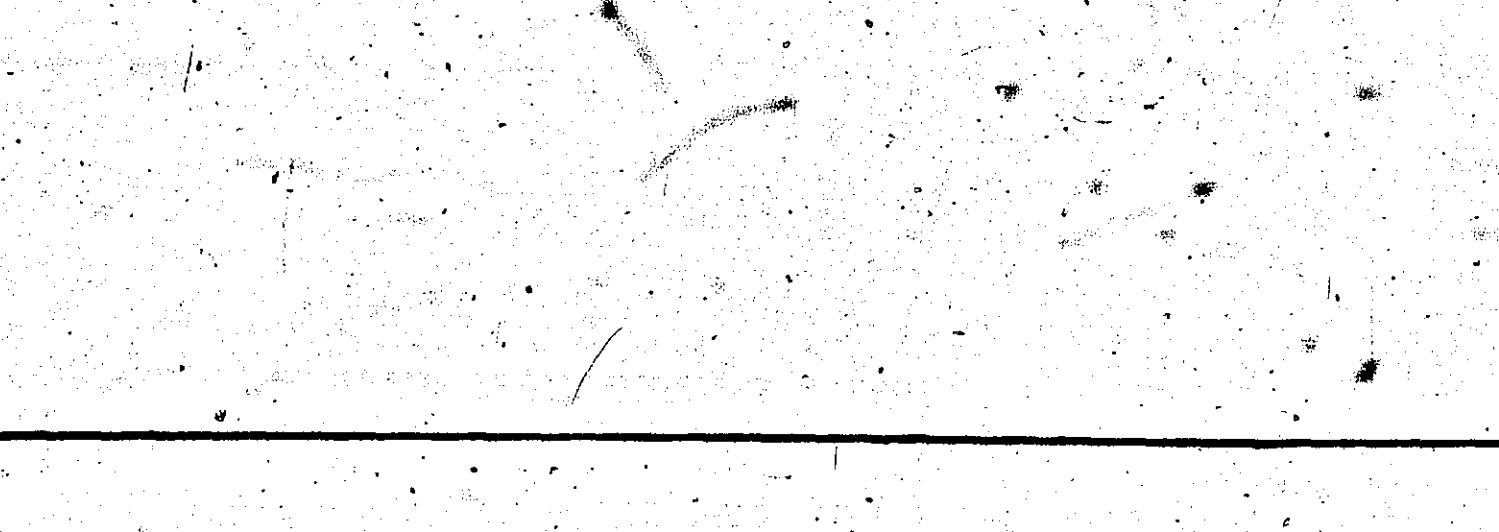
BAR H17



BAR H19, H20, H21, H22, H23



BAR H25



BAR H42

### BILL OF REINFORCEMENT FOR EAST ABUTMENT

| BAR NO. | SIZE | LENGTH  | SHAPE | LOCATION                                 |
|---------|------|---------|-------|------------------------------------------|
| H1      | 14   | 3'-0"   | STR.  | ABUT. WALL - LONGIT. FRONT               |
| H2      | 8    | 3'-0"   | STR.  | ABUT. WALL - LONGIT. REAR AND BOTH SIDES |
| H3      | 7    | 9'-5"   | BENT  | CORNER NORTH WING AND ABUT. REAR         |
| H4      | 7    | 9'-5"   | BENT  | CORNER SOUTH WING AND ABUT. REAR         |
| H5      | 48   | 13'-8"  | STR.  | WINGS - LONGIT. BOTH FACES               |
| H6      | 8    | 3'-0"   | STR.  | ABUT. WALL - TOP LONGIT.                 |
| H7      | 7    | 3'-0"   | BENT  | CORNER NORTH WING AND ABUT. FRONT        |
| H8      | 32   | 2'-0"   | BENT  | TIES IN EXPOSED ENDS OF WING WALLS       |
| H9      | 4    | 6'-0"   | STR.  | WINGS - LONGIT. TOP                      |
| H10     | 4    | 6'-0"   | STR.  | WINGS - LONGIT. TOP                      |
| H11     | 4    | 4'-0"   | STR.  | WINGS - LONGIT. TOP                      |
| H12     | 4    | 4'-0"   | STR.  | WINGS - LONGIT. TOP                      |
| H13     | 4    | 4'-0"   | STR.  | WINGS - LONGIT. TOP                      |
| H14     | 4    | 4'-0"   | STR.  | WINGS - LONGIT. TOP                      |
| H15     | 20   | 3'-0"   | BENT  | SIDEWALK BRACKETS                        |
| H16     | 4    | 9'-6"   | STR.  | SIDEWALK BRACKET - WINGS                 |
| H17     | 6    | 13'-2"  | BENT  | CORNER AT BOTH WINGS AND ABUT. REAR      |
| H18     | 4    | 4'-0"   | STR.  | ABUT. WALL - LONGIT. FRONT               |
| H19     | 2    | 8'-10"  | BENT  | TIES IN END WALL OF BOTH WINGS           |
| H20     | 2    | 9'-10"  | BENT  | TIES IN END WALL OF BOTH WINGS           |
| H21     | 2    | 10'-10" | BENT  | TIES IN END WALL OF BOTH WINGS           |
| H22     | 2    | 11'-10" | BENT  | TIES IN END WALL OF BOTH WINGS           |
| H23     | 4    | 12'-10" | BENT  | TIES IN END WALL OF BOTH WINGS           |
| H24     | 4    | 12'-10" | BENT  | TIES IN END WALL OF BOTH WINGS           |
| H25     | 18   | 7'-3"   | BENT  | BOTH SIDEWALKS - TRANSV. TOP             |
| H26     | 7    | 12'-1"  | STR.  | NORTH SIDEWALK - LONGIT. TOP & BOT.      |
| H27     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H28     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H29     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H30     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H31     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H32     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H33     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H34     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H35     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H36     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H37     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H38     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H39     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H40     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H41     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H42     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H43     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H44     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H45     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H46     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H47     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H48     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H49     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H50     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H51     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H52     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H53     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H54     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H55     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H56     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H57     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H58     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H59     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H60     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H61     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H62     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H63     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H64     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H65     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H66     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H67     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H68     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H69     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H70     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H71     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H72     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H73     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H74     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H75     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H76     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H77     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H78     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H79     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H80     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H81     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H82     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H83     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H84     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H85     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H86     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H87     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H88     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H89     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H90     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H91     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H92     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H93     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H94     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H95     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H96     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H97     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H98     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H99     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H100    | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |

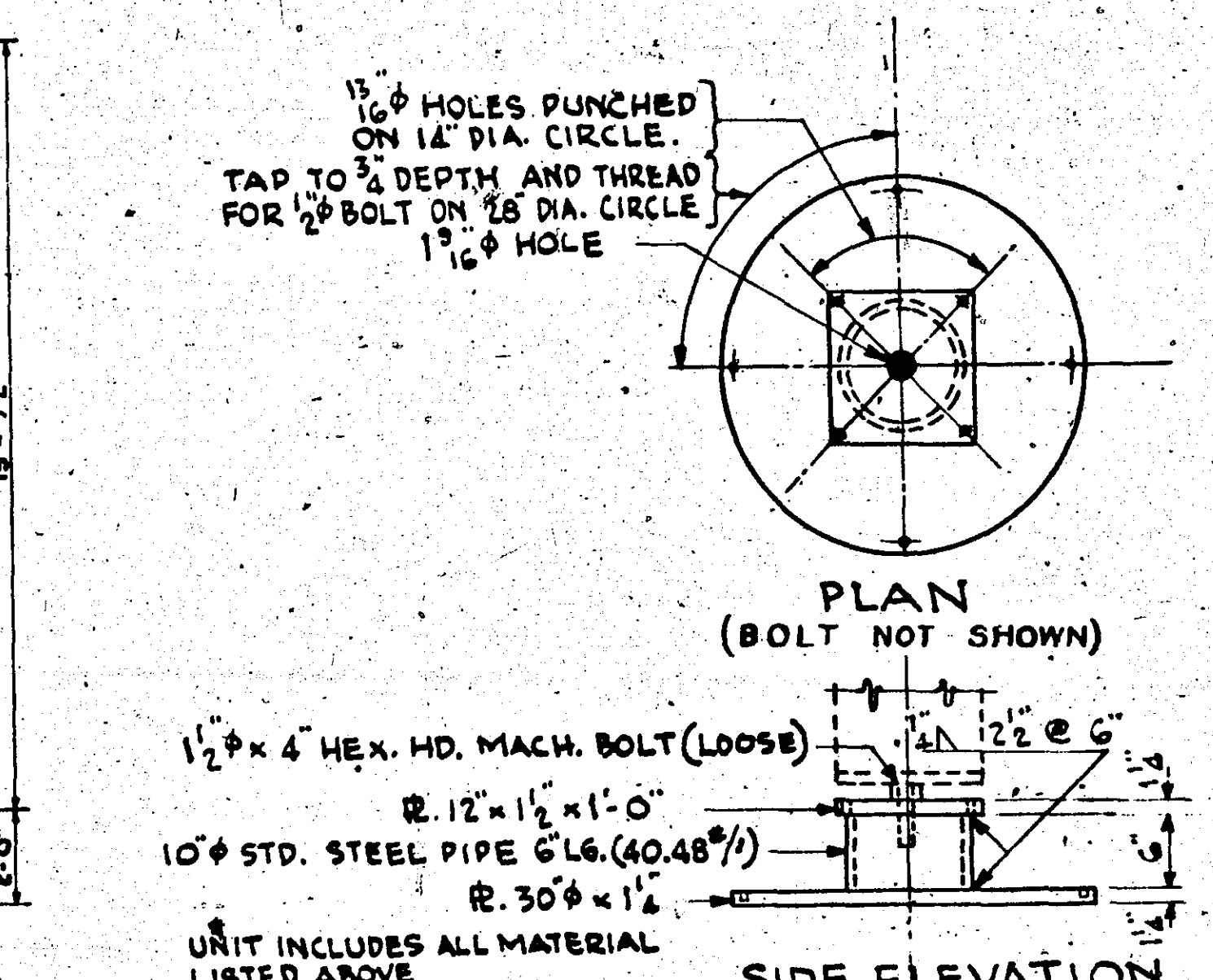
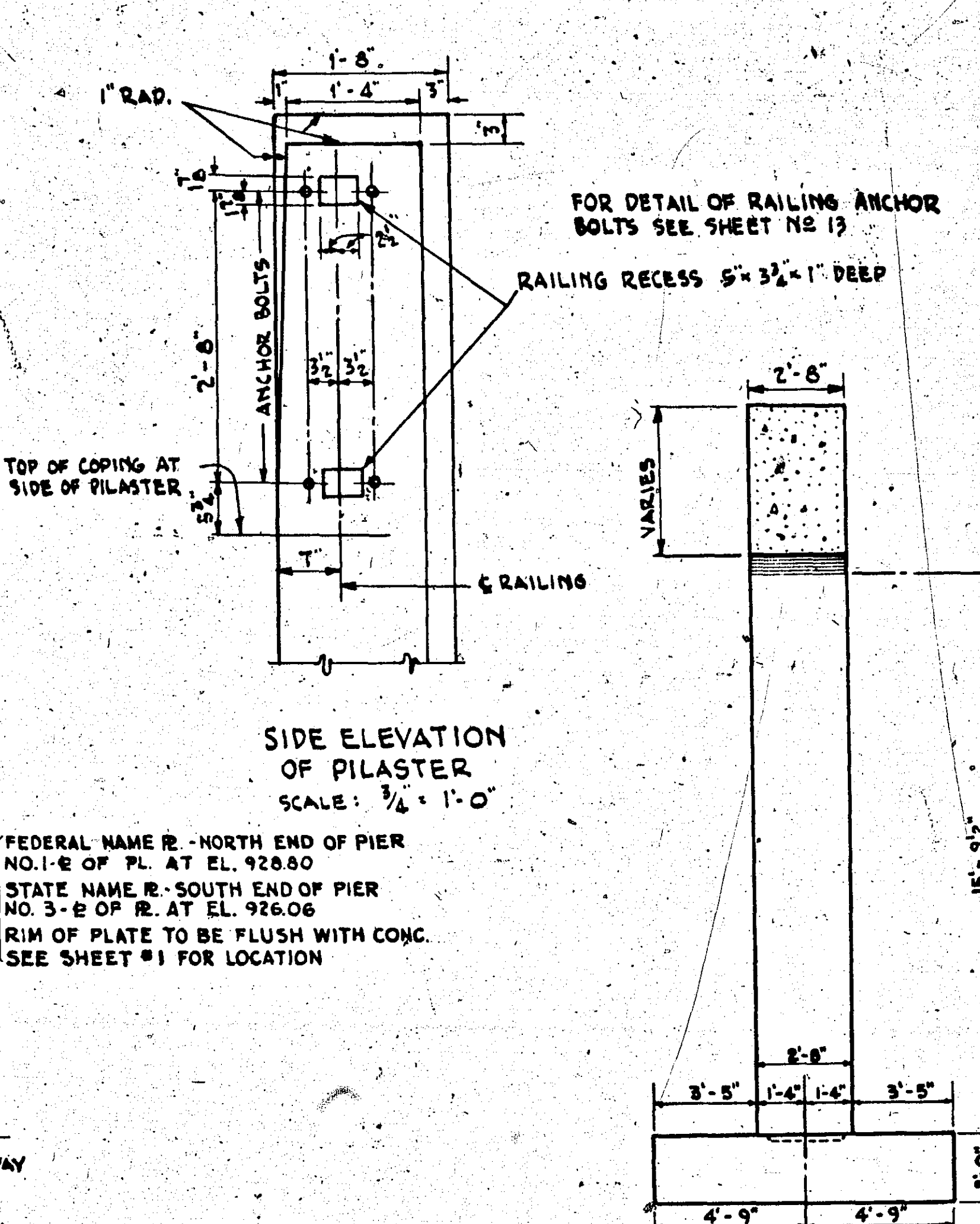
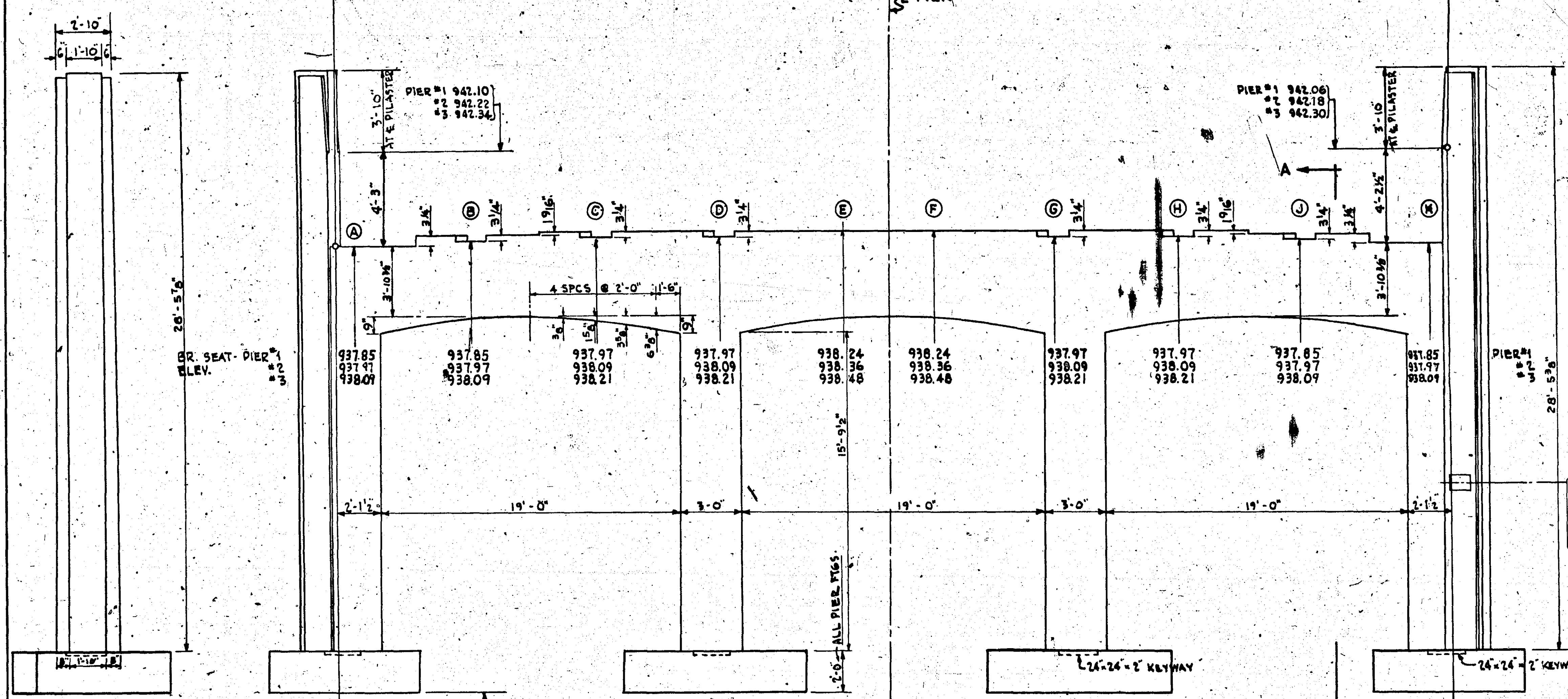
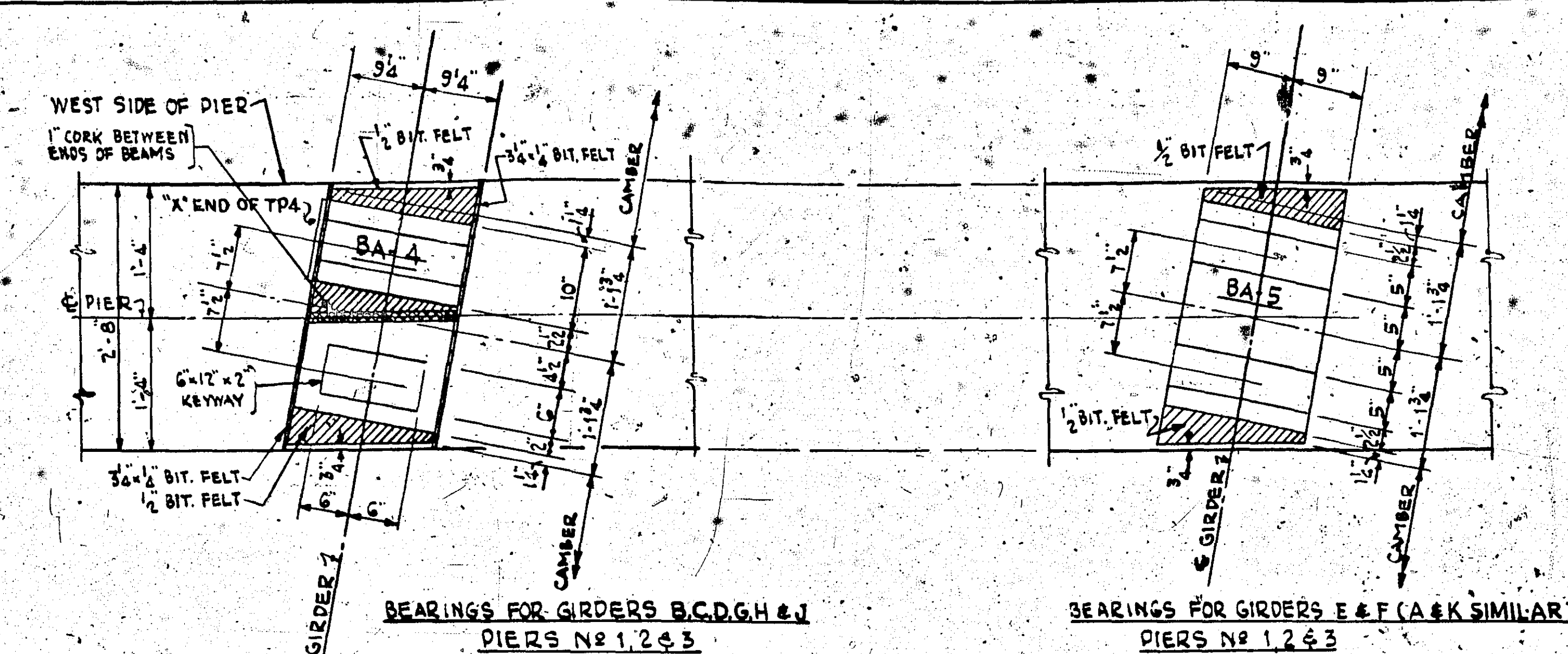
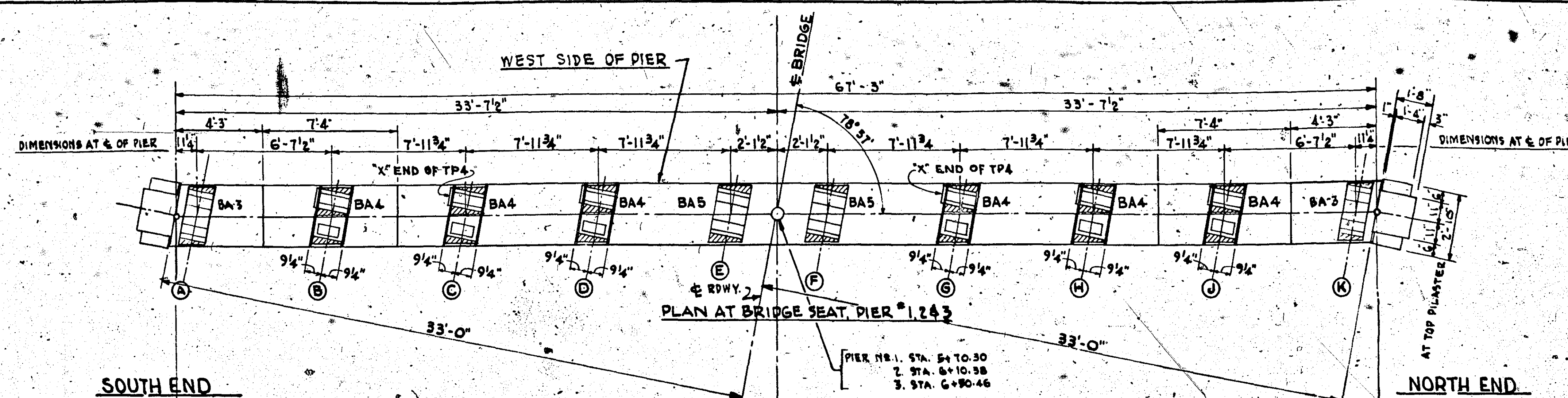
### SUMMARY OF QUANTITIES FOR TWO ABUTMENTS

|                                                         |       |          |
|---------------------------------------------------------|-------|----------|
| CLASS U EXCAVATION                                      | 651   | CU. YDS. |
| CONCRETE MIX NO. 1A6                                    | 238   | CU. YDS. |
| CONCRETE MIX NO. 3Y6                                    | 11    | CU. YDS. |
| REINFORCEMENT BARS                                      | 14870 | LBS.     |
| 10-4" x 1/2" VITRIFIED PIPE DRAINS                      |       |          |
| 3 PLY JOINT WATERPROOFING                               | 20    | LIN. FT. |
| TREATED TIMBER PILING                                   | 2310  | LIN. FT. |
| BITUMINOUS FELT AND CORK (LISTED ON SH. II.)            |       |          |
| BEARING ASSEMBLIES (BILLED WITH SUPERSTRUCTURE)         |       |          |
| 1- STANDARD NAME PLATE NO. 8220 FOR BR. 6738 DATED 1954 |       |          |
| 1- FEDERAL NAME PLATE NO. 8223 - BRONZE                 |       |          |
| 1- BENCH MARK DISC (PL. 3300)                           |       |          |
| 8- ANCHOR BOLTS FOR RAILING (SEE DETAIL SH. 13)         |       |          |
| 2- 2-1/2" O.D. x 1-1/2" GALV. PIPE SLEEVES              |       |          |

\* PAYMENT FOR ANCHOR BOLTS IS INCLUDED IN PRICE BID FOR ORNAMENTAL METAL RAILING.  
\* INCLUDED IN PRICE BID FOR OTHER ITEMS.  
\* STATE WILL FURNISH DISC. PAYMENT FOR PLACING DISC TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS.  
\* INCLUDED IN WEIGHT OF STRUCTURAL STEEL FOR SUPERSTRUCTURE BILLED ON SH. #2.

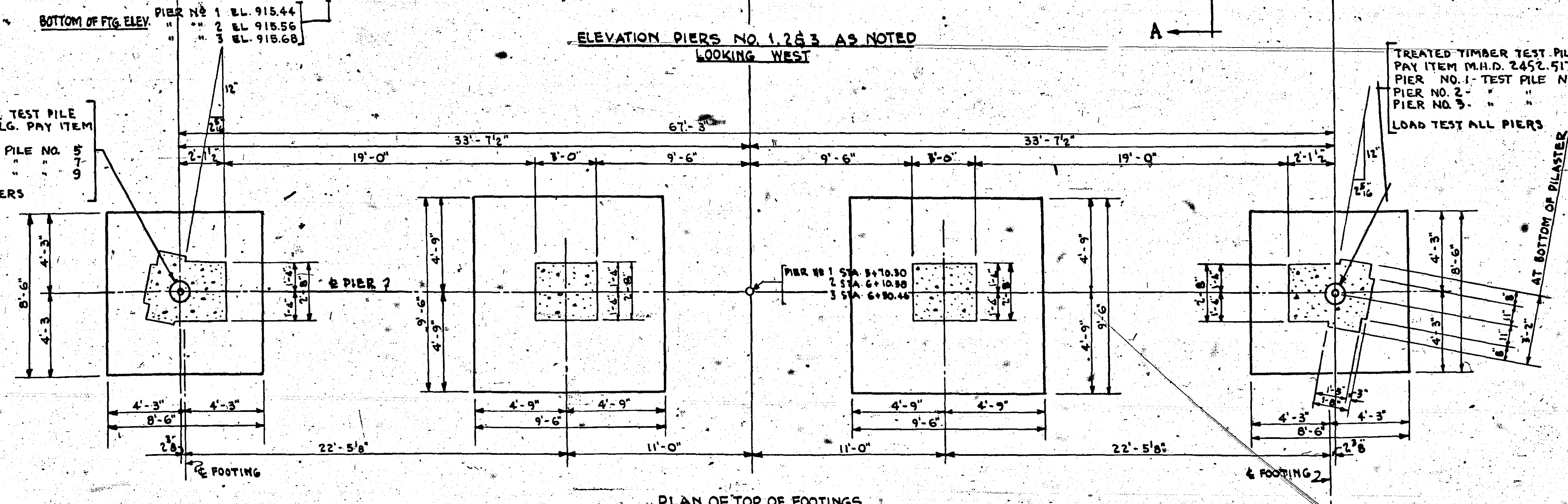
### BILL OF REINFORCEMENT FOR WEST ABUTMENT

| BAR NO. | SIZE | LENGTH  | SHAPE | LOCATION                                 |
|---------|------|---------|-------|------------------------------------------|
| H1      | 14   | 3'-0"   | STR.  | ABUT. WALL - LONGIT. FRONT               |
| H2      | 8    | 3'-0"   | STR.  | ABUT. WALL - LONGIT. REAR AND BOTH SIDES |
| H3      | 7    | 9'-5"   | BENT  | CORNER NORTH WING AND ABUT. REAR         |
| H4      | 7    | 9'-5"   | BENT  | CORNER SOUTH WING AND ABUT. REAR         |
| H5      | 48   | 13'-8"  | STR.  | WINGS - LONGIT. BOTH FACES               |
| H6      | 8    | 3'-0"   | STR.  | ABUT. WALL - TOP LONGIT.                 |
| H7      | 7    | 3'-0"   | BENT  | CORNER NORTH WING AND ABUT. FRONT        |
| H8      | 32   | 2'-0"   | BENT  | TIES IN EXPOSED ENDS OF WING WALLS       |
| H9      | 4    | 6'-0"   | STR.  | WINGS - LONGIT. TOP                      |
| H10     | 4    | 6'-0"   | STR.  | WINGS - LONGIT. TOP                      |
| H11     | 4    | 4'-0"   | STR.  | WINGS - LONGIT. TOP                      |
| H12     | 4    | 4'-0"   | STR.  | WINGS - LONGIT. TOP                      |
| H13     | 4    | 4'-0"   | STR.  | WINGS - LONGIT. TOP                      |
| H14     | 4    | 4'-0"   | STR.  | WINGS - LONGIT. TOP                      |
| H15     | 20   | 3'-0"   | BENT  | SIDEWALK BRACKETS                        |
| H16     | 4    | 9'-6"   | STR.  | SIDEWALK BRACKET - WINGS                 |
| H17     | 6    | 13'-2"  | BENT  | CORNER AT BOTH WINGS AND ABUT. REAR      |
| H18     | 4    | 4'-0"   | STR.  | ABUT. WALL - LONGIT. FRONT               |
| H19     | 2    | 8'-10"  | BENT  | TIES IN END WALL OF BOTH WINGS           |
| H20     | 2    | 9'-10"  | BENT  | TIES IN END WALL OF BOTH WINGS           |
| H21     | 2    | 10'-10" | BENT  | TIES IN END WALL OF BOTH WINGS           |
| H22     | 2    | 11'-10" | BENT  | TIES IN END WALL OF BOTH WINGS           |
| H23     | 4    | 12'-10" | BENT  | TIES IN END WALL OF BOTH WINGS           |
| H24     | 4    | 12'-10" | BENT  | TIES IN END WALL OF BOTH WINGS           |
| H25     | 18   | 7'-3"   | BENT  | BOTH SIDEWALKS - TRANSV. TOP             |
| H26     | 7    | 12'-1"  | STR.  | NORTH SIDEWALK - LONGIT. TOP & BOT.      |
| H27     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H28     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H29     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H30     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H31     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H32     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H33     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H34     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H35     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H36     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H37     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H38     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H39     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H40     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H41     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H42     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H43     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H44     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H45     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H46     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H47     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H48     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H49     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H50     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H51     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H52     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H53     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H54     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H55     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H56     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H57     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H58     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP & BOT.      |
| H59     | 4    | 12'-10" | STR.  | SOUTH SIDEWALK - LONGIT. TOP &           |



TREATED TIMBER TEST PILE  
IN PLACE, 20 FT. LG. PAY ITEM  
M.H.D. 2452.517  
PIER NO. 1-TEST PILE NO. 5  
PIER NO. 2-TEST PILE NO. 9  
LOAD TEST ALL PIERS

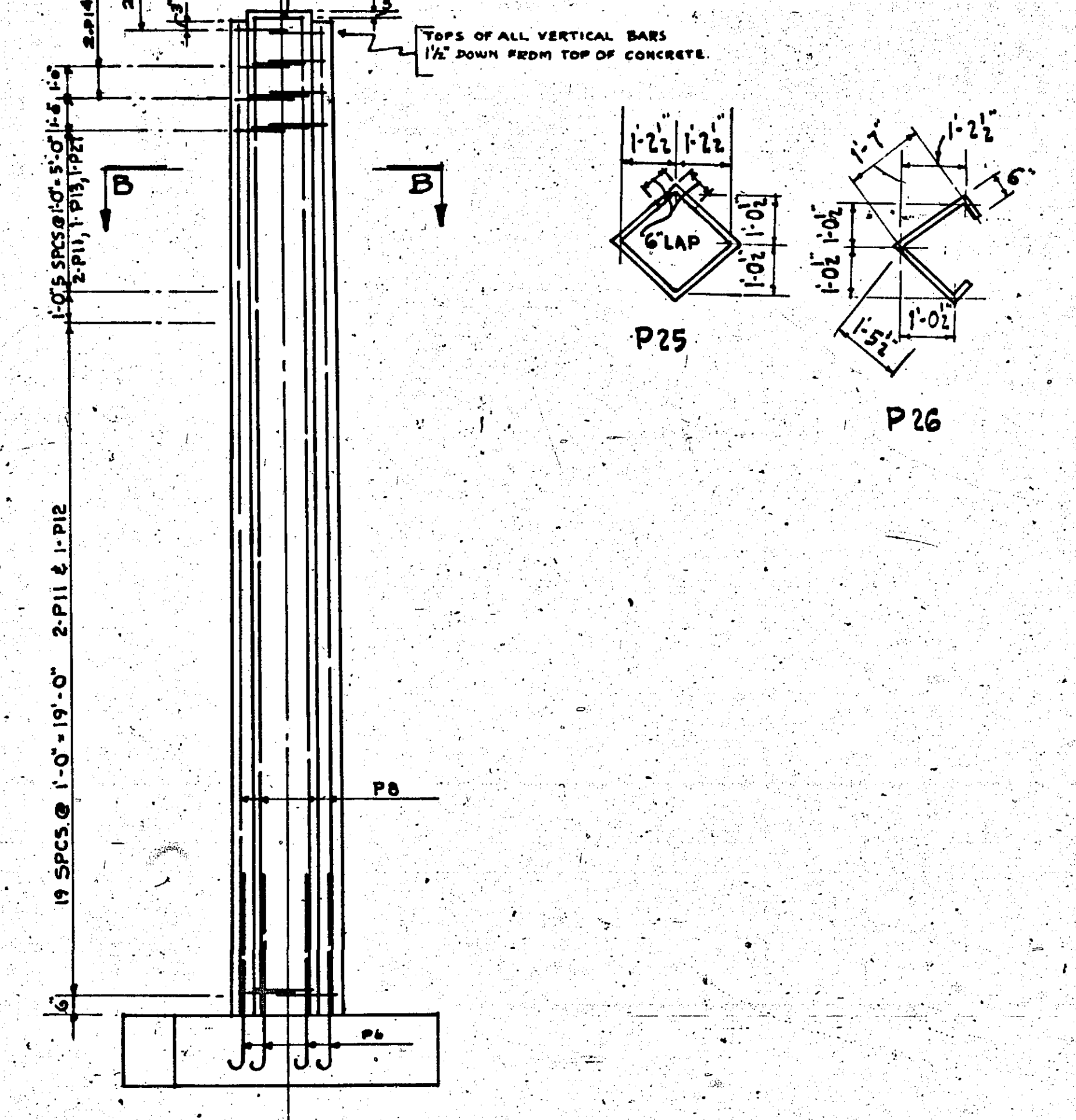
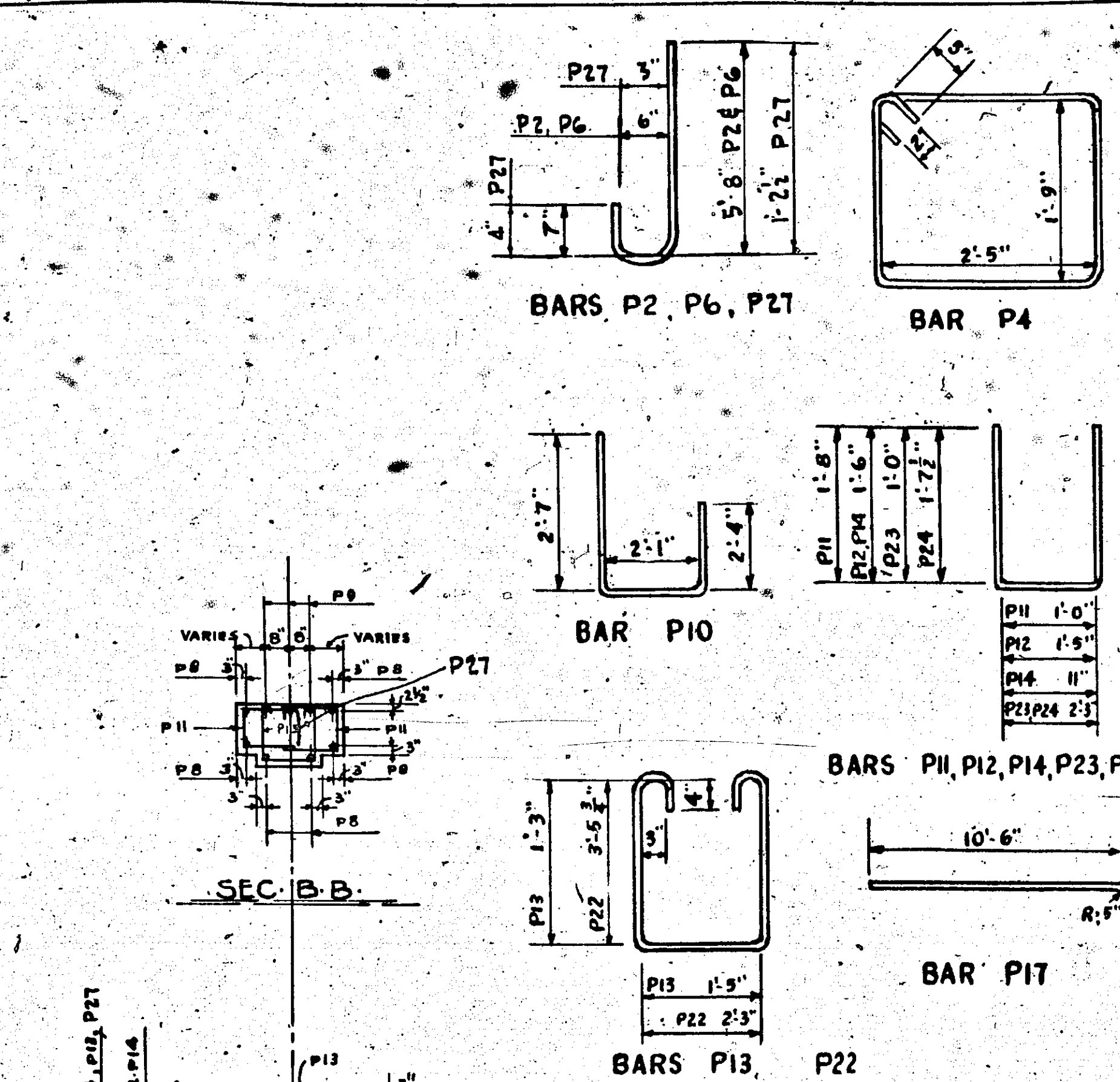
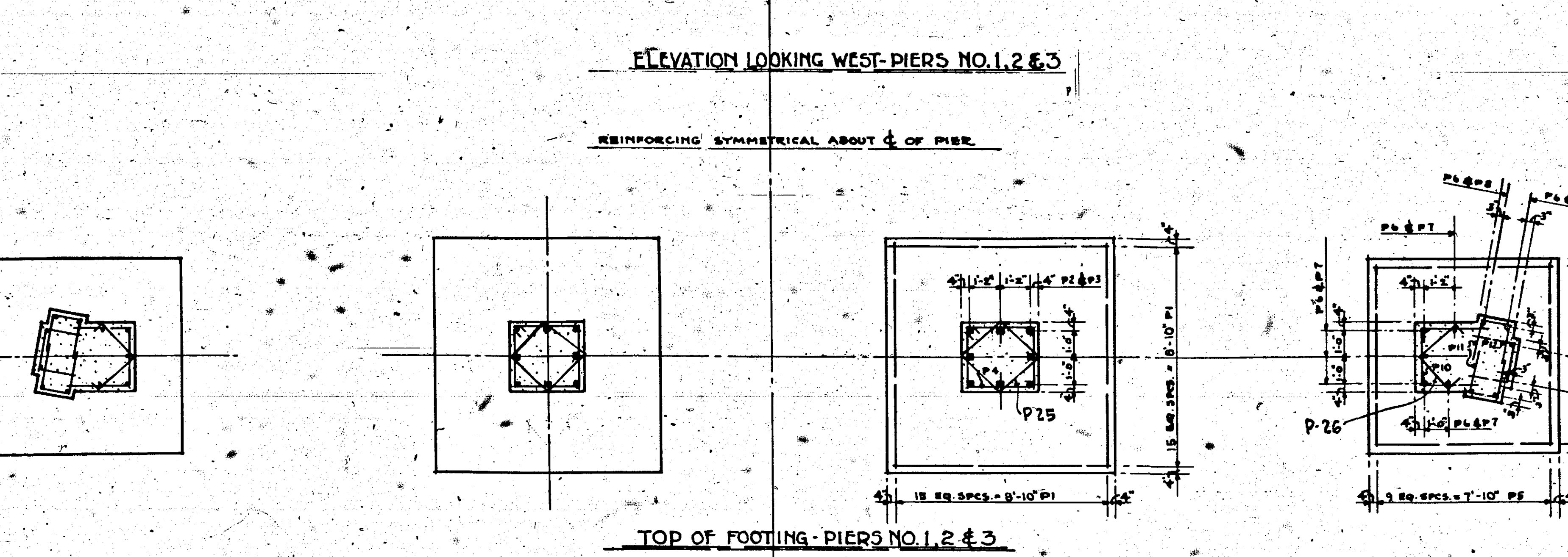
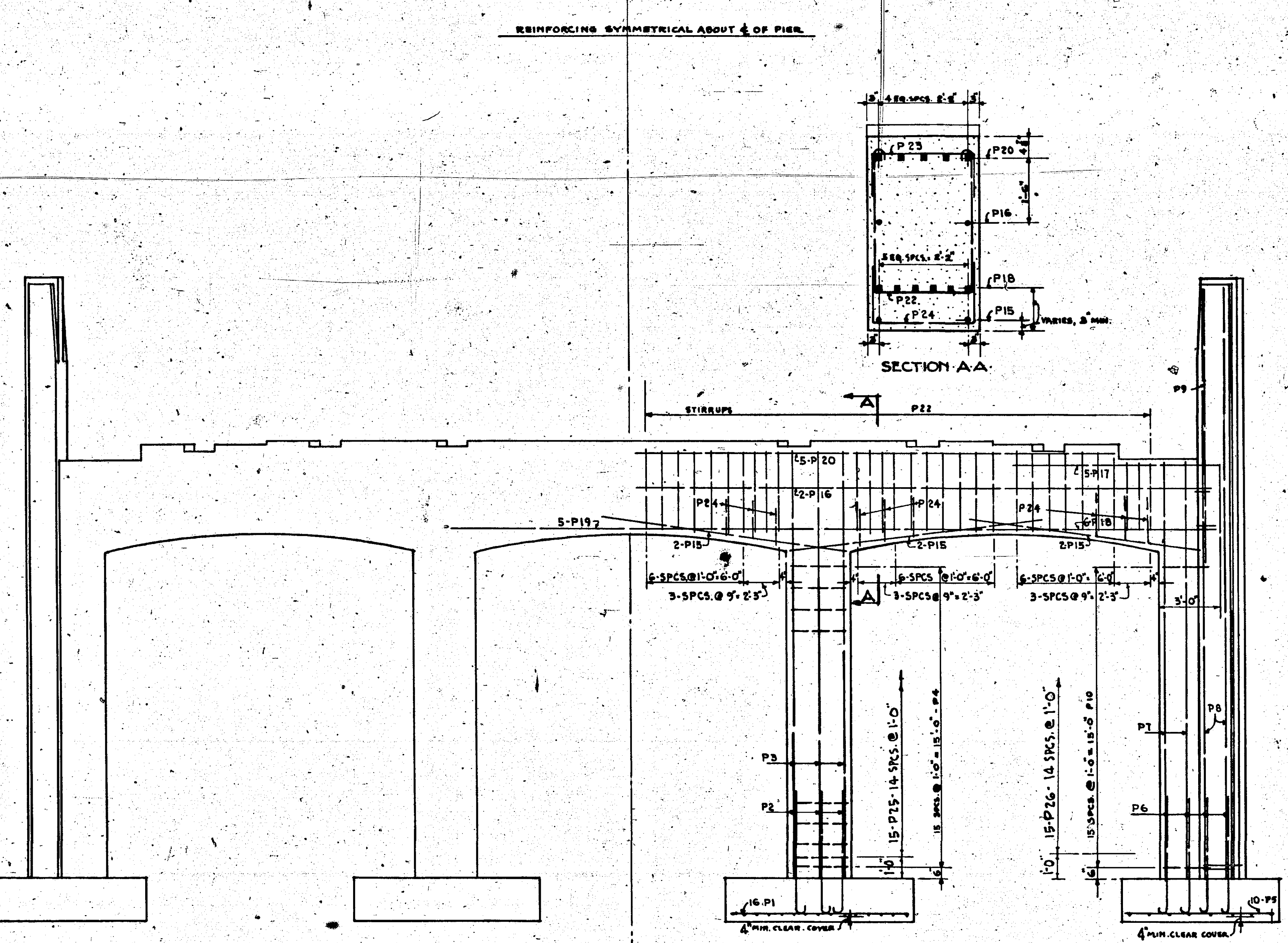
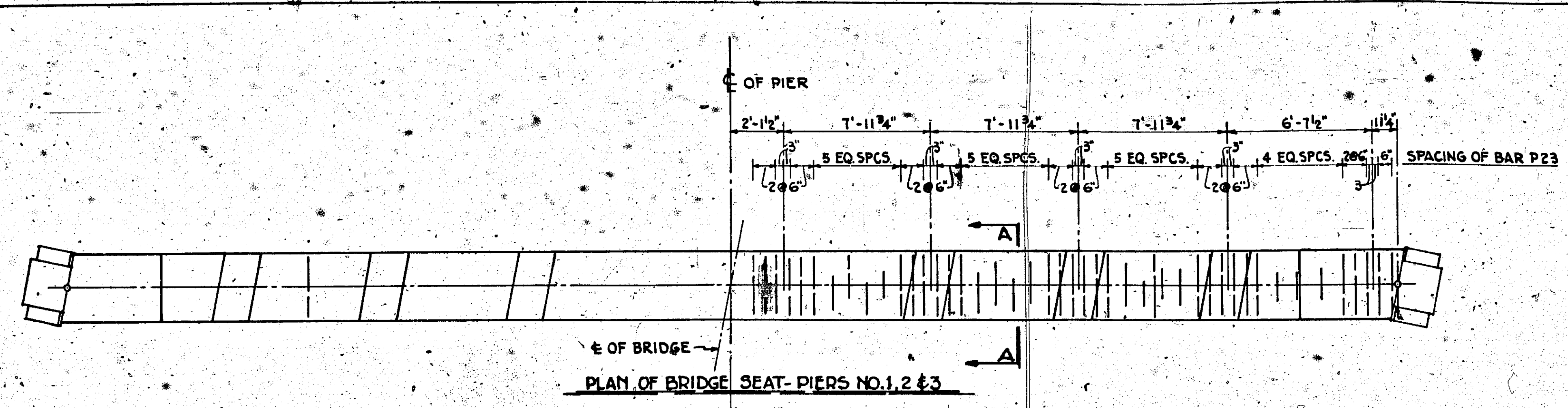
TREATED TIMBER TEST PILE IN PLACE, 20 FT. LONG  
PAY ITEM M.H.D. 2452.517  
PIER NO. 1-TEST PILE NO. 6  
PIER NO. 2-TEST PILE NO. 8  
PIER NO. 3-TEST PILE NO. 10  
LOAD TEST ALL PIERS



ALL CONCRETE TO BE MIX #1A6

**BASE PLATE UNIT** (TO BE FURNISHED BY STATE)  
FOR SOIL BEARING LOAD TESTING  
SEE SPECIAL PROVISIONS  
REQ. BEARING VALUE OF SOIL UNDER FOOTINGS OF PIERS 1, 2 & 3:  
DEAD LOAD + LIVE LOAD 2.0 TONS/FT. MAXIMUM

|                                                                                                                                    |                                                                                                                                                                                                                              |                            |
|------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| STATE OF MINNESOTA<br>DEPARTMENT OF HIGHWAYS<br><b>BRIDGE NO. 6738</b><br>LARPENTEUR AVE. OVER T.H. 280<br>RAMSEY COUNTY MINNESOTA |                                                                                                                                                                                                                              |                            |
| 35', 40'-1", 40'-1", 35', CONC. DECK GIRDER<br>2'-26" ROADWAYS, 1'-4" CTR. ISLAND, 2'-5" SIDEWALKS<br>FRAMING DETAILS FOR PIERS    |                                                                                                                                                                                                                              |                            |
| TOLTZ, KING & DAY, INC.<br>ENGINEERS AND ARCHITECTS<br>ST. PAUL, MINNESOTA                                                         |                                                                                                                                                                                                                              |                            |
| DESIGNED<br>A. G. H.<br>DRAWN<br>S. J. K.<br>CHECKED<br>O.A.O.                                                                     | I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED<br>BY ME OR UNDER MY DIRECT SUPERVISION AND THAT<br>I AM A DULY REGISTERED PROFESSIONAL ENGINEER<br>UNDER THE LAWS OF THE STATE OF MINNESOTA.<br>DATE 7 JAN. 1954 REG. NO. 1366 | COMM.<br>3411<br>DRG.<br>7 |
| APPROVED<br>M.H.D.<br>JAN. 19, 1954                                                                                                |                                                                                                                                                                                                                              | DATE                       |



| BILL OF REINFORCEMENT FOR THREE PIERS |     |      |         |       |                              |
|---------------------------------------|-----|------|---------|-------|------------------------------|
| BAR                                   | NO. | SIZE | LENGTH  | SHAPE | LOCATION                     |
| P1                                    | 192 | 1"   | 9'-2"   | STR.  | INTERIOR FTGS - BOTH WALLS   |
| P2                                    | 48  | 1"   | 6'-8"   | 1 HK. | INTERIOR FTGS - DOWELS       |
| P3                                    | 48  | 1"   | 26'-4"  | STR.  | INTERIOR COLUMNS - VERT.     |
| P4                                    | 96  | 1"   | 9'-4"   | BENT  | INTERIOR COLUMNS - TIES      |
| P5                                    | 120 | 1"   | 8'-2"   | STR.  | EXTERIOR FTGS - LONGITUDINAL |
| P6                                    | 66  | 1"   | 6'-8"   | 1 HK. | EXTERIOR FTGS - DOWELS       |
| P7                                    | 30  | 1"   | 19'-10" | STR.  | EXTERIOR COLUMNS - VERT.     |
| P8                                    | 36  | 1"   | 28'-0"  | STR.  | EXTERIOR PILASTERS - VERT.   |
| P9                                    | 18  | 1"   | 12'-0"  | STR.  | TOP OF PILASTER - VERT.      |
| P10                                   | 96  | 1"   | 7'-0"   | BENT  | EXTERIOR COLUMNS - TIES      |
| P11                                   | 312 | 1"   | 4'-4"   | BENT  | EXTERIOR PILASTERS - TIES    |
| P12                                   | 120 | 1"   | 4'-5"   | BENT  | "                            |
| P13                                   | 64  | 1"   | 5'-0"   | BENT  | "                            |
| P14                                   | 36  | 1"   | 3'-11"  | BENT  | "                            |
| P15                                   | 26  | 1"   | 14'-6"  | STR.  | PIER CAP - BOTTOM OF RAUWH   |
| P16                                   | 12  | 1"   | 33'-0"  | STR.  | INTERMED. LONGIT.            |
| P17                                   | 30  | 1"   | 17'-4"  | BENT  | " - TOP AT PILASTER          |
| P18                                   | 36  | 1"   | 22'-6"  | STR.  | " - EXTERIOR SPAN, BOTTY     |
| P19                                   | 15  | 1"   | 21'-0"  | STR.  | " - INTERIOR SPAN, BOTTY     |
| P20                                   | 30  | 1"   | 29'-0"  | STR.  | " - TOP                      |
| P21                                   | 180 | 1"   | 10'-51" | BENT  | " - STIRRUPS, ALL SPANS      |
| P22                                   | 267 | 1"   | 3'-3"   | BENT  | " - TOP TIES                 |
| P23                                   | 54  | 1"   | 5'-6"   | BENT  | " - BOTTOM TIES              |
| P24                                   | 90  | 1"   | 7'-10"  | BENT  | COLUMN TIES - INTERIOR       |
| P25                                   | 90  | 1"   | 4'-0"   | BENT  | COLUMN TIES - EXTERIOR       |
| P27                                   | 48  | 1"   | 1'-5"   | BENT  | PILASTER                     |

| SUMMARY OF QUANTITIES FOR THREE PIERS                   |        |          |
|---------------------------------------------------------|--------|----------|
| CLASS U EXCAVATION                                      | 400    | CU. YDS. |
| CONCRETE MIX N° 1A5                                     | 241    | CU. YDS. |
| REINFORCEMENT BARS                                      | 34,145 | LBS.     |
| 24 ANCHOR BOLTS FOR RAILING (SEE DETAIL SH. 13)         |        |          |
| BEARING ASSEMBLIES (DETAILED ON SH. 6)                  |        |          |
| BITUMINOUS FELT (LISTED ON SH. 11)                      |        |          |
| 1 STANDARD NAME PLATE NO. B220 FOR BR. #6738 DATED 1954 |        |          |
| 1 FEDERAL NAME PLATE NO. B223 - BRONZE                  |        |          |
| TREATED TIMBER TEST PILES IN PLACE 20 FT. LG.           |        |          |

- \* PAYMENT FOR ANCHOR BOLTS INCLUDED IN PRICE BID FOR ORNAMENTAL METAL RAILING.
- \* INCLUDED IN WEIGHT OF STRUCTURAL STEEL FOR SUPERSTRUCTURE
- \* INCLUDED IN PRICE BID FOR OTHER ITEMS

STATE OF MINNESOTA  
DEPARTMENT OF HIGHWAYS  
**BRIDGE NO. 6738**  
LARPEN TEUR AVE. OVER T.H. 280  
RAMSEY COUNTY MINNESOTA

35', 40'-1", 40'-1", 35', CONC. DECK GIRDER  
2-26' ROADWAYS, 1-4'-0" CTR. ISLAND, 2-5'-0" SIDEWALKS  
**PIER REINFORCEMENT**

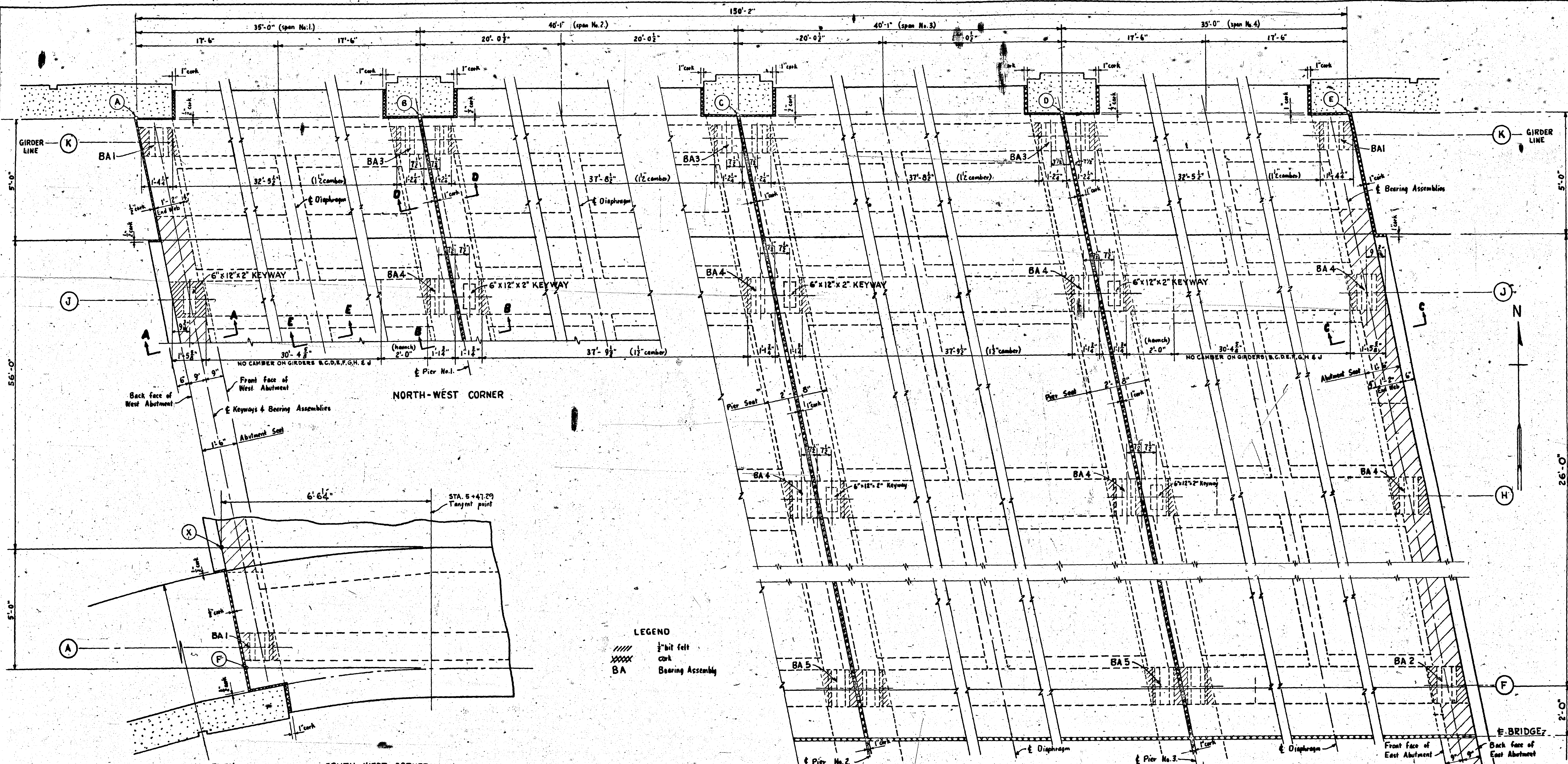
**TOLTZ, KING & DAY, INC.**  
ENGINEERS AND ARCHITECTS  
ST. PAUL, MINNESOTA

DESIGNED  
A.S.H.  
DRAWN  
A.F.  
CHECKED  
O.A.O.  
APPROVED  
M.H.D.

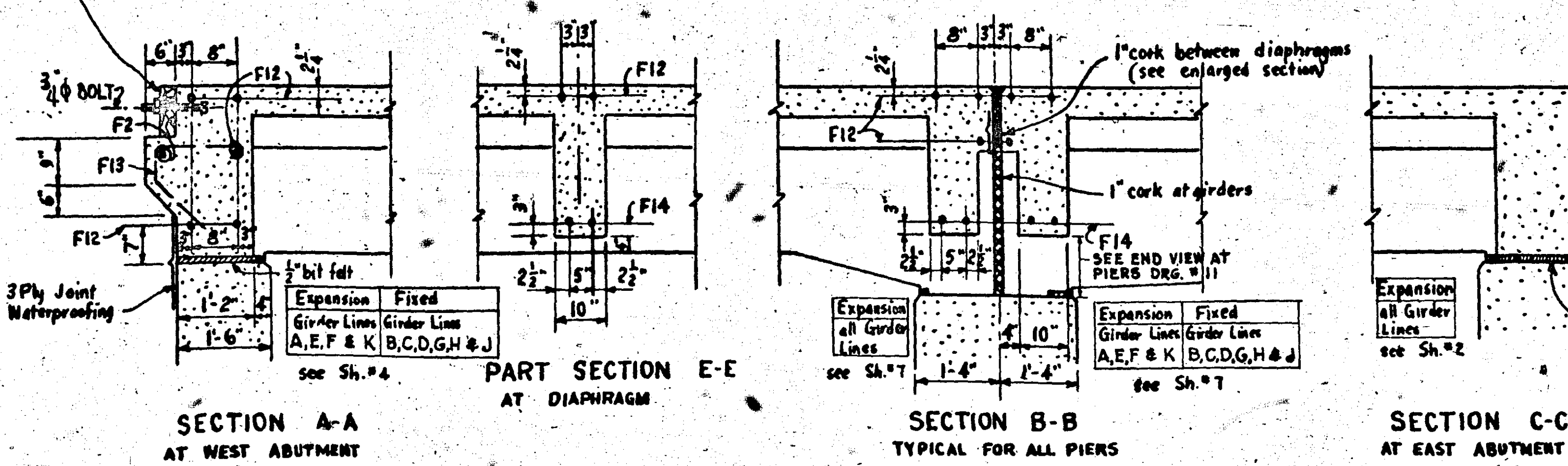
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

COMM.  
3411  
DRG.  
8

DATE 7 JAN 1954  
REG. NO. 1386  
JAN. 19, 1954  
DATE

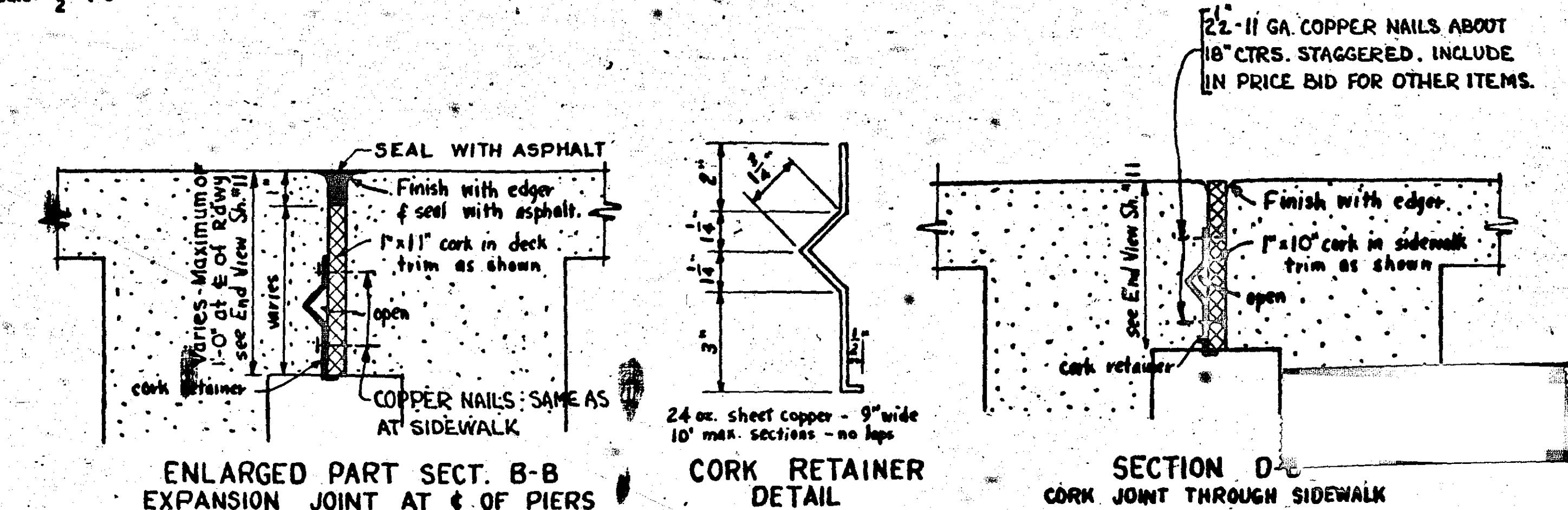


3"x14" PLANK - TOP OF PLANK TO BE TRIMMED FLUSH WITH TRANSVERSE CROWN OF TOP OF CONCRETE FLOOR FOR FULL WIDTH BETWEEN CURB & CENTER ISLAND. FOR BOLT SPACING SEE END VIEW SH.#10



### BRIDGE ASSEMBLY DETAILS

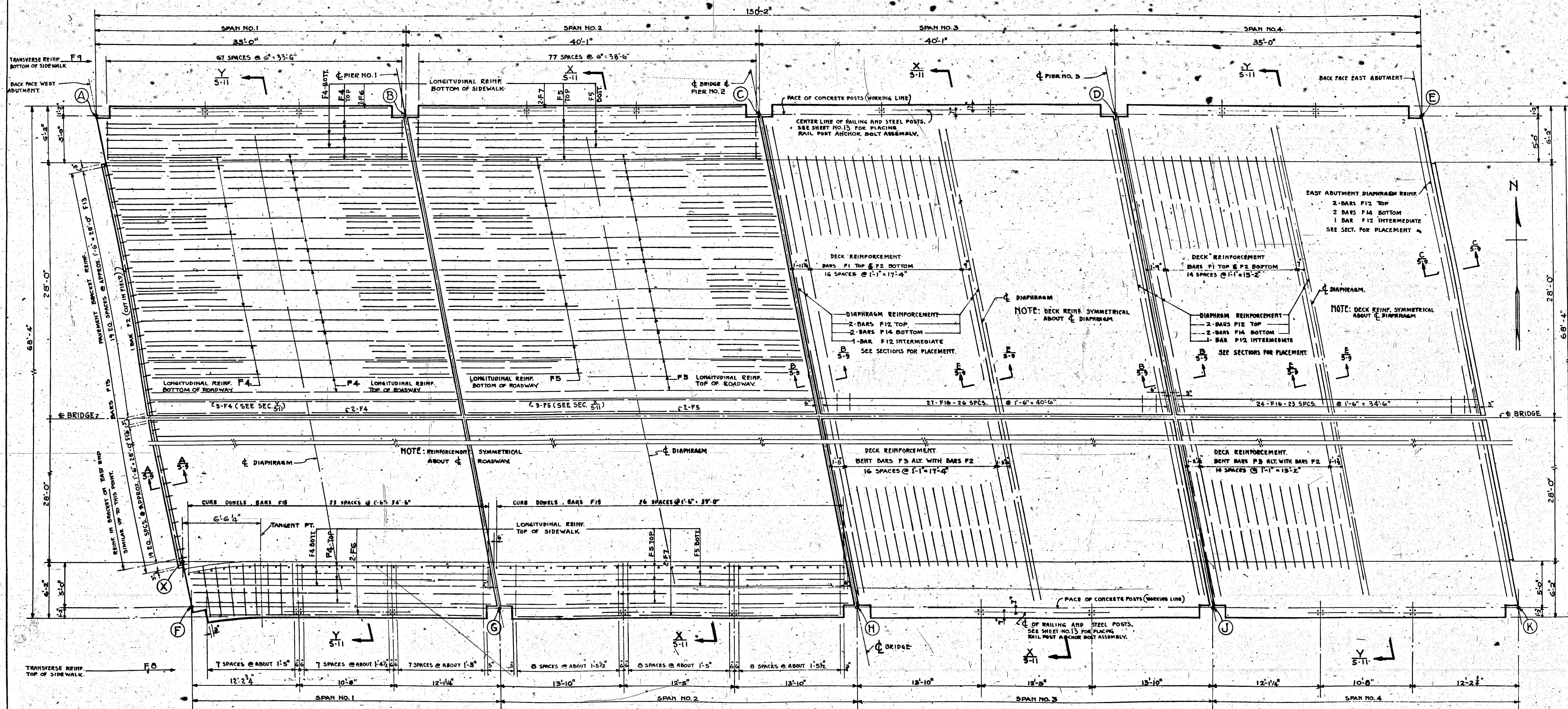
Scale: 1/2" = 1'-0"



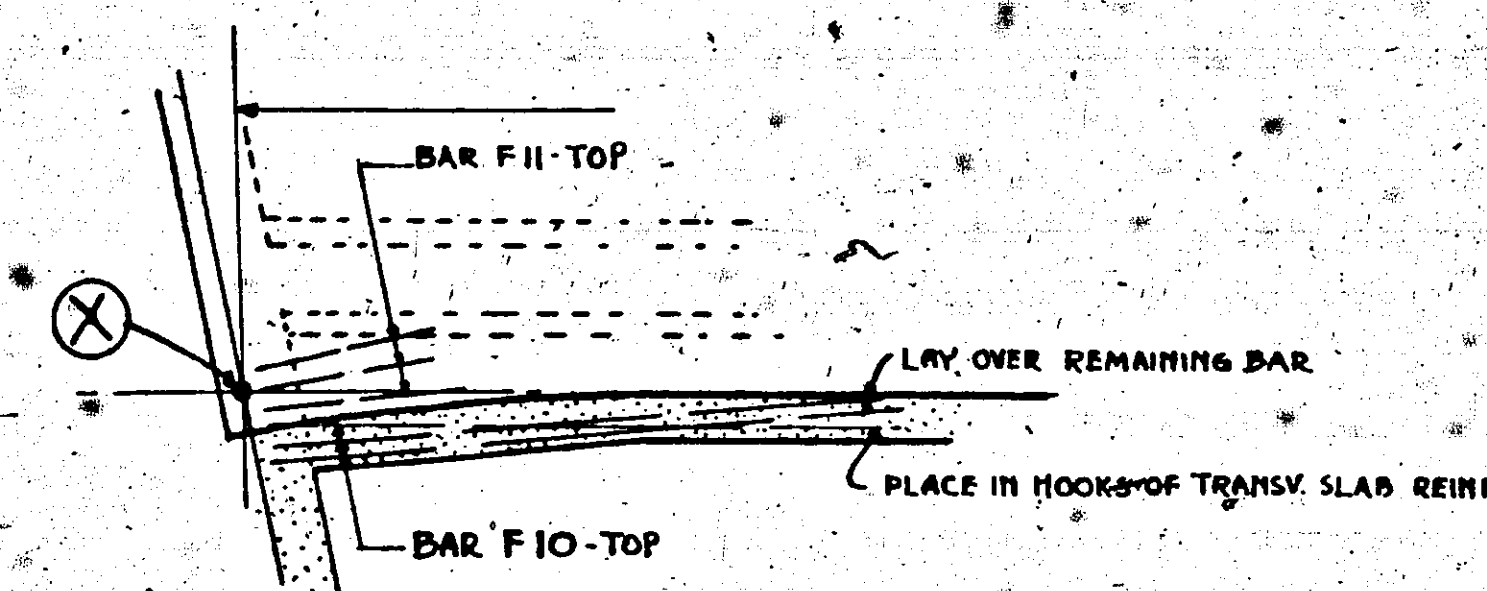
### NORTH - EAST QUARTER

SYMMETRICAL ABOUT & ROADWAY

|                                                                                                                                    |                                                                                                                                                                                   |                               |
|------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| STATE OF MINNESOTA<br>DEPARTMENT OF HIGHWAYS<br><b>BRIDGE NO. 6738</b><br>LARPENTEUR AVE. OVER T.H. 280<br>RAMSEY COUNTY MINNESOTA |                                                                                                                                                                                   |                               |
| 35', 40'-1", 40'-1", 35' CONC. DECK GIRDER<br>2-26" ROADWAYS, 1'-4" CTR. ISLAND, 2'-5" SIDEWALKS                                   |                                                                                                                                                                                   |                               |
| ASSEMBLY DETAILS                                                                                                                   |                                                                                                                                                                                   |                               |
| TOLTZ, KING & DAY, INC.<br>ENGINEERS AND ARCHITECTS<br>ST. PAUL, MINNESOTA                                                         |                                                                                                                                                                                   |                               |
| DESIGNED<br>A. S. H.                                                                                                               | I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. |                               |
| DRAWN<br>A. F.                                                                                                                     | CHECKED<br>O.A.O.                                                                                                                                                                 | DATE 7 JAN 1954 REG. NO. 1366 |
| APPROVED<br>M.H.D. ASST. BRIDGE ENGINEER                                                                                           |                                                                                                                                                                                   | JAN. 19, 1954<br>DAYE         |
| COMM.<br>3411<br>DRG.<br>9                                                                                                         |                                                                                                                                                                                   |                               |



PLAN  
SHOWING DECK AND SIDEWALK REINFORCEMENT



PLAN SHOWING ADDITIONAL REINFORCEMENT  
IN SOUTH-WEST CORNER OF DECK.

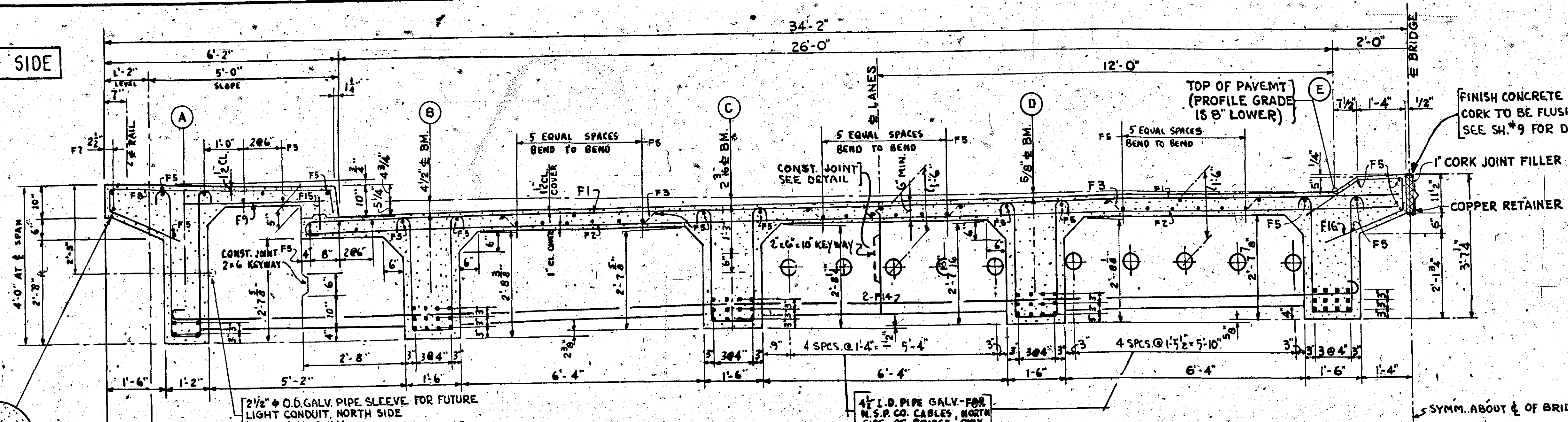
ALL CONCRETE IN SUPERSTRUCTURE TO BE MIX 3Y6

NOTES:

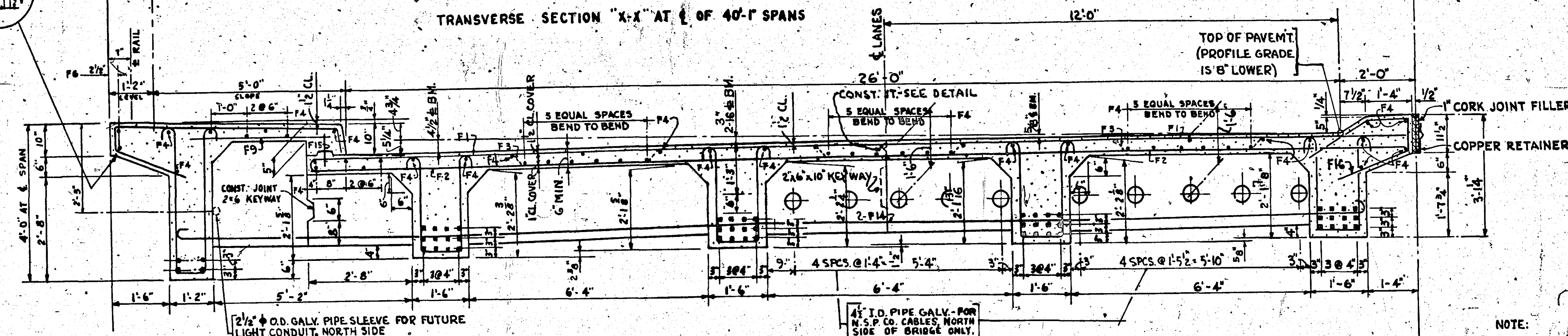
- SPANS 1 AND 2 SHOW,  
(a) LONGITUDINAL REINF. IN DECK.  
(b) LONGITUDINAL AND TRANSVERSE REINF. IN SIDEWALK, AND CURB DOWELS.  
(c) REINF. IN PAVEMENT BRACKET.
- SPANS 3 AND 4 SHOW,  
(a) TRANSVERSE REINF. IN DECK.  
(b) REINF. IN DIAPHRAGMS.
- REINFORCEMENT IN SPANS 1 AND 4, AND SPANS 2 AND 3  
ARE SYMMETRICAL ABOUT  $\bar{C}$  BRIDGE EXCEPT AS INDICATED.
- NO REINF. THROUGH JOINTS.

|                                                                                                                                     |                                                                                                                                                                                                                                                                                       |                             |
|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| STATE OF MINNESOTA<br>DEPARTMENT OF HIGHWAYS<br><b>BRIDGE NO. 6738</b><br>LARPENITEUR AVE. OVER T.H. 280<br>RAMSEY COUNTY MINNESOTA |                                                                                                                                                                                                                                                                                       |                             |
| 35', 40'-1", 40'-1", 35' CONC. DECK GIRDER<br>2-26" ROADWAYS, 1-4'-0" CTR. ISLAND, 2-5'-0" SIDEWALKS<br><b>DECK REINFORCEMENT</b>   |                                                                                                                                                                                                                                                                                       |                             |
| <b>TOLTZ, KING &amp; DAY, INC.</b><br>ENGINEERS AND ARCHITECTS<br>ST. PAUL, MINNESOTA                                               |                                                                                                                                                                                                                                                                                       |                             |
| DESIGNED<br>A. G. H.                                                                                                                | I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED<br>BY ME OR UNDER MY DIRECT SUPERVISION AND THAT<br>I AM A DULY REGISTERED PROFESSIONAL ENGINEER<br>UNDER THE LAWS OF THE STATE OF MINNESOTA.<br><br>APPROVED <i>A. G. H.</i> DATE 1 JAN 1954 REG. NO. 1366<br>MHD ASST. BRIDGE ENGINEER | COMM.<br>3411<br>DRG.<br>10 |
| DRAWN<br>G. H. C.                                                                                                                   |                                                                                                                                                                                                                                                                                       |                             |
| CHECKED<br>O. A. O.                                                                                                                 |                                                                                                                                                                                                                                                                                       |                             |
| DATE 1 JAN 1954                                                                                                                     |                                                                                                                                                                                                                                                                                       |                             |

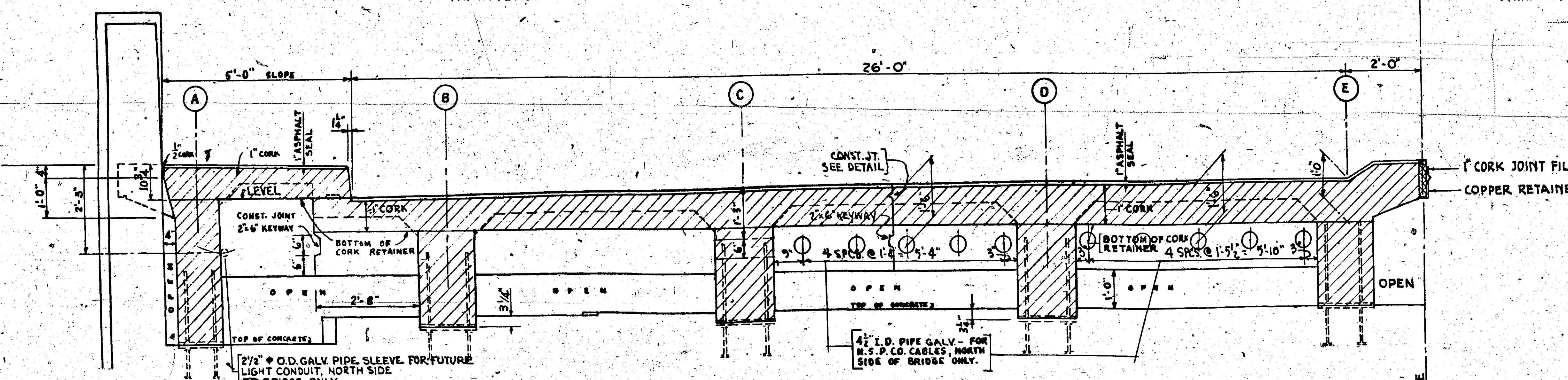
SOUTH SIDE



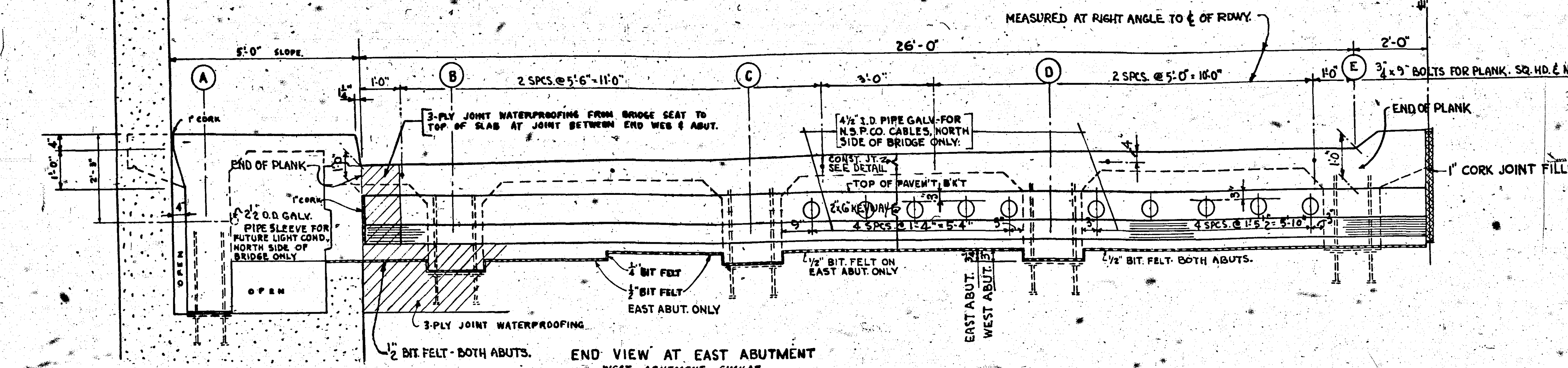
TRANSVERSE SECTION "X-X" AT 1/4 OF 40'-0" SPANS



TRANSVERSE SECTION "Y-Y" AT 1/4 OF 35'-0" SPANS

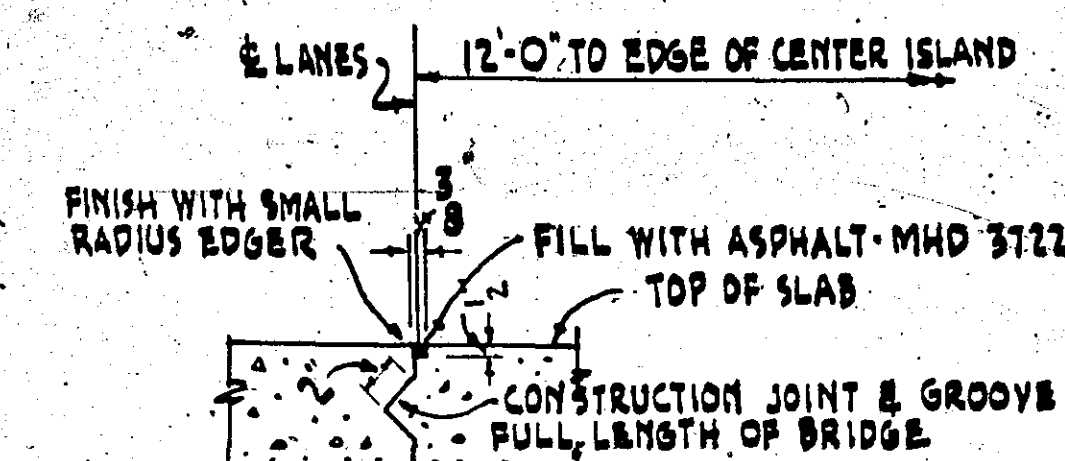


END VIEW AT PIERS  
LOOKING WEST



END VIEW AT EAST ABUTMENT  
WEST ABUTMENT SIMILAR

FINISH CONCRETE WITH EDGER  
CORK TO BE FLUSH WITH TOP OF CONCRETE.  
SEE SH. 9 FOR DETAIL OF COPPER RETAINER



DETAIL OF LONGITUDINAL CONSTRUCTION JOINT

NOTE:  
ALL CONDUITS, PIPE SLEEVES & CONDUIT  
SUPPORTS FOR N.S.P. CO. CABLES TO BE  
FURNISHED & PLACED BY OTHERS.

LIST OF CORK FOR ENTIRE BRIDGE

| NO. | SIZE                  | LOCATION                               |
|-----|-----------------------|----------------------------------------|
| 16  | 14" x 1" x 1'-3"      | COPING AT ABUTMENT AND PIER POSTS SIDS |
| 2   | 4" x 1" x 1'-7"       | COPING AT WEST ABUTMENT FACE           |
| 2   | 4" x 1" x 1'-7"       | EAST                                   |
| 6   | 4" x 1" x 5'-0"       | COPING AT PIER FACES                   |
| 2   | 55" x 1" x 5'-15"     | SIWALK JOINTS AT WEST ABUTMENT         |
| 2   | 55" x 1" x 5'-15"     | EAST                                   |
| 2   | 62" x 1" x 1'-5"      | PAVING BRACKET AT WEST ABUTMENT        |
| 2   | 62" x 1" x 1'-5"      | EAST                                   |
| 6   | 14" x 1" x 5'-8"      | FACIA GIRDER ENDS                      |
| 24  | 18" x 1" x 2'-6"      | INTERIOR GIRDER ENDS                   |
| 3   | 11" x 1" x 5'-0"      | ROADWAY JOINT OVER PIERS               |
| 6   | 10" x 1" x 5'-1"      | SIWALK & CURB JOINTS OVER PIERS        |
| 2   | 11 1/2" x 1" x 35'-0" | PAVING JOINT ON BRIDGE E               |
| 2   | 11 1/2" x 1" x 40'-0" |                                        |

LIST OF BIT FELT FOR ENTIRE BRIDGE

| NO. | SIZE              | LOCATION                         |
|-----|-------------------|----------------------------------|
| 1   | 14" x 1" x 15'-0" | ABUTMENT SEATS                   |
| 1   | 8" x 1" x 40'-0"  | SIDE OF ABUTMENT STEPS           |
| 1   | 22" x 1" x 98'-0" | SIDES OF GIRDER NOTCHES AT PIERS |
| 1   | 18" x 1" x 53'-0" | GIRDER SEATS AT PIERS            |
| 1   | 18" x 1" x 13'-0" | ABUTS.                           |

\* CUT TO FIT

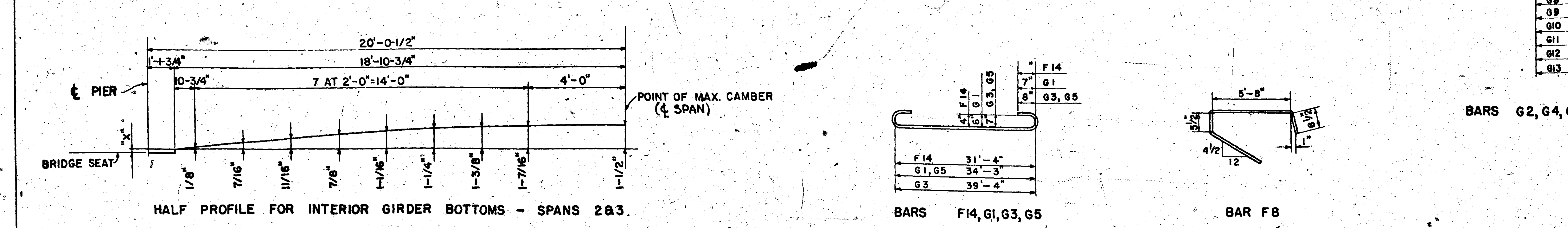
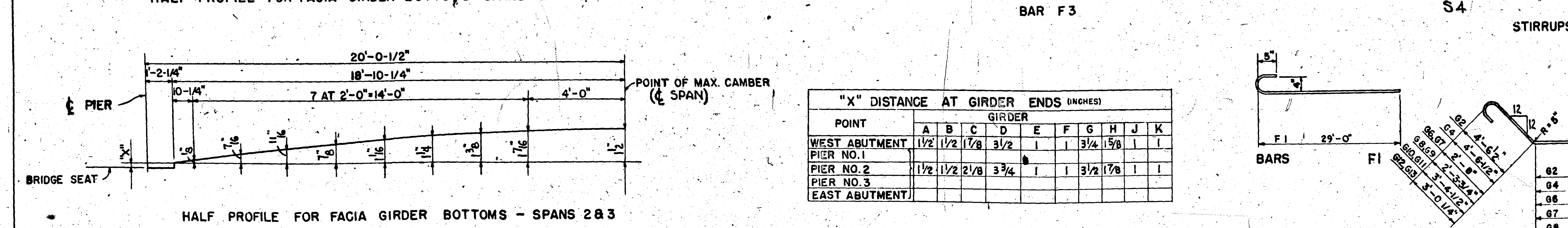
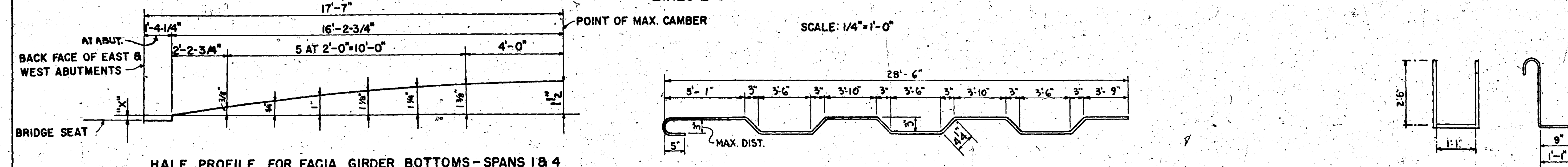
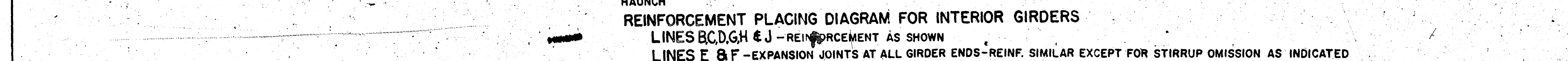
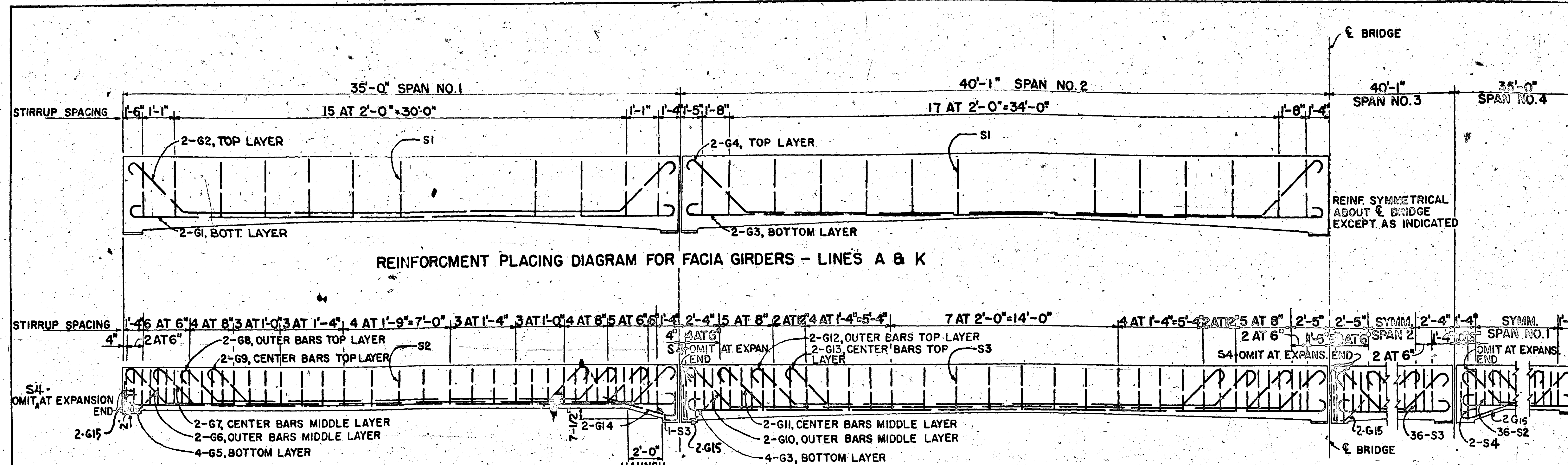
STATE OF MINNESOTA  
DEPARTMENT OF HIGHWAYS  
BRIDGE NO. 6738

LARPELLE AVE. OVER T.H. 280  
RAMSEY COUNTY MINNESOTA

35', 40'-1", 40'-1", 35', CONC. DECK GIRDER  
2-26' ROADWAYS, 1-4'-0" CTR. ISLAND, 2-5'-0" SIWALKS  
SUPERSTRUCTURE  
CROSS-SECTION & END VIEWS

TOLTZ, KING & DAY, INC.  
ENGINEERS AND ARCHITECTS  
ST. PAUL, MINNESOTA

|                                          |                                                                                                                                                                                         |               |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| DESIGNED<br>ACH                          | HEREBY CERTIFY THAT THIS PLAN WAS PREPARED<br>BY ME OR UNDER MY DIRECT SUPERVISION AND THAT<br>I AM A DULY REGISTERED PROFESSIONAL ENGINEER<br>UNDER THE LAWS OF THE STATE OF MINNESOTA | COMM.<br>3411 |
| DRAWN<br>A.F.                            |                                                                                                                                                                                         | DRG.<br>11    |
| CHECKED<br>O.A.O.                        | DATE 7 JAN 1954 REG. NO. 1366                                                                                                                                                           |               |
| APPROVED<br>M.H.G. ASST. BRIDGE ENGINEER | DATE JAN. 19, 1954                                                                                                                                                                      |               |



| SUPERSTRUCTURE REINFORCEMENT SCHEDULE |     |        |        |           |                                              |  |  |  |  |
|---------------------------------------|-----|--------|--------|-----------|----------------------------------------------|--|--|--|--|
| BAR                                   | NO. | SIZE   | LENGTH | SHAPE     | LOCATION                                     |  |  |  |  |
| F 1                                   | 256 | 5/8"   | 29'-0" | STR.      | SLAB TRANSV. ALL SPANS                       |  |  |  |  |
| F 2                                   | 260 | 5/8"   | 29'-0" | STR.      | PAVEMENT BRACKETS                            |  |  |  |  |
| F 3                                   | 256 | 5/8"   | 29'-0" | BENT      | SIDEWALK LONGIT. SPANS 1 & 4                 |  |  |  |  |
| F 4                                   | 152 | 1/2"   | 34'-0" | STR.      | SIDEWALK LONGIT. SPANS 1 & 4                 |  |  |  |  |
| F 5                                   | 152 | 1/2"   | 34'-0" | STR.      | SIDEWALK LONGIT. SPANS 1 & 4                 |  |  |  |  |
| F 6                                   | 4   | 1/2"   | 31'-0" | STR.      | SIDEWALK LONGIT. SPANS 1 & 4                 |  |  |  |  |
| F 7                                   | 4   | 1/2"   | 31'-0" | STR.      | SIDEWALK LONGIT. SPANS 1 & 4                 |  |  |  |  |
| F 8                                   | 220 | 1/2"   | 31'-0" | BENT      | TRANSV. ALL SPANS                            |  |  |  |  |
| F 9                                   | 584 | 1/2"   | 5'-0"  | STR.      | SOUTHWEST CORNER OF SLAB                     |  |  |  |  |
| F 10                                  | 3   | 5/8"   | 6'-0"  | BENT      | SOUTHWEST CORNER OF SLAB                     |  |  |  |  |
| F 11                                  | 3   | 5/8"   | 6'-0"  | BENT      | SOUTHWEST CORNER OF SLAB                     |  |  |  |  |
| F 12                                  | 12  | 1/2"   | 32'-0" | STR.      | SLAB TRANSV. TOP OF DIAPHRAGMS, PAVEN. BRKTS |  |  |  |  |
| F 13                                  | 81  | 1/2"   | 3'-0"  | BENT      | PAVEMENT BRACKET                             |  |  |  |  |
| F 14                                  | 40  | 1"     | 33'-4" | STR. HKD. | DIAPHRAGM WEB BOTTOM                         |  |  |  |  |
| F 15                                  | 204 | 1/2"   | 4'-0"  | STR.      | CURB DOWELS                                  |  |  |  |  |
| F 16                                  | 204 | 1/2"   | 4'-0"  | BENT      | CTR. ISLAND TIES                             |  |  |  |  |
| G 1                                   | 8   | 1"     | 36'-4" | STR. HKD. | FACIA GIRDERS, SPANS 1 & 4                   |  |  |  |  |
| G 2                                   | 8   | 1"     | 37'-8" | BENT      | FACIA GIRDERS, SPANS 1 & 4                   |  |  |  |  |
| G 3                                   | 72  | 1 1/8" | 41'-7" | STR. HKD. | FACIA & INTERIOR GIRDERS, SPANS 2 & 3        |  |  |  |  |
| G 4                                   | 8   | 1 1/8" | 43'-5" | BENT      | FACIA GIRDERS, SPANS 2 & 3                   |  |  |  |  |
| G 5                                   | 64  | 1 1/8" | 36'-7" | STR. HKD. | INTERIOR GIRDERS, SPANS 1 & 4                |  |  |  |  |
| G 6                                   | 32  | 1 1/8" | 37'-3" | BENT      | INTERIOR GIRDERS, SPANS 1 & 4                |  |  |  |  |
| G 7                                   | 32  | 1"     | 33'-6" | "         | INTERIOR GIRDERS, SPANS 1 & 4                |  |  |  |  |
| G 8                                   | 32  | 1"     | 29'-7" | "         | INTERIOR GIRDERS, SPANS 1 & 4                |  |  |  |  |
| G 9                                   | 32  | 1"     | 26'-3" | "         | INTERIOR GIRDERS, SPANS 1 & 4                |  |  |  |  |
| G 10                                  | 32  | 1 1/8" | 42'-9" | "         | INTERIOR GIRDERS, SPANS 1 & 4                |  |  |  |  |
| G 11                                  | 32  | 1 1/8" | 39'-9" | "         | INTERIOR GIRDERS, SPANS 1 & 4                |  |  |  |  |
| G 12                                  | 32  | 1 1/8" | 34'-0" | "         | INTERIOR GIRDERS, SPANS 1 & 4                |  |  |  |  |
| G 13                                  | 32  | 1 1/8" | 30'-0" | "         | INTERIOR GIRDERS, SPANS 1 & 4                |  |  |  |  |
| G 14                                  | 32  | 1"     | 8'-0"  | "         | HAUNCH, INTERIOR GIRDERS, SPANS 1 & 4        |  |  |  |  |
| G 15                                  | 48  | 3/4"   | 5'-0"  | H-BOOK    | GIRDER ENDS                                  |  |  |  |  |
| S 1                                   | 152 | 1/2"   | 9'-2"  | BENT      | ALL FACIA GIRDERS                            |  |  |  |  |
| S 2                                   | 576 | 1/2"   | 6'-10" | "         | INTERIOR GIRDERS, SPANS 1 & 4                |  |  |  |  |
| S 3                                   | 552 | 1/2"   | 7'-10" | "         | ALL SPANS                                    |  |  |  |  |
| S 4                                   | 48  | 3/4"   | 5'-0"  | "         | FIXED ENDS                                   |  |  |  |  |

62,6768.02.  
110240 LBS.  
6770 LBS.  
692 LBS.  
277.08 LIN. FT.

| SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE     |        |          |
|----------------------------------------------|--------|----------|
| CONCRETE MIX N° 3Y6                          | 483    | CU. YDS. |
| REINFORCEMENT BARS                           | 110240 | LBS.     |
| STRUCTURAL STEEL                             | 6770   | LBS.     |
| WROUGHT BRONZE                               | 692    | LBS.     |
| ORNAMENTAL METAL RAILINGS                    | 277.08 | LIN. FT. |
| (SEE LIST ON SHEET II)                       |        |          |
| CORK                                         |        |          |
| BIT. FELT                                    |        |          |
| 3-PLY JOINT WATERPROOFING                    | 135    | LIN. FT. |
| SHEET COPPER                                 | 413    | LBS.     |
| 8 PCS. 3" x 14" x 1/4" PLANK                 |        |          |
| 24-3/4 x 9 BOLTS - 5/8 HD. & NUT - CUT WSHR. |        |          |
| 2-2 1/2 O.D. x 1 3/4 GALV. PIPE SLEEVES      |        |          |
| 10-2 1/2 O.D. x 0'-11"                       |        |          |

\* 12% ADDED TO WEIGHT OF STRUCTURAL STEEL  
AS PER M.H.D. 2402.4A2

\* TO BE INCLUDED IN PRICES BID FOR OTHER ITEMS  
\* PREFORMED BITUMINOUS JOINT FILLER AS PER AASHTO SPEC. M33  
\* CORK  
\* INCLUDED IN WGT. OF STRUCT. STEEL

G11, G12, G13

F16

|                                                                                                                                                               |                                                                                                                                                                                                                                                        |                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| STATE OF MINNESOTA<br>DEPARTMENT OF HIGHWAYS<br><b>BRIDGE NO. 6738</b><br>LARPEN TEUR AVE. OVER T.H. 280<br>RAMSEY COUNTY MINNESOTA                           |                                                                                                                                                                                                                                                        |                                 |
| 35', 40'-1", 40'-1", 35' CONC. DECK GIRDER<br>2-26' ROADWAYS, 1-4'-0" CTR. ISLAND, 2-5'-0" SIDEWALKS<br><b>SUPERSTRUCTURE DETAILS &amp; BILL OF MATERIALS</b> |                                                                                                                                                                                                                                                        |                                 |
| <b>TOLTZ, KING &amp; DAY, INC.</b><br>ENGINEERS AND ARCHITECTS<br>ST. PAUL, MINNESOTA                                                                         |                                                                                                                                                                                                                                                        |                                 |
| DESIGNED<br>A. G. H.<br><br>DRAWN<br>L. H. W.<br><br>CHECKED<br>O. A. O.                                                                                      | I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.<br><br>DATE <u>JAN. 19, 1954</u> REG. NO. 1366<br><i>[Signature]</i> | COMM.<br>3411<br><br>DRG.<br>12 |
| APPROVED<br>M.H.D. ASST. BRIDGE ENGINEER                                                                                                                      |                                                                                                                                                                                                                                                        | JAN. 19, 1954<br>DATE           |

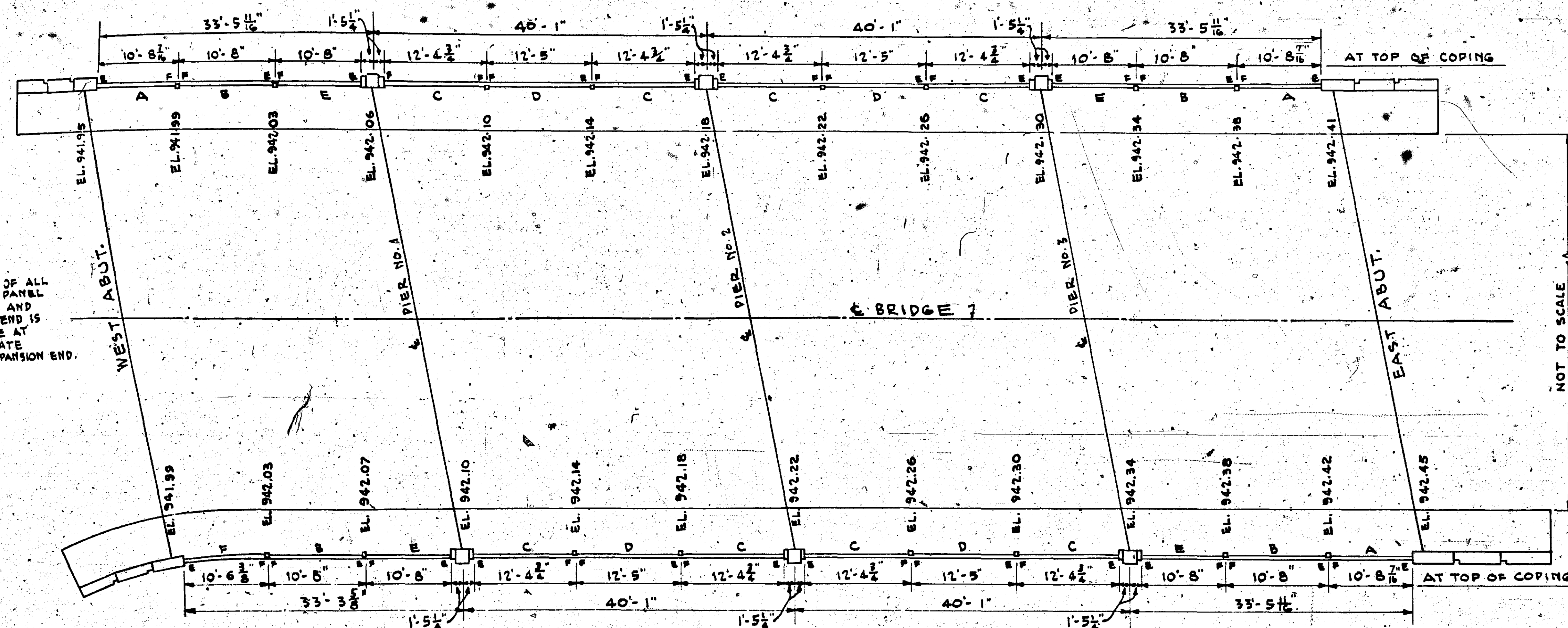
02

SHEET 12 OF 15 SHEETS

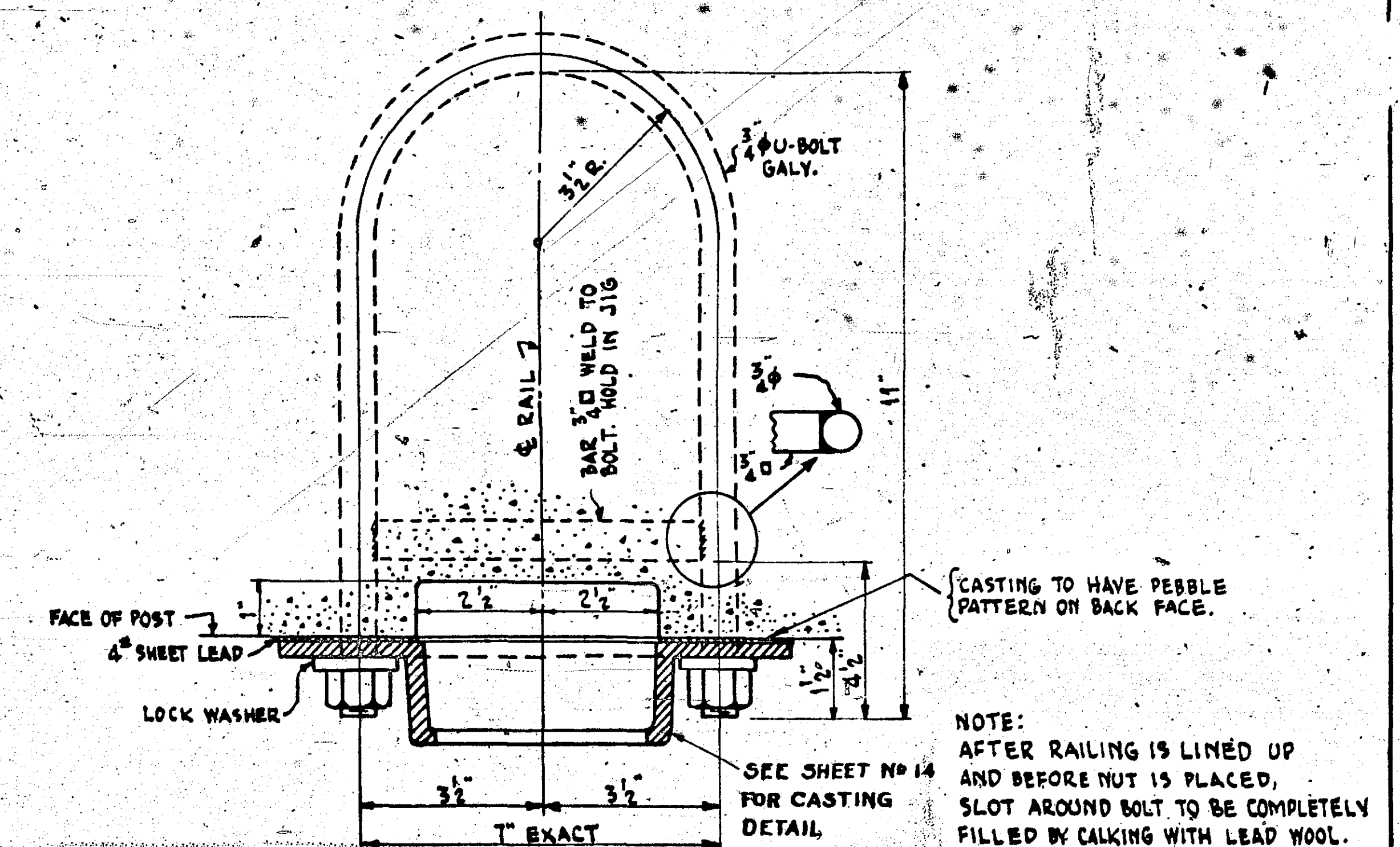
6738

T-102

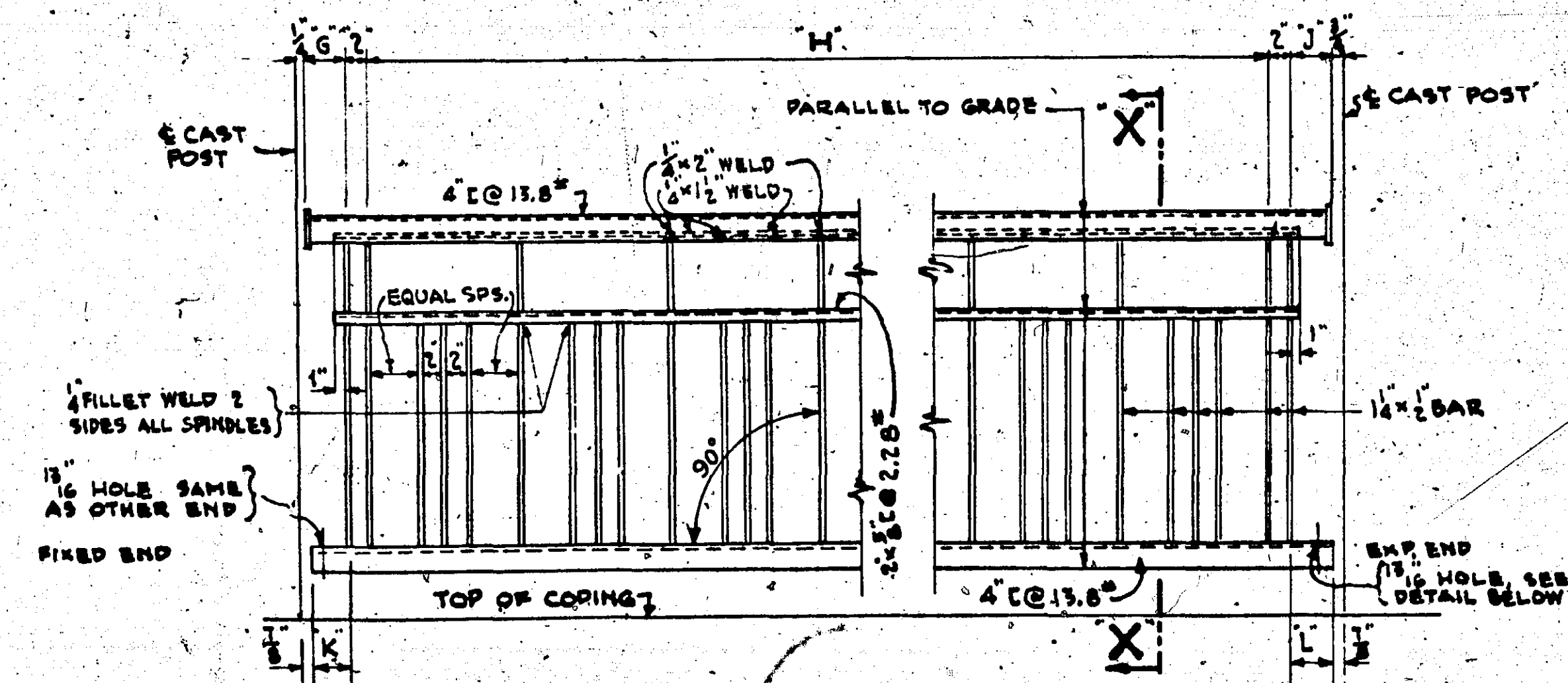
NOTE:  
FIXED END IS AT WEST END OF ALL  
PANELS EXCEPT FOR FIRST PANEL  
TO EAST OF WEST ABUTMENT AND  
PIERS 1, 2, 3 WHERE FIXED END IS  
AT EAST END. LETTERS F & E  
AT PILLARS AND POSTS INDICATE  
RESPECTIVELY FIXED AND EXPANSION END.



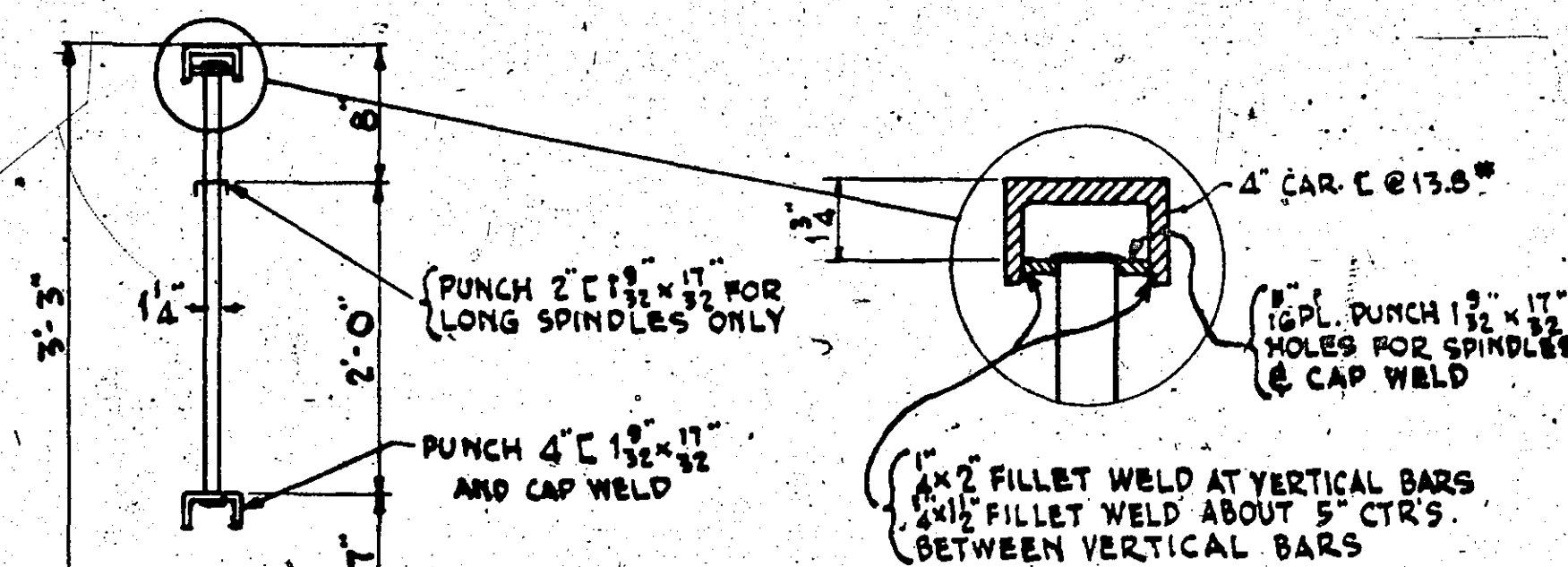
PLAN



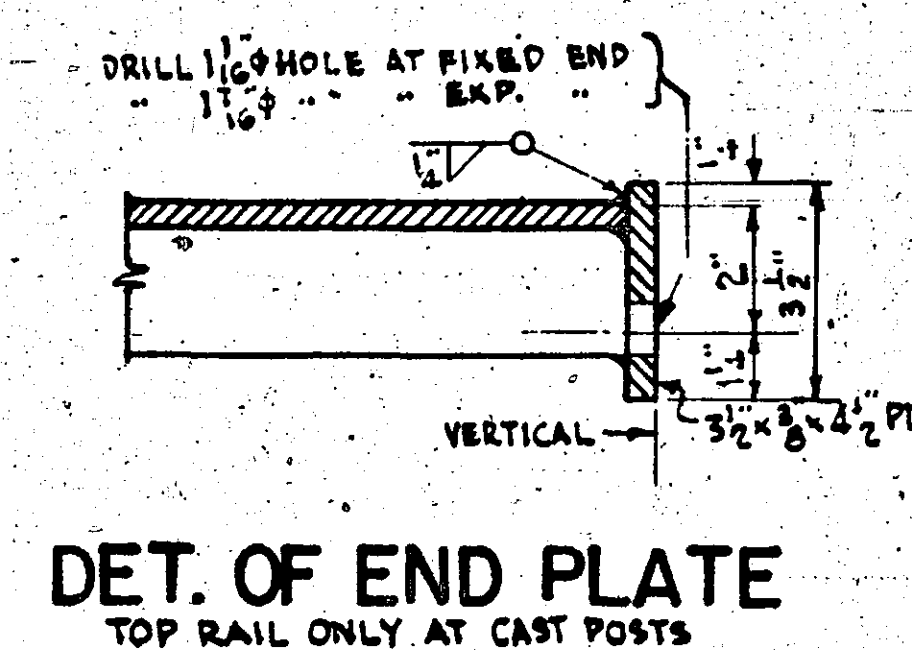
PLAN OF RAIL CONNECTION AT  
CONCRETE POSTS  
(32 U-BOLTS REQ'D THUS GALV.)



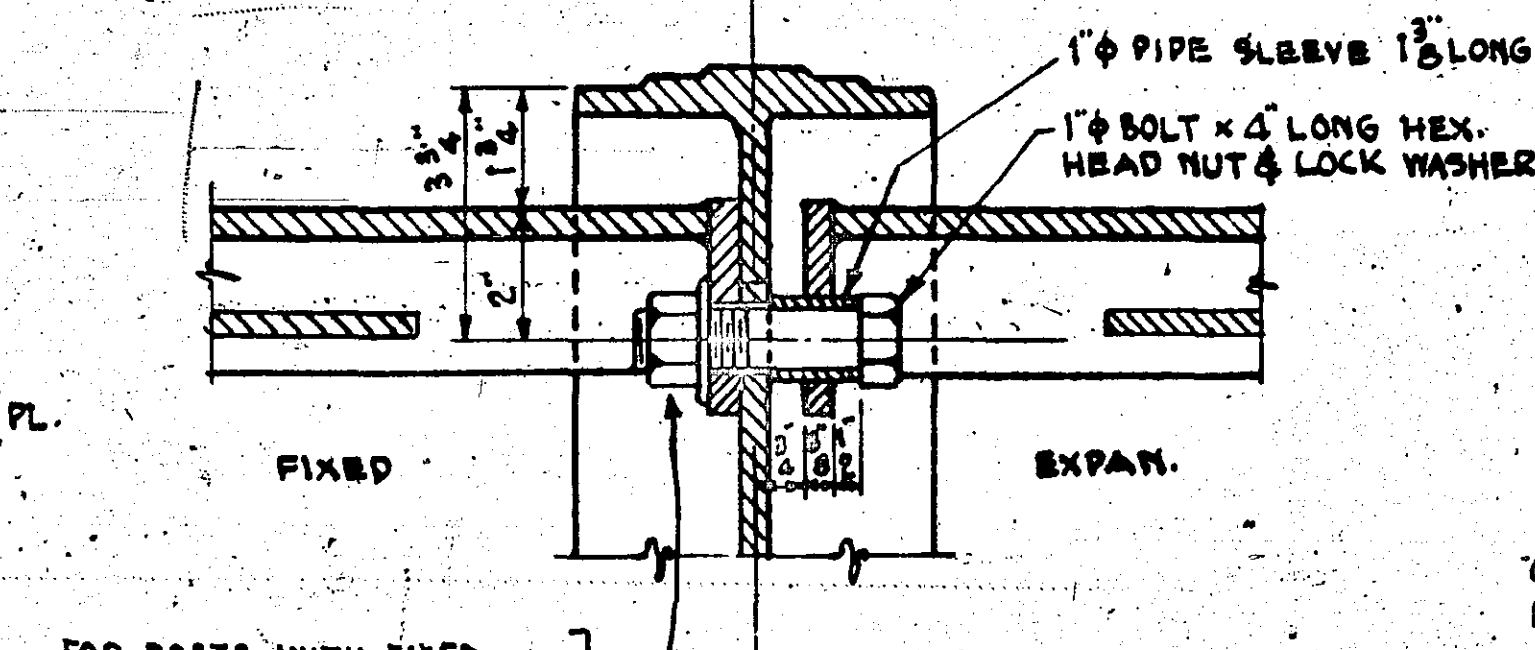
ELEVATION OF PANELS B & D



SECTION X-X

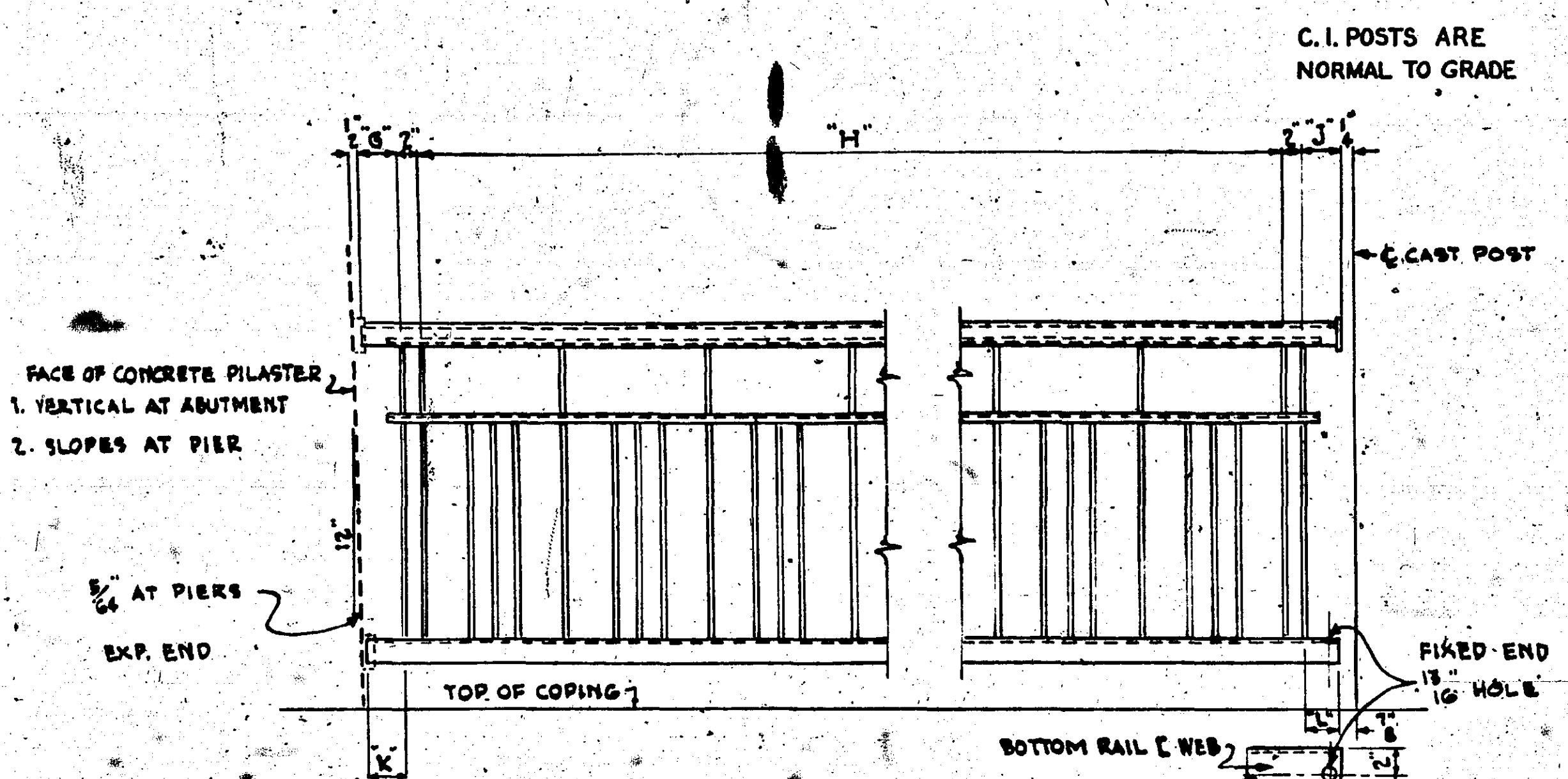


DET. OF END PLATE  
TOP RAIL ONLY AT CAST POSTS

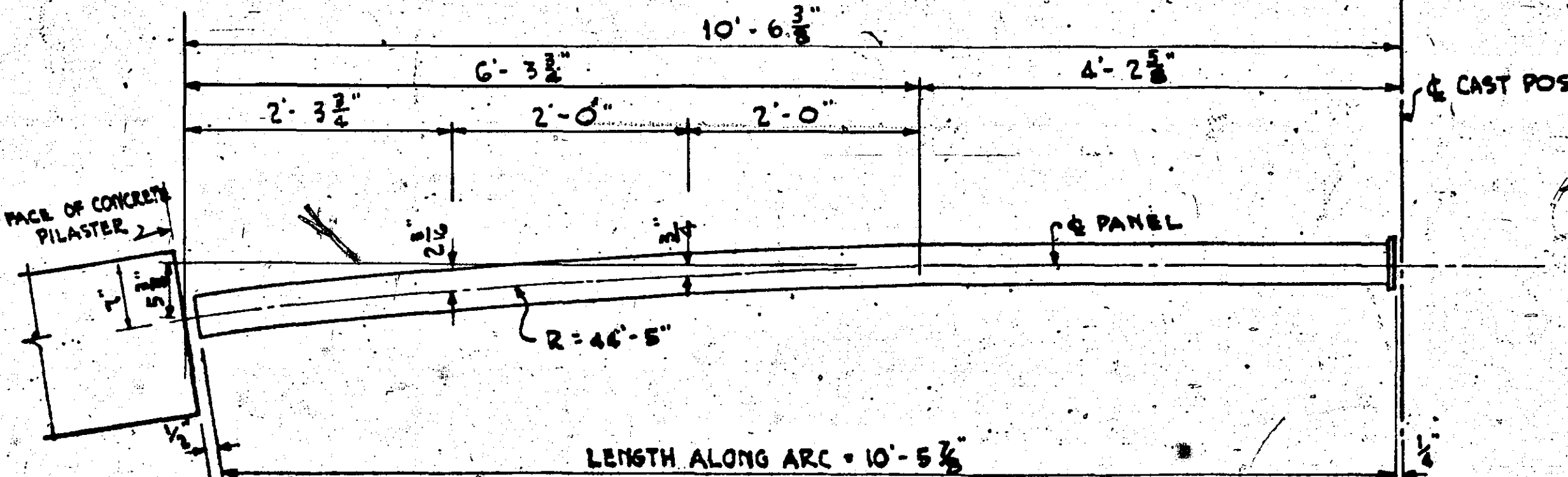


SECTION THRU POSTS

NOTE:  
ALL RAIL PANELS, CONNECTIONS AND FITTINGS TO BE  
GALVANIZED AFTER FABRICATION AS PER M.H.D. 3394.  
NO PAINT REQUIRED.  
LENGTH OF RAILING FOR PAYMENT WILL BE MEASURED  
FACE TO FACE OF CONCRETE AT TOP OF CONCRETE POSTS.  
ALL RAIL PANELS, MALLEABLE CAST IRON POSTS, SOCKETS,  
ANCHOR BOLT ASSEMBLIES, RAIL CONNECTIONS, BOLTS & SHEET  
LEAD TO BE INCLUDED IN PRICE BID FOR ORNAMENTAL METAL  
RAILING.  
ALL RAILING PANELS TO BE SAND BLASTED AFTER  
FABRICATION AND BEFORE GALVANIZING.  
LENGTH OF RAILING FOR ENTIRE BRIDGE 277.08 LIN. FT.  
LENGTHS OF RAIL PANELS TO BE VERIFIED IN FIELD AFTER  
CONCRETE HAS BEEN PLACED, & RAIL PANEL LENGTHS  
ADJUSTED AS NECESSARY.

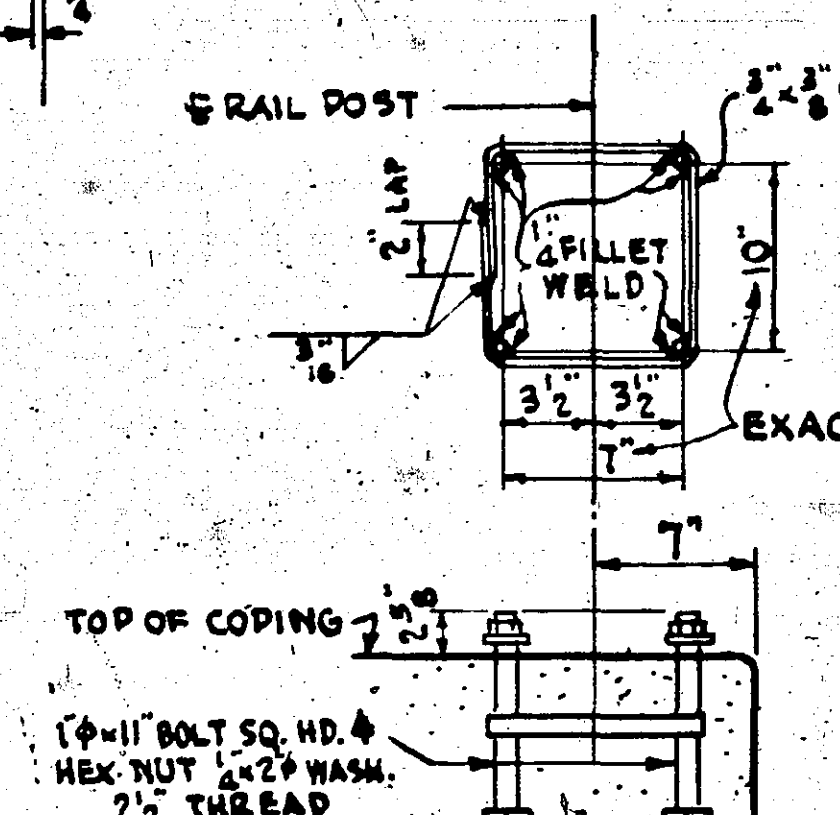


ELEVATION OF PANELS A, C, E & F  
(OTHER DETAILS SAME AS PANELS B & D)



PLAN  
PANEL 'F'

| DIMENSIONS OF RAIL PANELS |     |                        |         |        |         |        |
|---------------------------|-----|------------------------|---------|--------|---------|--------|
| PANEL                     | NO. | H                      | G       | J      | K       | L      |
| A                         | 3   | 8 SPS. @ 1'-2" 9'-4"   | 4 1/16" | 7"     | 4 1/16" | 6 3/8" |
| B                         | 4   | 8 SPS. @ 1'-2" 9'-4"   | 6 3/8"  | 6 3/8" | 6 1/8"  | 6 5/8" |
| C                         | 8   | 9 SPS. @ 1'-2" 10'-10" | 6 3/8"  | 7"     | 6 1/8"  | 6 3/8" |
| D                         | 4   | 9 SPS. @ 1'-2" 10'-10" | 7"      | 6 3/8" | 6 3/8"  | 6 3/8" |
| E                         | 4   | 8 SPS. @ 1'-2" 9'-4"   | 4 1/16" | 6 3/8" | 4 1/16" | 6 3/8" |
| F                         | 1   | 8 SPS. @ 1'-2" 9'-4"   | 5 1/8"  | 6 3/8" | 5 1/8"  | 6 3/8" |



ANCHOR BOLT ASSEMBLY  
(6 REQ'D THUS GALV.)

|                                                                                                                                    |                                                                                                                                                                                                                              |                             |
|------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| STATE OF MINNESOTA<br>DEPARTMENT OF HIGHWAYS<br><b>BRIDGE NO. 6738</b><br>LARPENTEUR AVE. OVER T.H. 280<br>RAMSEY COUNTY MINNESOTA |                                                                                                                                                                                                                              |                             |
| 35', 40'-1", 40'-1", 35' CONC. DECK GIRDER<br>2-26' ROADWAYS, 1-4'-0" CTR. ISLAND, 2-5'-0" SIDEWALKS                               |                                                                                                                                                                                                                              |                             |
| RAILING DETAILS                                                                                                                    |                                                                                                                                                                                                                              |                             |
| TOLTZ, KING & DAY, INC.<br>ENGINEERS AND ARCHITECTS<br>ST. PAUL, MINNESOTA                                                         |                                                                                                                                                                                                                              |                             |
| DESIGNED<br>A. G. H.<br>DRAWN<br>S. J. K.<br>CHECKED<br>A. O.                                                                      | I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED<br>BY ME OR UNDER MY DIRECT SUPERVISION AND THAT<br>I AM A DULY REGISTERED PROFESSIONAL ENGINEER<br>UNDER THE LAWS OF THE STATE OF MINNESOTA.<br>DATE 7 JAN. 1954 REG. NO. 1366 | COMM.<br>3411<br>DRG.<br>13 |
| APPROVED<br>M.H.D. ASST. BRIDGE ENGINEER                                                                                           |                                                                                                                                                                                                                              | JAN. 19, 1954<br>DATE       |



### ELEVATION

**SEE DETAIL BELOW**



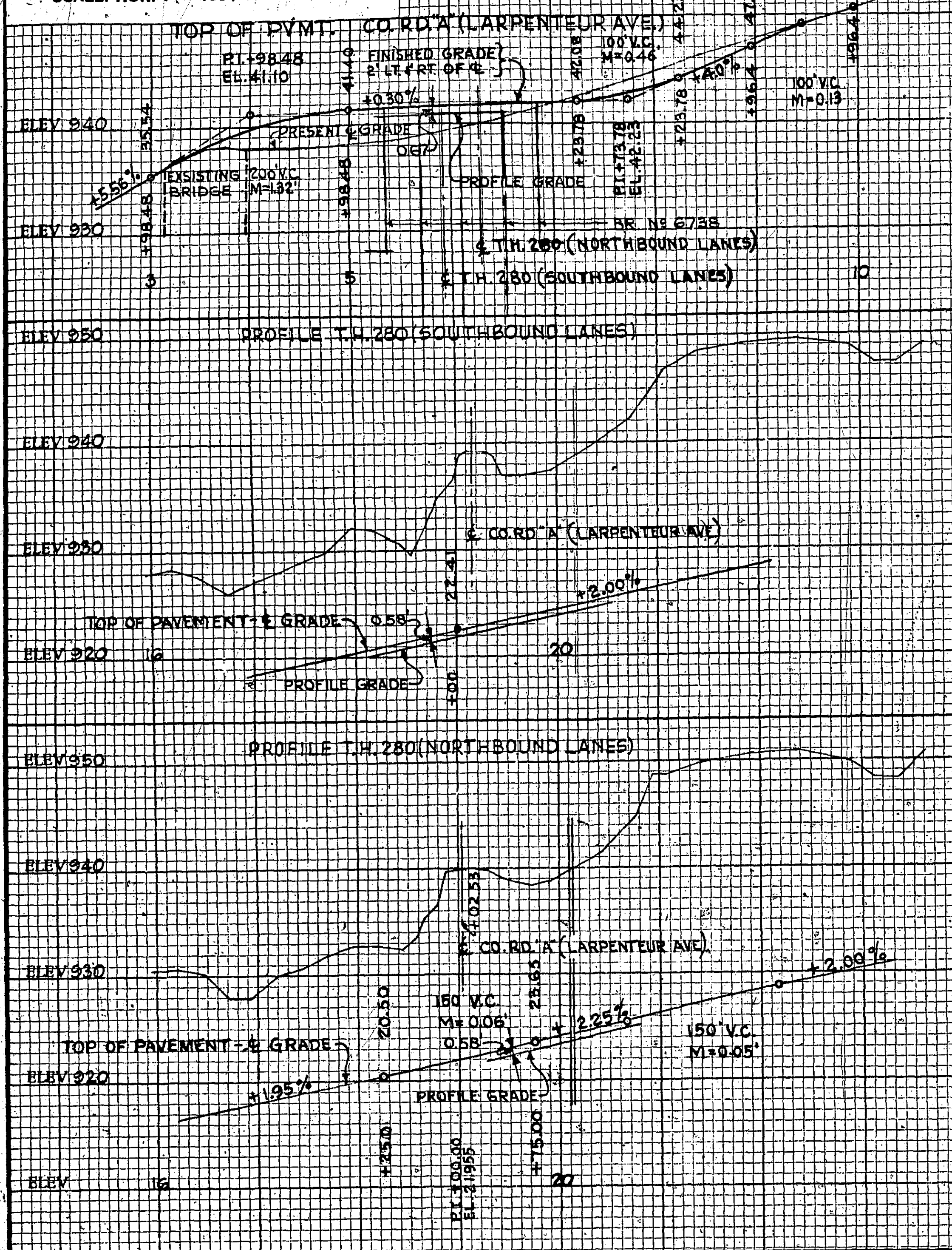
**SIDE VIEW**



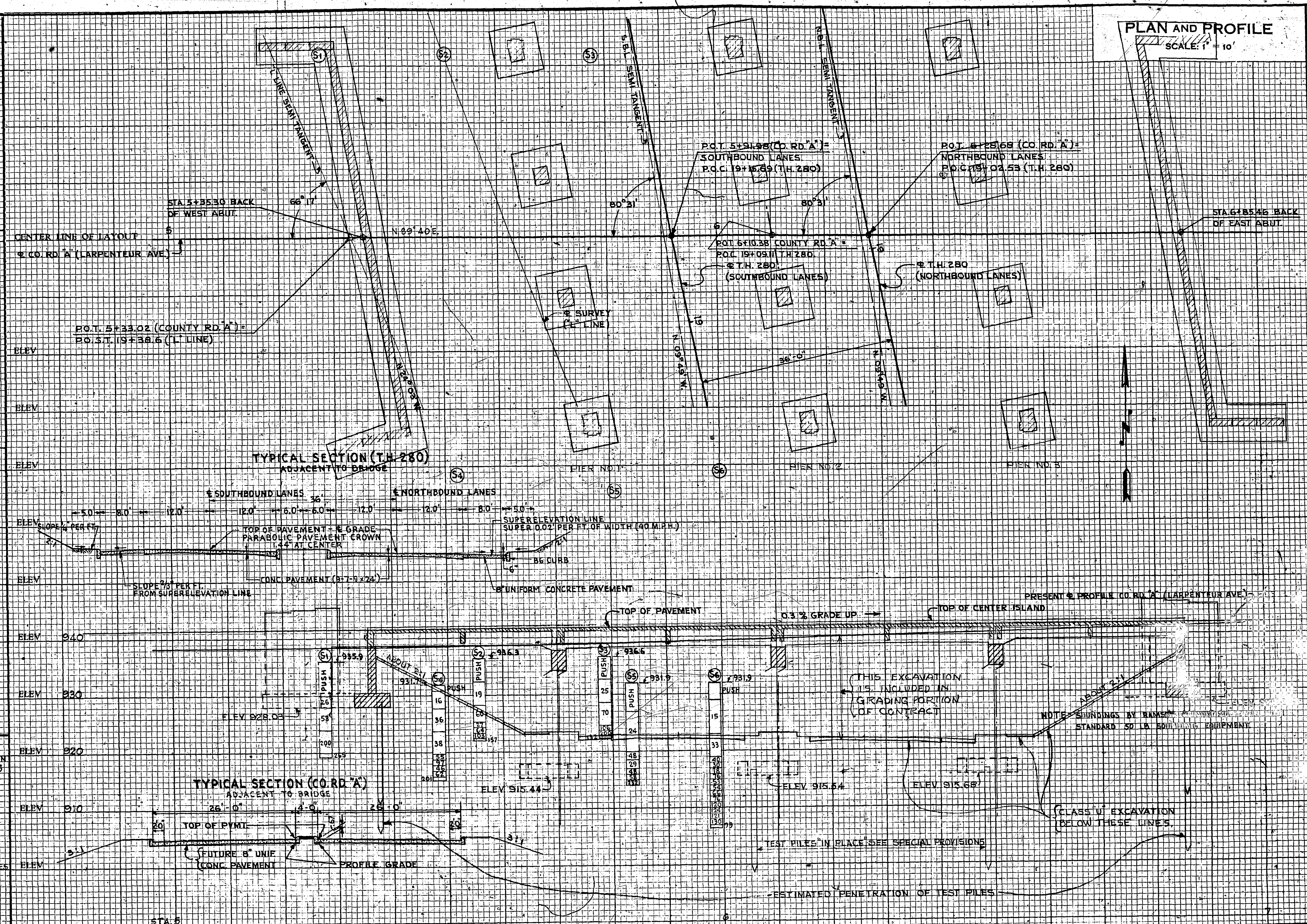
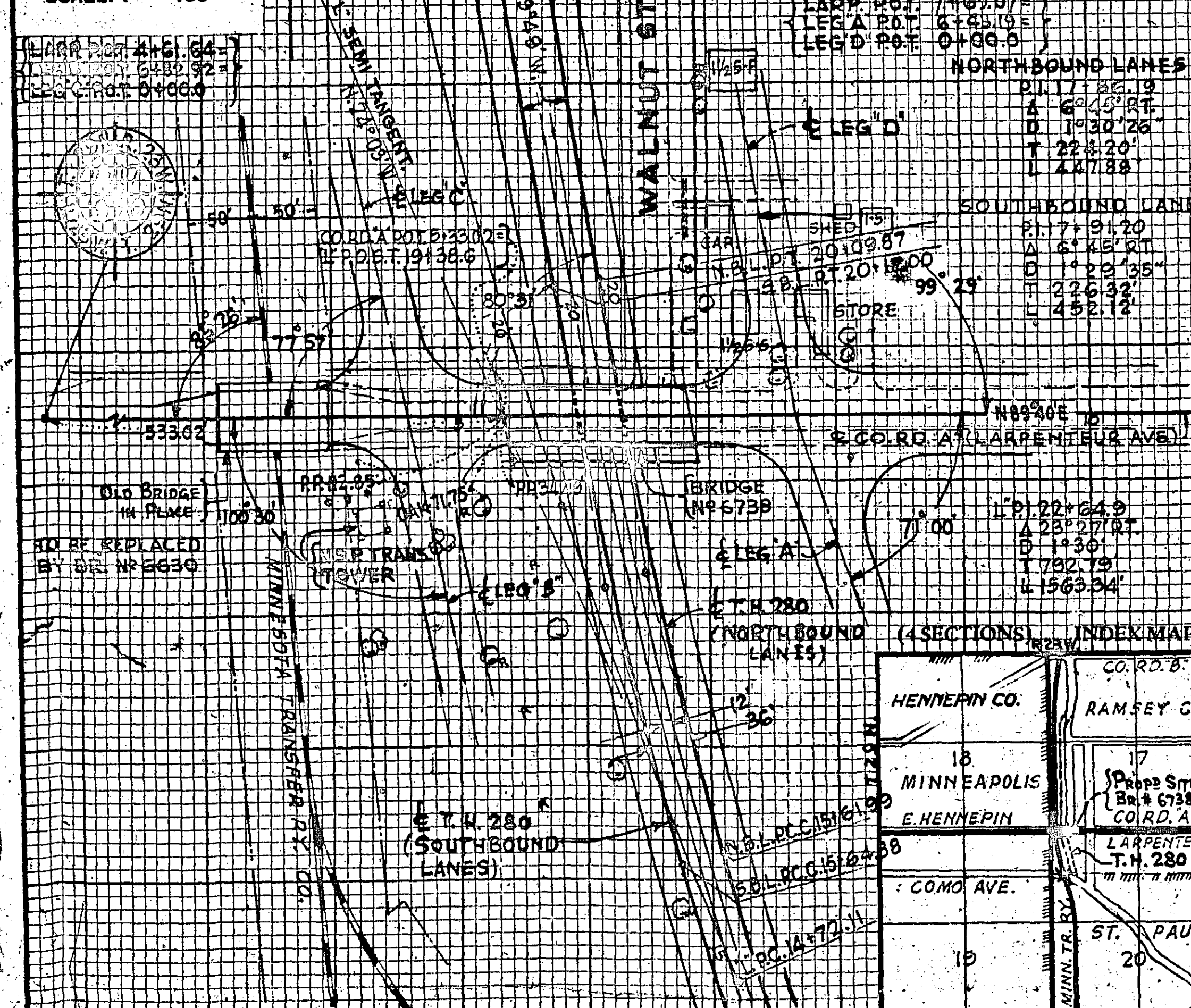
4\* SHEET LEAD REQUIRED.  
32 PCS. 10"x11" PUNCHED TO MATCH RAIL POST BASE  
32 PCS. 5 1/4"x10" WITH HOLES PUNCHED TO MATCH SOCKETS

|                                                                                                                                                                  |                                                                                                                                                                                                                                             |                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| STATE OF MINNESOTA<br>DEPARTMENT OF HIGHWAYS<br><b>BRIDGE NO. 6738</b><br>LARPELLEUR AVE. OVER T.H. 280<br>RAMSEY COUNTY MINNESOTA                               |                                                                                                                                                                                                                                             |                             |
| <b>35', 40'-1", 40'-1", 35' CONC. DECK GIRDER</b><br><b>2-26" ROADWAYS, 1-4'-0" CTR. ISLAND, 2-5'-0" SIDEWALKS</b><br><b>DETAILS OF RAIL POSTS &amp; SOCKETS</b> |                                                                                                                                                                                                                                             |                             |
| <b>TOLTZ, KING &amp; DAY, INC.</b><br><b>ENGINEERS AND ARCHITECTS</b><br><b>ST. PAUL, MINNESOTA</b>                                                              |                                                                                                                                                                                                                                             |                             |
| DESIGNED<br>A.S.H.<br>DRAWN<br>L.J.F.<br>CHECKED<br>O.Z.O.                                                                                                       | I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED<br>BY ME OR UNDER MY DIRECT SUPERVISION AND THAT<br>I AM A DULY REGISTERED PROFESSIONAL ENGINEER<br>UNDER THE LAWS OF THE STATE OF MINNESOTA.<br><i>[Signature]</i><br>DATE <u>7 JAN. 1944</u> | COMM.<br>3411<br>DRG.<br>14 |
| APPROVED<br><i>[Signature]</i><br>ASSIST. ENGR.                                                                                                                  | REG. NO. <u>119,1954</u><br>DATE <u>1944</u>                                                                                                                                                                                                |                             |

SCALE: HOR. 1" = 100', VERT. 1" = 10'



SCALE: 1" = 100'



FOLLOW SEPARATE "INSTRUCTIONS FOR PREPARATION OF BRIDGE SURVEYS" WHEN MAKING BRIDGE SURVEYS.

## DATA

1. Preliminary recommendations of Engineer
- a. Net Span Length and Type of Bridge 35'-0" - 40'-1" - 40'-1" - 35'-0" C.D.G. SPANS
- b. Width of Roadway on Bridge 2 @ 26'-0" 4'-0" CTR. ISLAND
- c. Number and width of Sidewalks, if any 2 @ 5'-0"
- d. Locate center of Bridge at Station 6+10.38 LARPEUR AVE. = 19+09.11 TH 280
- e. If a skew bridge is recommended, the angle of skew should be 11° 03'
- f. Is piling required? ABUTS. ONLY
2. Special features: Waterfalls, dams, exceptional floods, ice, driftwood, sliding banks, logging, etc.
3. Changes: In height or length from that of old bridge, and reasons why

## DATA (Contd.)

4. Other bridges in vicinity:
- a. Over same stream (particularly structures which carry high water without overflow of roadway); give location, length, height above water, net cross-sectional area at high water stage and estimated age.
  - b. Over or under same highway or railroad; give location, length, horizontal and vertical clearances and estimated age.
  - c. Reasons why these bridges are, or are not, fair indications of what length the proposed bridge should be?
5. If structure is over a drainage ditch, is ditch gradient liable to be altered?
6. State navigation or boating clearances required, if any:
7. Information and evidence in regard to high water stages was obtained as follows:
8. Must contractor provide for traffic during construction of proposed bridge? **NO**  
If so, by what means?

## MATERIALS

Proposed Bridge is AT NO. CITY LIMITS OF ST. PAUL.  
 \_\_\_\_\_, which is the nearest  
 Railroad shipping point.  
 \*(Give name of town, station or siding)

Date 7-2-55 Project or County Engineer C. J. McRabry  
Date \_\_\_\_\_ District Engineer \_\_\_\_\_  
Date \_\_\_\_\_ Bridge Engineer \_\_\_\_\_

STATE OF MINNESOTA  
DEPARTMENT OF HIGHWAYS  
BRIDGE SURVEY

ON  
TRUNK HIGHWAY 280  
DESIGNATE COUNTY AID — STATE AID OR TRUNK HIGHWAY NUMBER

SEC. 17 & 20 TWP. 29 N. R. 23 W.  
ROSE  
RAMSEY  
TOWNSHIP  
COUNTY

SURVEY MADE DURING MONTH OF ..... 19.....  
 SURVEY SHEET PLOTTED IN CENTRAL OFFICE BY  
 L.V. PEARSON FROM COMBINATION OF NOTES  
 SUBMITTED BY L.PEDERSON, G.L.MARTZ AND RAMSEY  
 COUNTY SURVEYOR.  
 BRIDGE NO. **6738**