

STATE OF MINNESOTA
 DEPARTMENT OF TRANSPORTATION
 CONSTRUCTION PLAN FOR **BRIDGE NO. 02534**
COUNTY ROAD No. 71

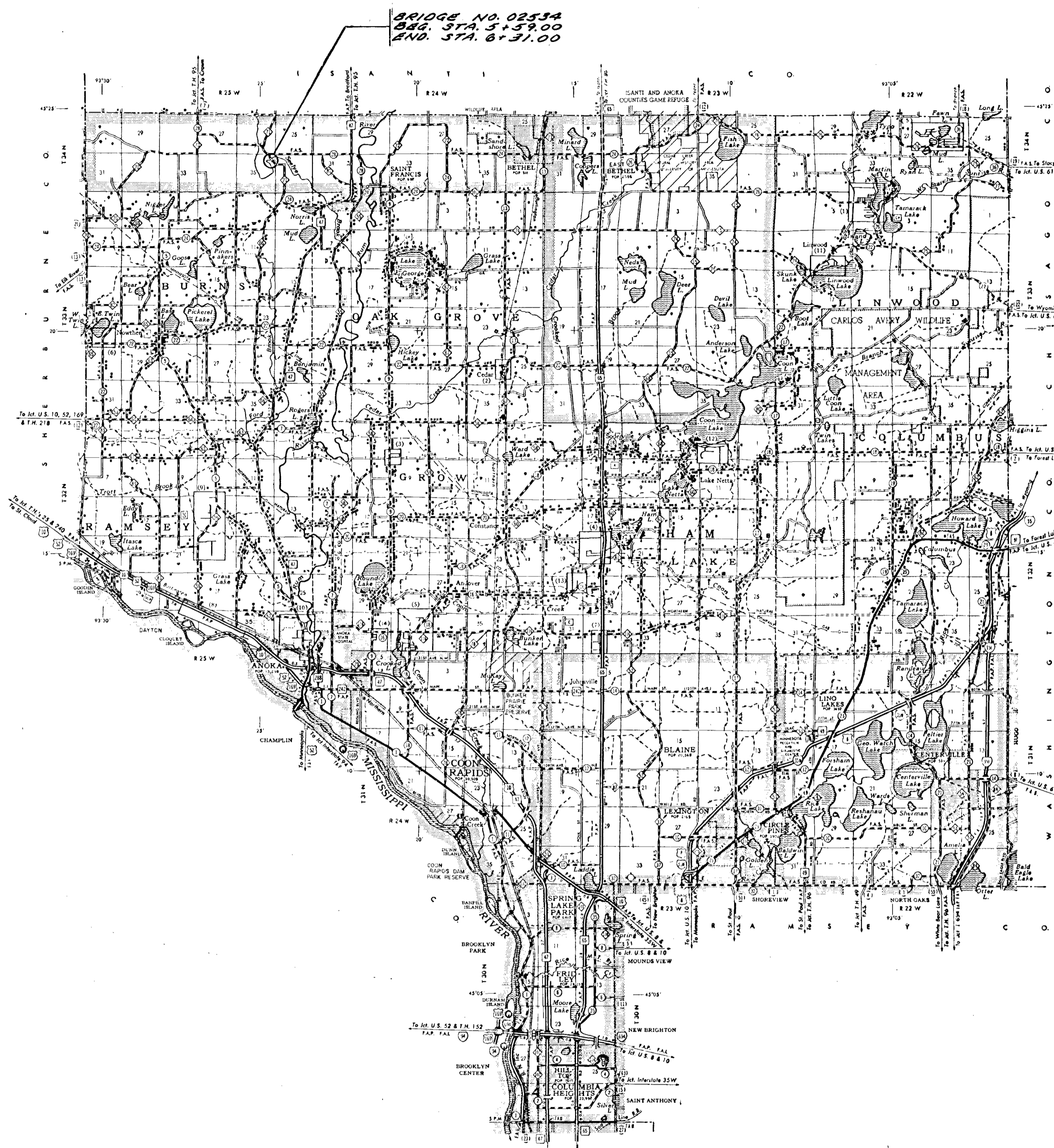
Between _____ And _____
 From SEC 35 TWP 34N R 25 W To SEC 35 TWP 34N R 25 W
Give proper reference to Sections, Township and Range

GROSS LENGTH _____ FEET _____ MILES
 BRIDGES-LENGTH 72 FEET .013 MILES
 EXCEPTIONS-LENGTH _____ FEET _____ MILES
 NET LENGTH 72 FEET .013 MILES

INDEX OF SHEETS
 TITLE SHEET
 SHTS. 1-9 BRIDGE PLANS

CONVENTIONAL SIGNS

- STATE LINE
- COUNTY LINE
- TOWNSHIP OR RANGE LINE
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- RIGHT OF WAY LINE
- PRESENT RIGHT OF WAY LINE
- CONTROL OF ACCESS LINE
- PROPERTY LINE (Except Land Lines)
- VICARIED PLATTER PROPERTY
- CORPORATE OR CITY LIMITS
- TRUNK HIGHWAY CENTER LINE
- RETAINING WALL
- RAILROAD
- RAILROAD RIGHT OF WAY LINE
- RIVER OR CREEK
- DRY RUN
- DRAINAGE DITCH
- ELECTRIC POWER LINE
- TELEPHONE OR TELEGRAPH LINE
- JOINT TELEPHONE AND POWER
- CONDUIT
- TELEPHONE CABLE-AERIAL
- TELEPHONE CABLE-UNDERGROUND
- POWER CABLE-UNDERGROUND
- GAS MAIN
- CULVERT
- DROP INLET
- GUARD RAIL
- BARRIED WIRE FENCE
- WOVEN WIRE FENCE
- CHAIN LINK FENCE
- RAILROAD SHOW FENCE
- STONE WALL OR FENCE
- MESSE
- WATER PIPE
- SEWER PIPE
- GRASS TILE
- SPRINGS
- MARSH
- TIMBER
- ORCHARD
- BRUSH
- NURSERY
- CATCH BASIN
- MANHOLE
- FIRE HYDRANT
- STREET LIGHT
- RAILROAD CROSSING SIGN
- RAILROAD CROSSING BELL
- ELECTRIC WARNING SIGN
- CROSSING GATE
- CATTLE GUARD
- OVERPASS (Highway Over)
- UNDERPASS (Highway Under)
- BRIDGE
- BUILDING (One Story Frame)
- F FRAME C-CONCRETE
- S-STONE T-TILE
- B-BRICK ST-STUCCO
- IRON PIPE OR ROD
- MONUMENT (STONE, CONCRETE, OR METAL)
- WOODEN HUB
- GRAVEL PIT
- SAND PIT
- BORROW PIT
- ROCK QUARRY
- MEANDER CORNER



DESIGN DESIGNATION
 ADT (CURRENT YEAR) 375 (1986)
 ADT (FUTURE YEAR) _____
 T (HEAVY COMMERCIAL)
 _____ Ton Design
 Design Speed _____ MPH
 Design Speed not achieved at:
 STA. _____ TO STA. _____ MPH
 STA. _____ TO STA. _____ MPH

GOVERNING SPECIFICATIONS
 THE "STANDARD" SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 1983 EDITION, SHALL GOVERN.

PLANS & R/W APPROVED:

Paul K. Reed
 COUNTY ENGINEER DATE 12/8/80

ANOKA COUNTY REG. NO. _____

RECOMMENDED FOR APPROVAL *Paul K. Reed* 12-8-80
 DISTRICT STATE AID ENGINEER

RECOMMENDED FOR APPROVAL *W.W. Beckman* 4-4-1986
 BRIDGE ENGINEER

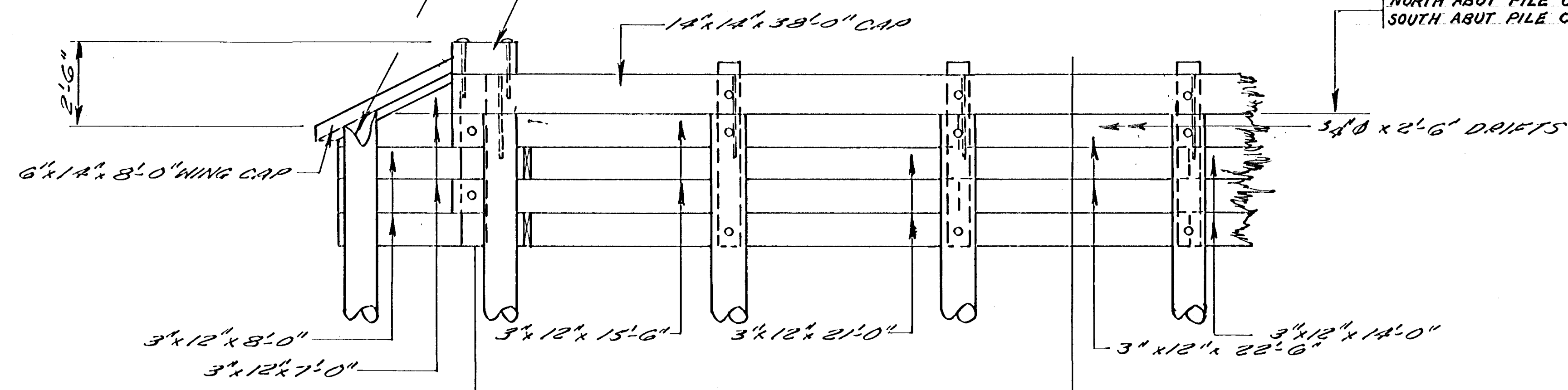
APPROVED 4-24-86 *Ray A. Mauser*
 STATE AID ENGINEER

Minn. Proj. No. _____ County Proj. No. _____
 State Proj. No. 02-598-01 S.A.P. _____

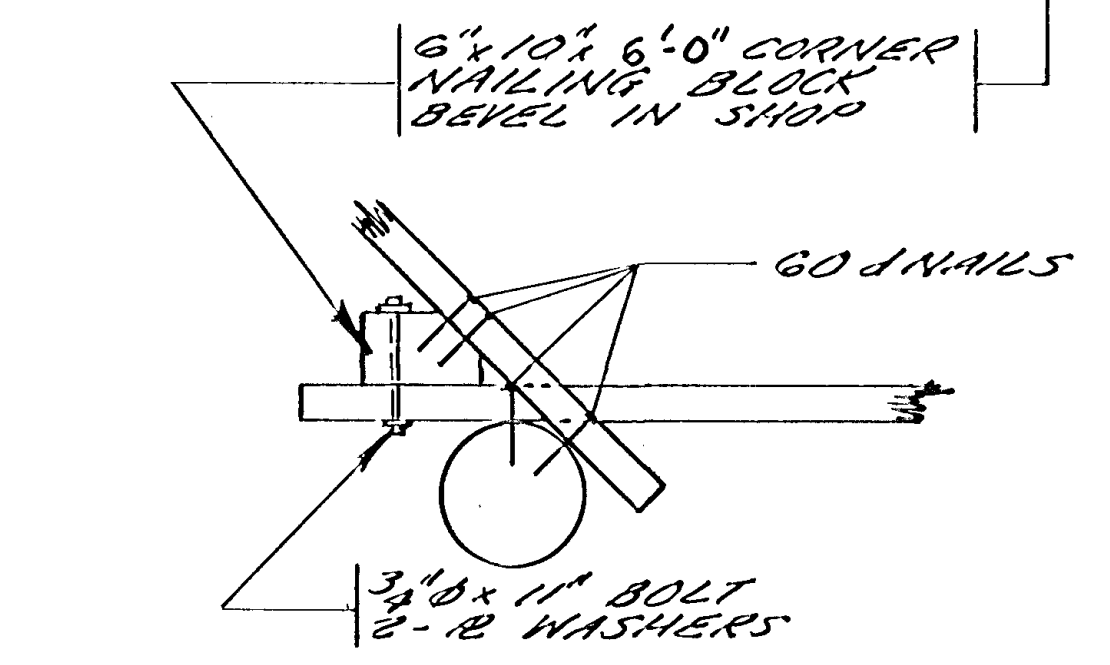
PORTION OF PILE HEAD WHICH PROJECTS OUTSIDE OF WING CAP IS TO BE CUT OR ADDED TO A 45° SLOPE. TREAT TOPS OF WING PILES PER SPEC'S. 2403.35.

12" x 12" x 2'-0" ABUT. BLOCK FASTEN TO CAP WITH 2- 3/4" x 11" BOLT WITH 2- 2" WASHERS.

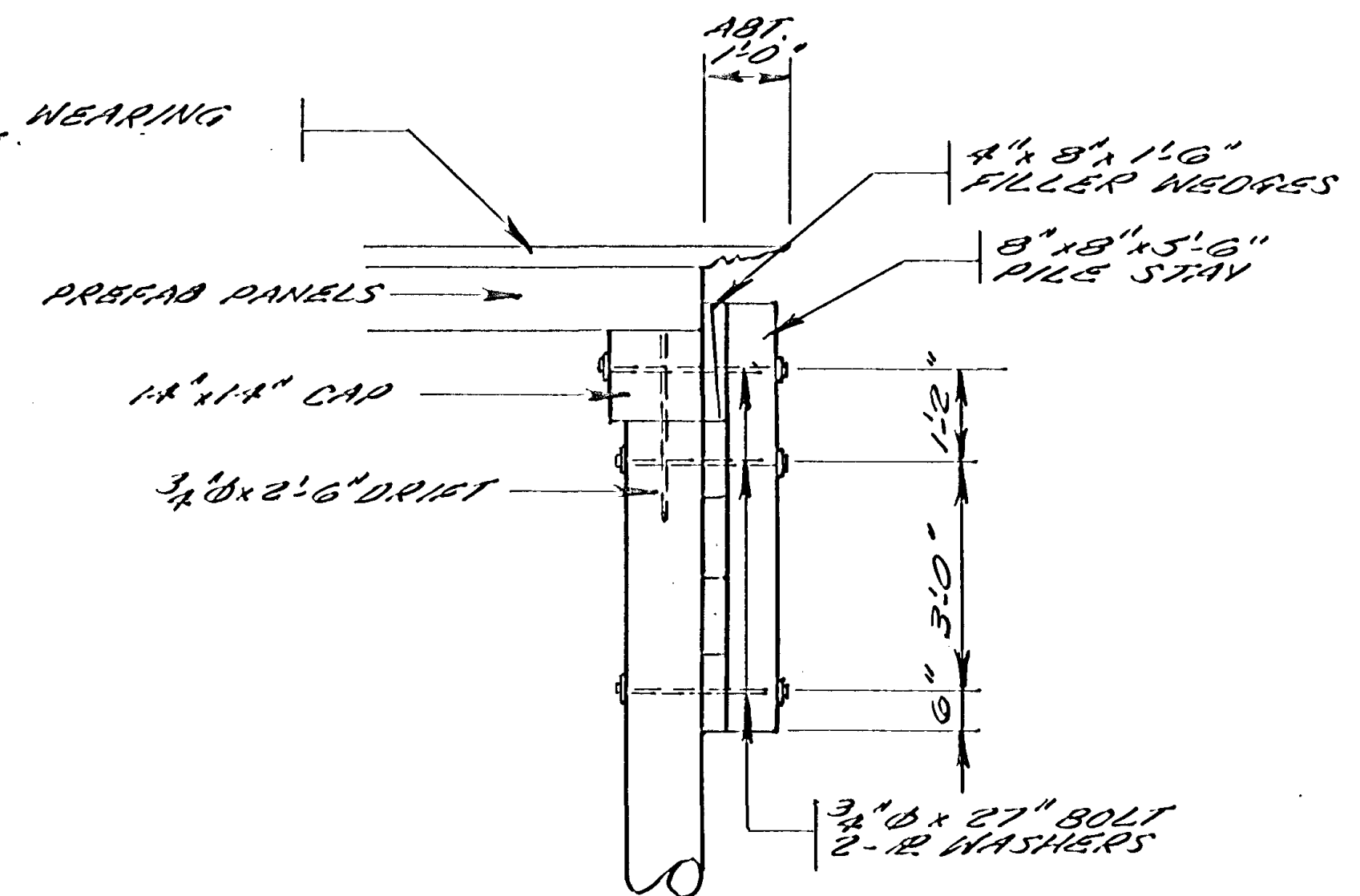
NORTH ABUT. PILE CUTOFF EL. 101.35 708.05
SOUTH ABUT. PILE CUTOFF EL. 100.43 707.23



HALF ELEVATION

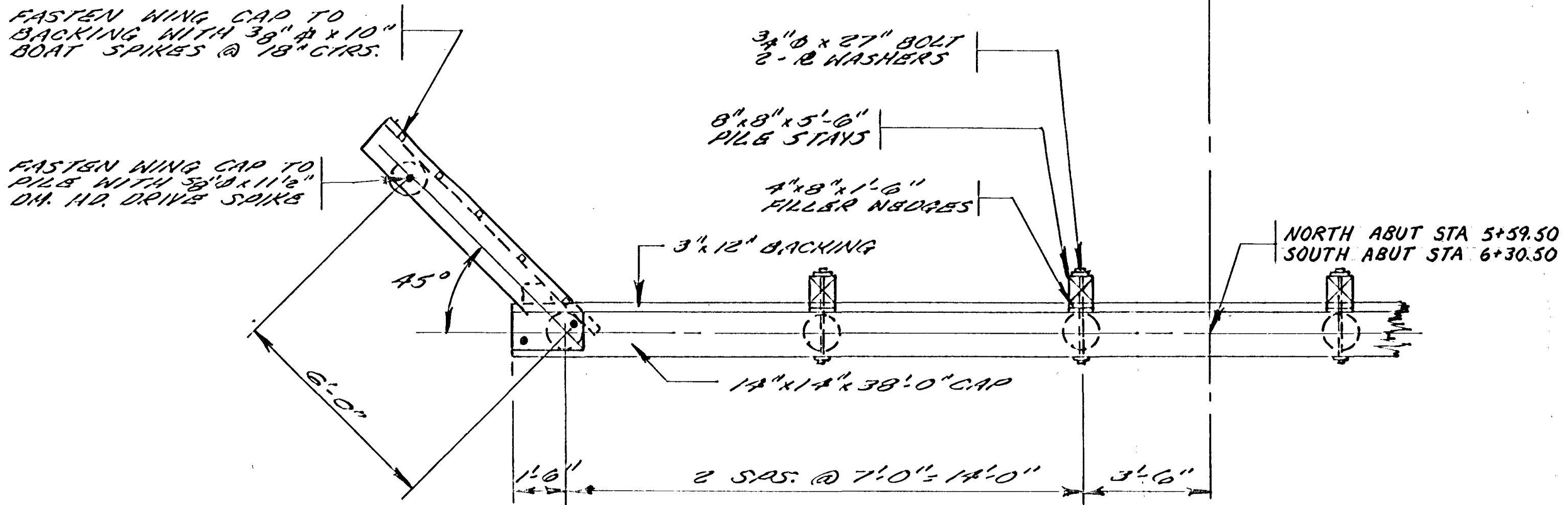


CORNER NAILING BLOCK



SECTION THRU ABUTMENT
SCALE: 1/2" = 1'-0"

SYM. ABUT. & ROWS EXCEPT AS SHOWN OR NOTED.



HALF PLAN

PILE NOTES:
4- TREATED TIMBER WING PILES 25 FT. LONG.
2- TREATED TIMBER TEST PILES 55 FT. LONG.
10- TREATED TIMBER PILES, EST. LENGTH 45 FT.
16- TREATED TIMBER PILES REQ'D FOR 2 ABUT.

ALL PILES TO BE DRIVEN TO A BEARING OF NOT LESS THAN 30 TONS PER PILE, EXCEPT WING PILES

BILL OF TREATED TIMBER - 2 ABUTS.

| ITEM | NO. | FIN. | SIZE | LEN. | F.B.M. |
|------------------------------|-----|------|--------------------|--------|--------|
| PILE CAP | 2 | R | 14" x 14" | 38'-0" | 1241 |
| ABUTMENT BACKING | 4 | R | 3" x 12" | 15'-6" | 186 |
| " | 4 | R | 3" x 12" | 21'-0" | 252 |
| " | 4 | R | 3" x 12" | 14'-0" | 168 |
| " | 4 | R | 3" x 12" | 22'-6" | 270 |
| WING CAP | 4 | R | 6" x 14" | 8'-0" | 224 |
| " BACKING | 12 | R | 3" x 12" | 7'-0" | 252 |
| " | 6 | R | 3" x 12" | 8'-0" | 192 |
| ABUTMENT BLOCK | 4 | R | 12" x 12" | 2'-0" | 96 |
| COR. NAILING BLOCK | 4 | R | 5/8" DIA. 6" x 10" | 6'-0" | 120 |
| PILE STAYS | 8 | R | 8" x 8" | 5'-6" | 235 |
| FILLER WEDGES | 8 | R | 4" x 8" | 1'-6" | 32 |
| TOTAL F.B.M. FOR 2 ABUTMENTS | | | | | 3268 |

- ① BEVEL IN SHOP
- ② CUT 2 FROM 1 IN SHOP

BILL OF HARDWARE FOR 2 ABUTMENTS

| QTY. | NO. | ITEM | PRICE |
|-----------------------------|-----|--|-------|
| 3.78 | 12 | 3/4" x 27" DRIFT - CAP TO PILE | 45 |
| 3.72 | 24 | 3/4" x 27" BOLT - PILE STAY | 89 |
| 1.67 | 8 | 3/4" x 11" " - COR. NAIL. BLK. | 13 |
| 2.55 | 8 | 3/4" x 18" DIA. HD. DR. SPIKES - BLOCK | 20 |
| 1.36 | 4 | 5/8" x 11 1/2" " " " - WING | 5 |
| 0.41 | 20 | 3/8" x 10" BOAT SPIKE - " | 8 |
| 0.85 | 64 | 3/4" x 3" x 3/16" WASHER FOR 3/4" BOLT | 54 |
| 10/A | | 60 D NAILS | 23 |
| TOTAL HARDWARE FOR 2 ABUTS. | | | 257 |

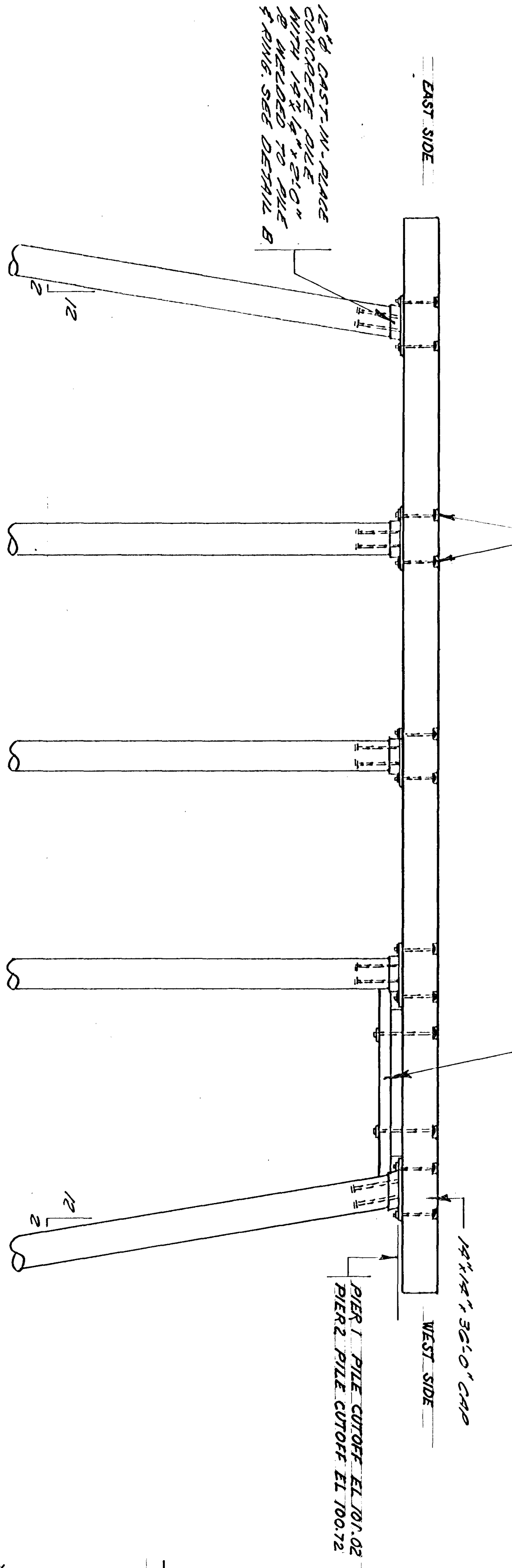
NOTE:
FILL IN BACK OF ABUTMENTS NOT TO BE PLACED UNTIL AFTER SUPERSTRUCTURE HAS BEEN COMPLETED.

NAILING NOTE:
FASTEN BACKING TO PILE WITH 2- 60 D NAILS AT EACH INTERSECTION.

BOLT NOTE:
BOLT PROJECTIONS EXCEEDING 1" SHALL BE CUT OFF. REPAIR END OF BOLT BY PAINTING WITH AN APPROVED ZINC-RICH PRIMER.

MINNESOTA DEPARTMENT OF TRANSPORTATION
BRIDGE NO. 02534
ABUTMENT DETAILS
APPROVED 4-9-96
S.R. 02-598-01 02534 MAS
SHT 2 OF 9 SHEETS RRT.

FASTEN 1/4" x 1/2" x 3/16" CAP TO PLATE WITH 3/4" x 6" x 1/2" GIVE HEAD BOLTS (GSM) 1" - CUT WASHER, 1-LOCK W/IT EACH

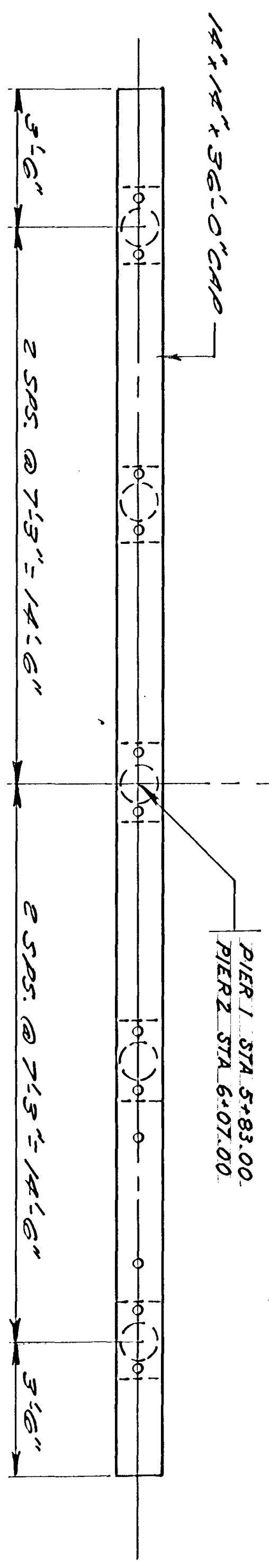


3/4" x 1/2" x 5/16" PILELIP & 6" x 12" x 1/2" STABIL CUT TO FIT IN FIELD FASTEN TO CAP WITH 3/4" x 6" x 5" GIVE HEAD BOLTS (GSM) 1" - 8 WASHER EACH BOLT. DISTANCE END ONLY.

ELEVATION

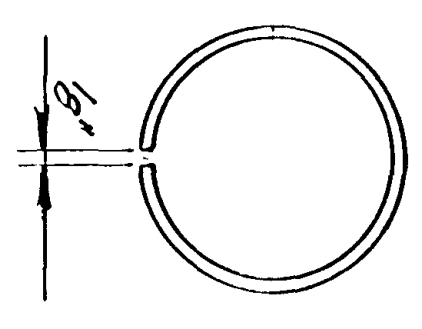
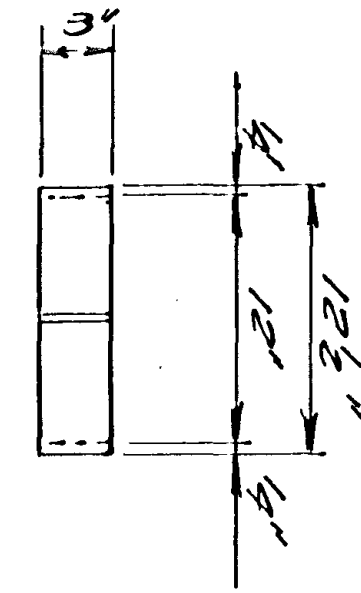
SCALE: 3/4" = 1'-0"

SYN ABOUT & ADJAC EXCEPT AS SHOWN OR NOTED.

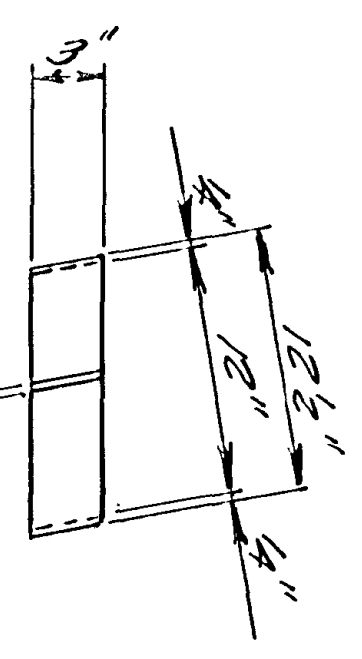


PLAN

PILE NOTE
 2-12" Ø C.I.P. CONC. TEST PILES 55 FT. LONG.
 3-12" Ø C.I.P. CONC. PILES EST. LENGTH 45 FT.
 10-12" Ø C.I.P. CONC. PILES REQ'D FOR 2 PIERS.
 PILES TO HAVE A NOMINAL DIAMETER OF 12" END PILES TO BE BUTTERED 2" PER FOOT IN THE DIRECTION OF PILE SPACING SHOWN IS AT BOTTOM OF CAP ALL PILES TO BE DRIVEN TO A BEARING OF NOT LESS THAN 28 TONS PER PILE. SEE PILE SPICE DETAIL ON SHEET 7.
 FOR TEST PILE LOCATIONS SEE SHEET 9.



12" Ø x 4" x 3" RING
 6-REIN - INT PILES



12" Ø x 4" x 3" RING
 4-REIN - END PILES

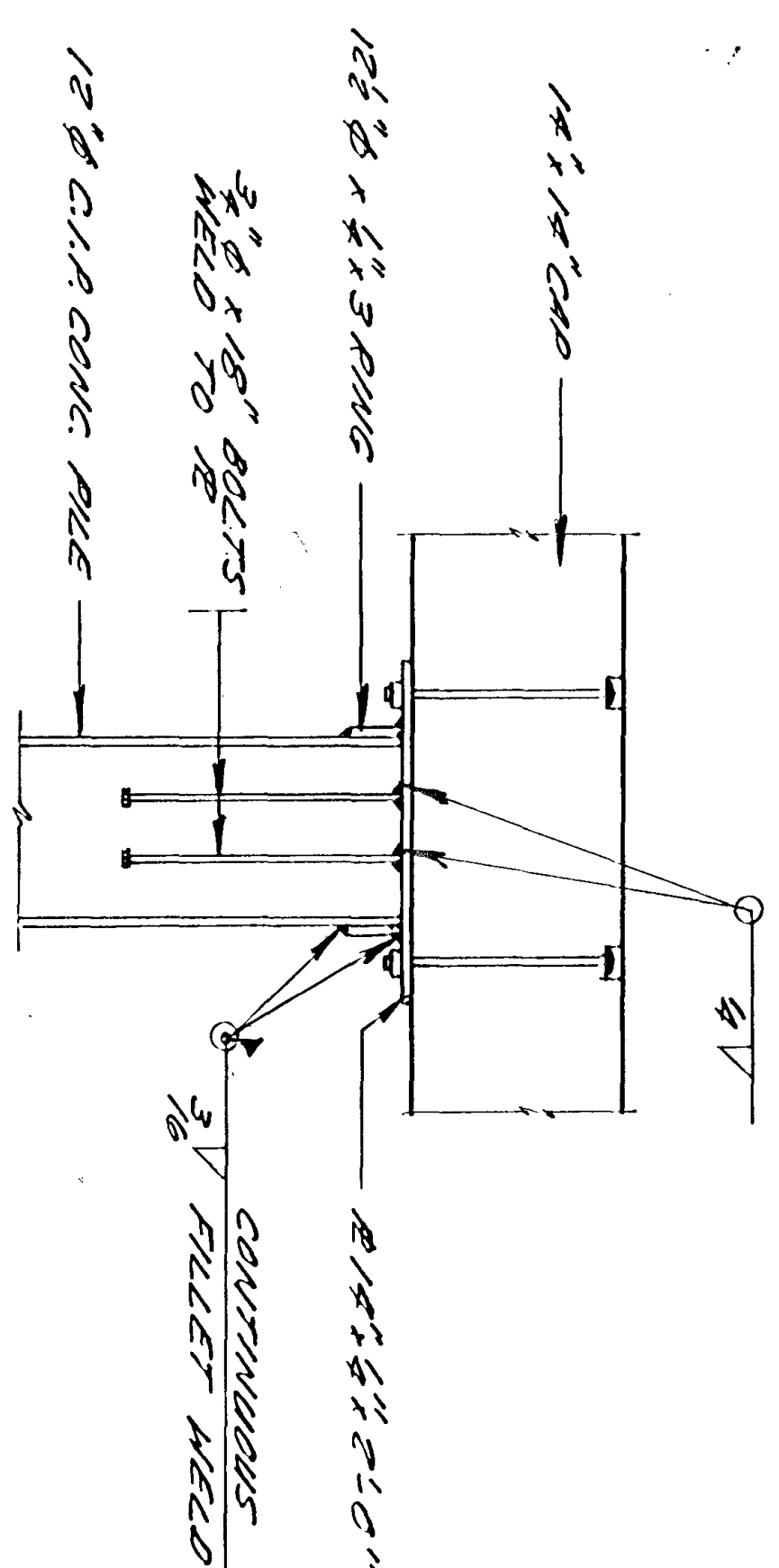
4-3/8" WIDE x 1/2" SCOTTS FOR SCOT WELDING PLATE TO PILE

| ITEM | NO | FIN | SIZE | LEN | F.B.M. |
|--------------------------|----|-----|----------------|------|--------|
| PILE CAP | 2 | R | 14" x 36" x 0" | 1176 | |
| STABIL | 2 | R | 6" x 12" | 710" | 84 |
| PILELIP | 2 | F | 3" x 12" | 510" | 30 |
| TOTAL F.B.M. FOR 2 PIERS | | | | | 1290 |

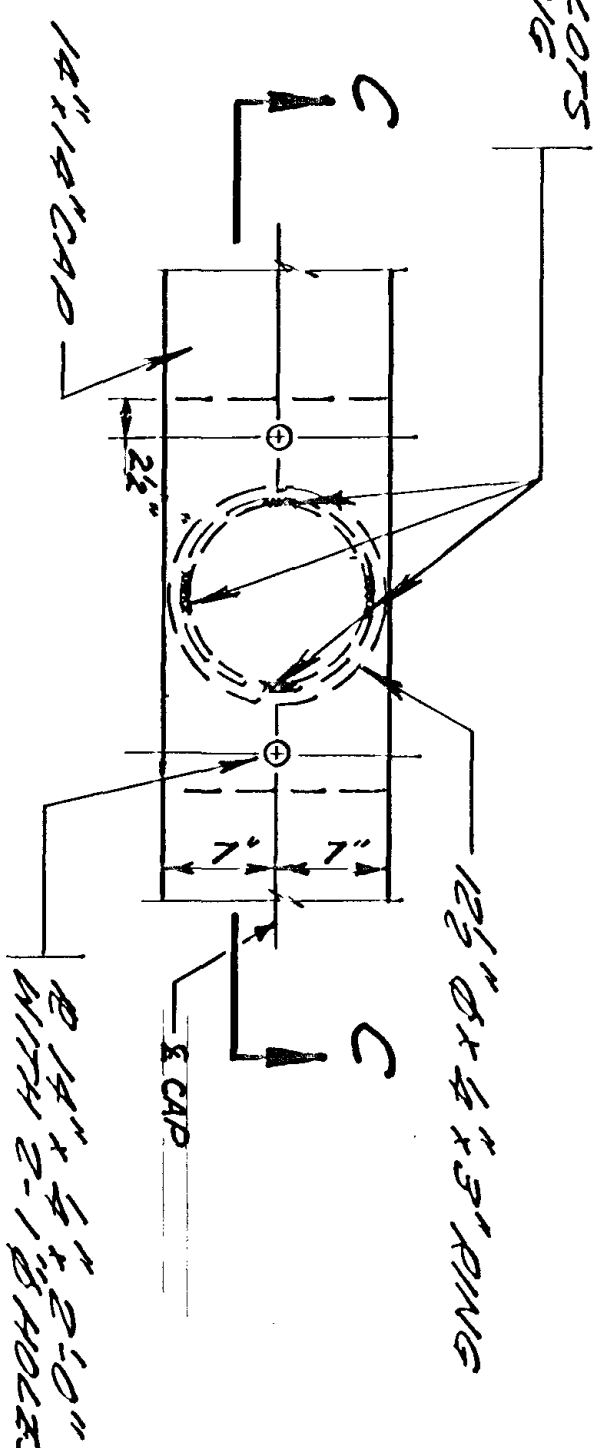
| ITEM | NO | FIN | SIZE | LEN | TOTAL |
|--|----|-----|------|-----|-------|
| 2" x 1/2" x 1/2" DIA HR BOLT W/LOCK W/IT | 20 | | | | 58 |
| CUT WASHER FOR 3/4" Ø BOLT | 20 | | | | 3 |
| 3/4" Ø x 25" DIA HD BOLT - STABIL | 4 | | | | 16 |
| 3/4" x 5/16" B W/LOCK W/IT FOR 3/4" Ø BOLT | 4 | | | | 3 |
| TOTAL HARDWARE FOR 2 PIERS | | | | | 80 |

| ITEM | NO | FIN | SIZE | LEN | TOTAL |
|------------------------------------|----|-----|------|-----|-------|
| 14" x 4" x 21.0" R | 10 | | | | 243 |
| 12" Ø x 4" x 3" RING | 10 | | | | 87 |
| 3" Ø x 18" BOLT - PILE PLATE | 20 | | | | 51 |
| TOTAL STRUCTURAL STEEL FOR 2 PIERS | | | | | 381 |

PAINT & STRUCTURAL STEEL NOTES
 PAINT PIER PILES, PLATES AND RINGS PER SPECS 445 & 51 AND SPECIAL PROVISIONS. PLATES & RINGS TO BE STRUCTURAL STEEL PER SPECS 350 & 350B. AREAS OF WELDING, PLATES AND RINGS BURNED DURING WELDING, SHALL BE CLEANED AND SPOT COATED WITH ZINC RICH PRIMER BEFORE FIELD PAINTING IS STARTED. FIELD PAINTING OF PILES, RINGS, & PLATES IS PERMITTED FOR ALL COATS.

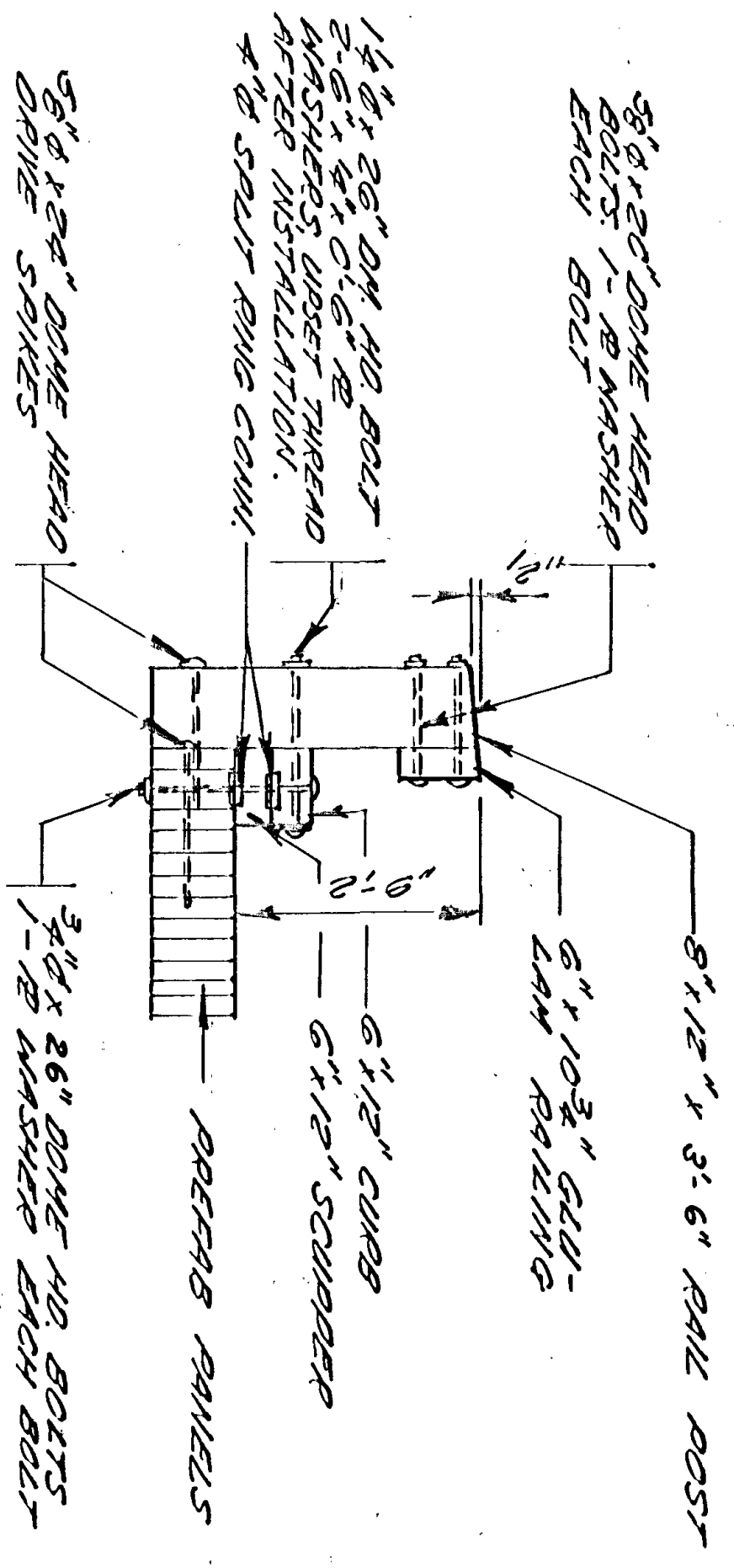


SECTION C-C

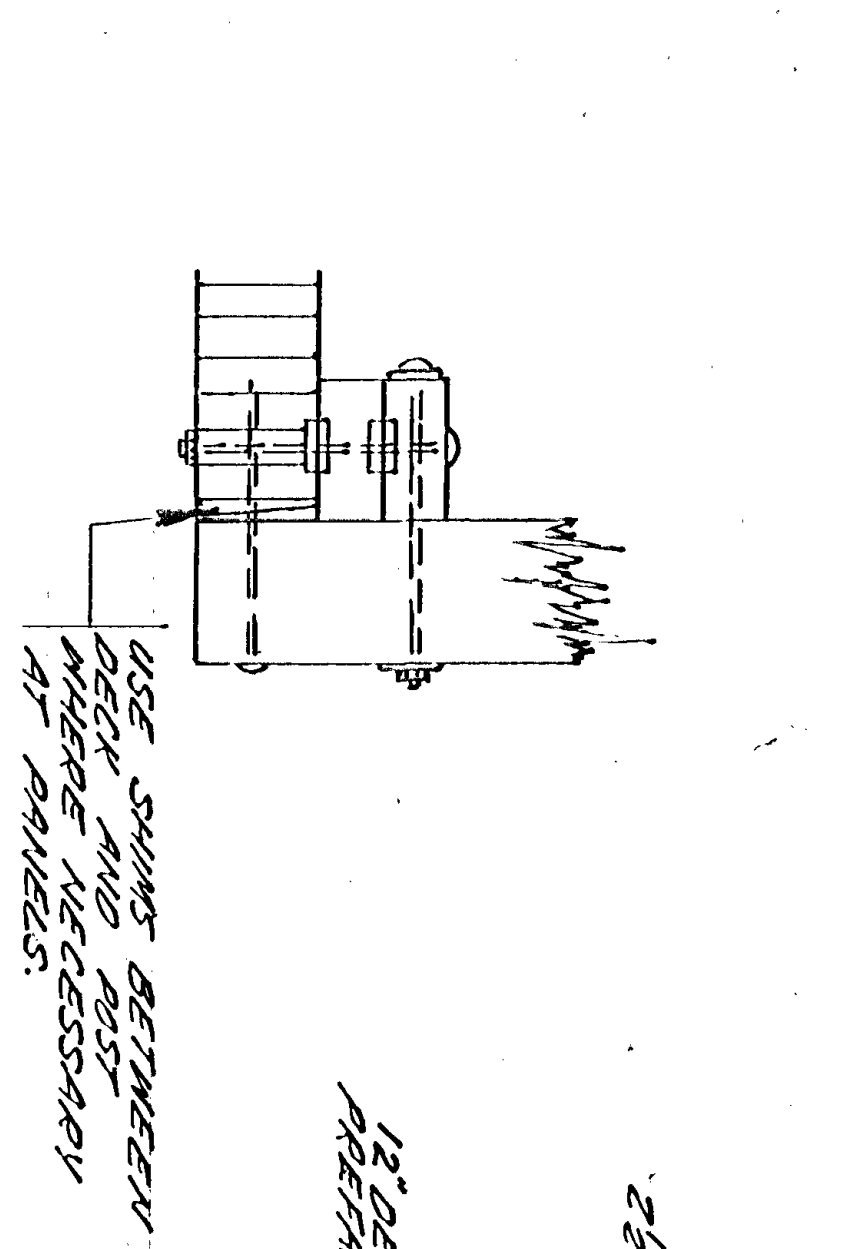


DETAIL B

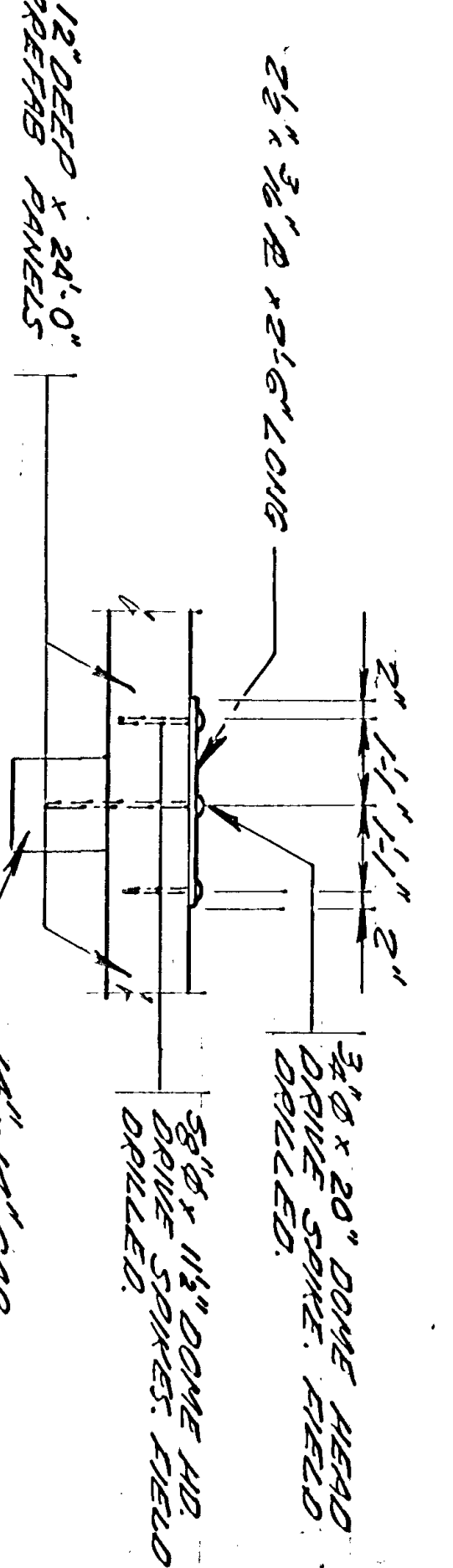
MINNESOTA DEPARTMENT OF TRANSPORTATION
 BRIDGE NO. 02534
 PIER DETAILS
 APP'D. 4.4.86
 S.P. 02-598-OJ
 SHEET 3 OF 9 SHEETS
 02534
 MAS
 RRT



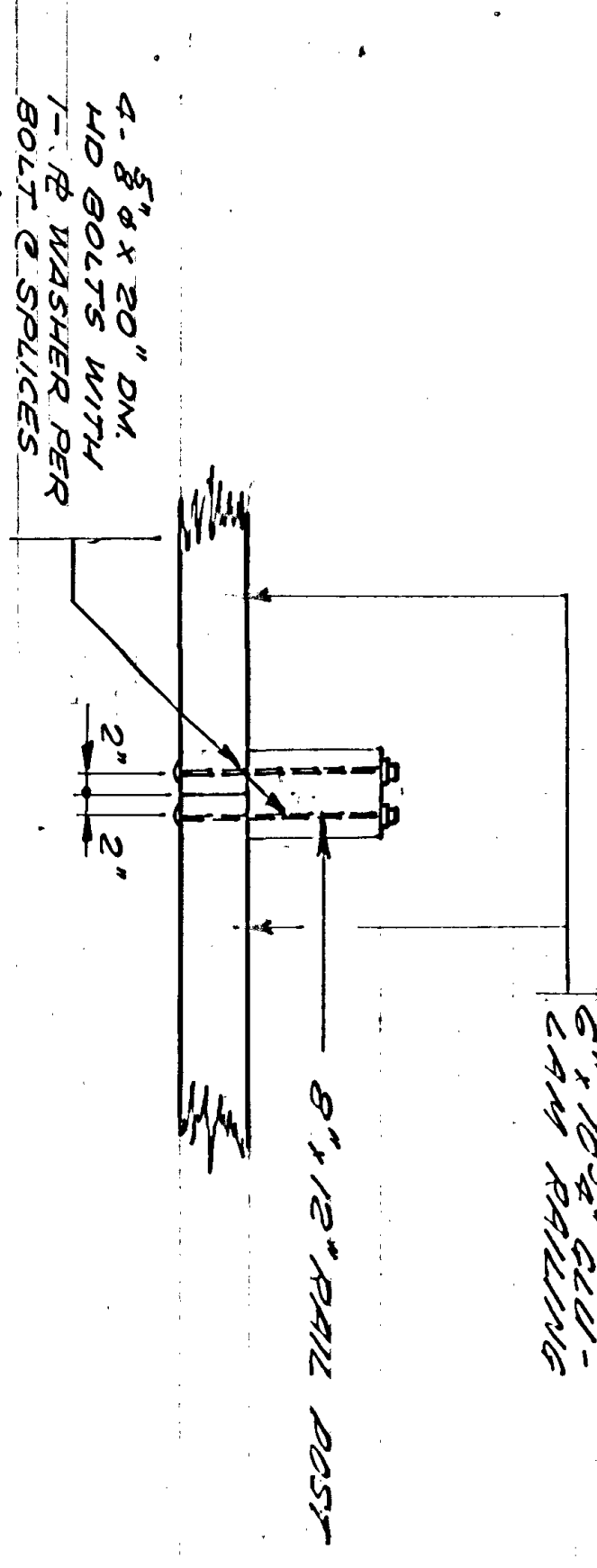
SECTION OF RAIL POST & CURB AT PANELS A24



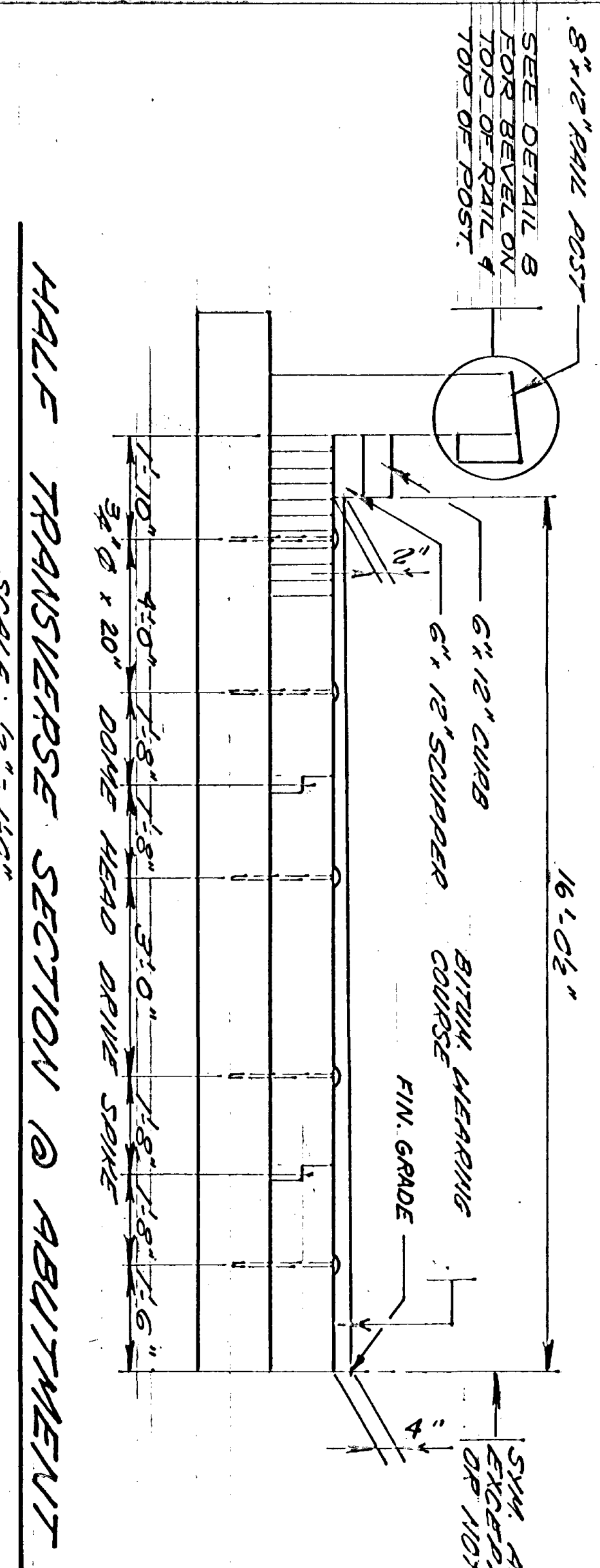
SECTION OF RAIL POST & CURB AT PANELS B24



DETAIL A



RAIL SPLICE DETAIL



HALF TRANSVERSE SECTION @ ABUTMENT

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

34'-0" ± OUT TO OUT OF PANELS

3 - PANELS TYPE "B24"

3/4" x 20" DOME HEAD DRIVE SPIKE

6" x 12" CURB

6" x 12" SCUPPER

BRUSH WEARING COURSE FIN. GRADE

1 1/2" x 26" DOME HEAD BOLT

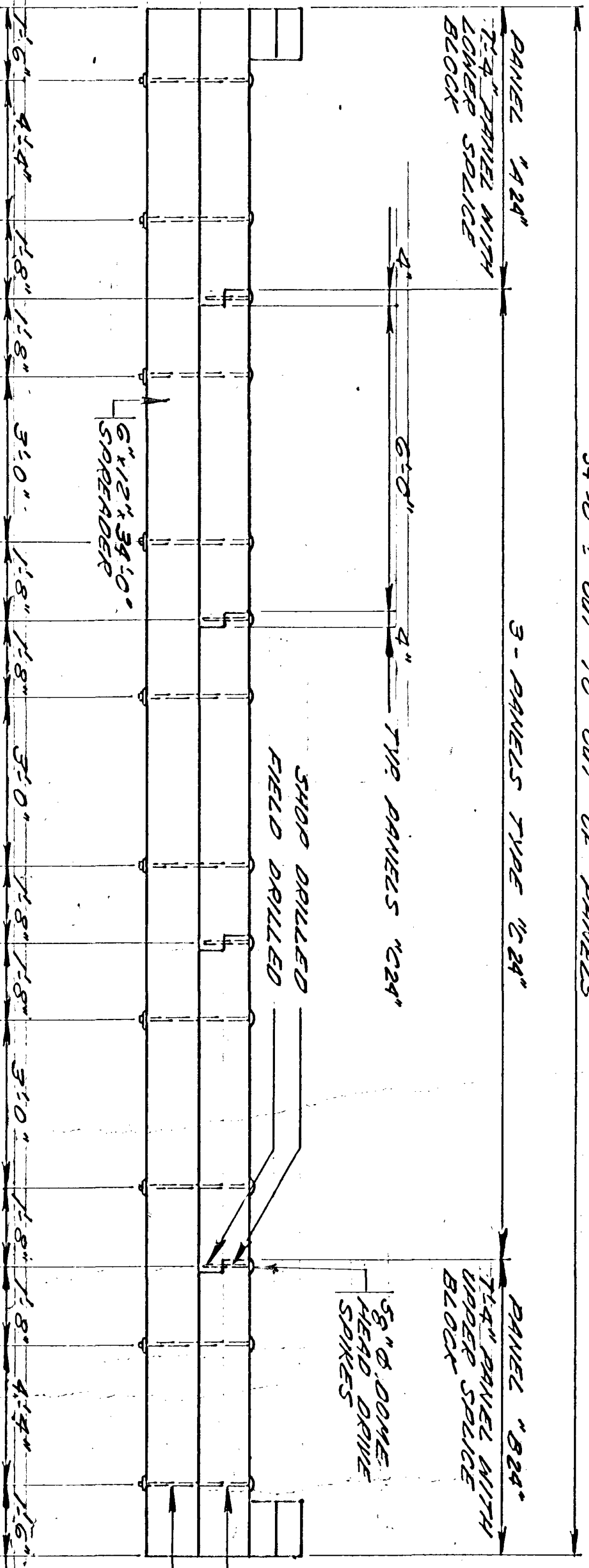
1" x 1/2" WASHER EACH BOLT

6" x 12" PANELS

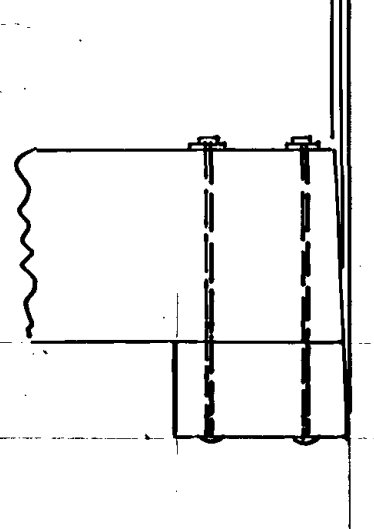
3/4" x 20" DOME HEAD DRIVE SPIKE

6" x 12" CURB

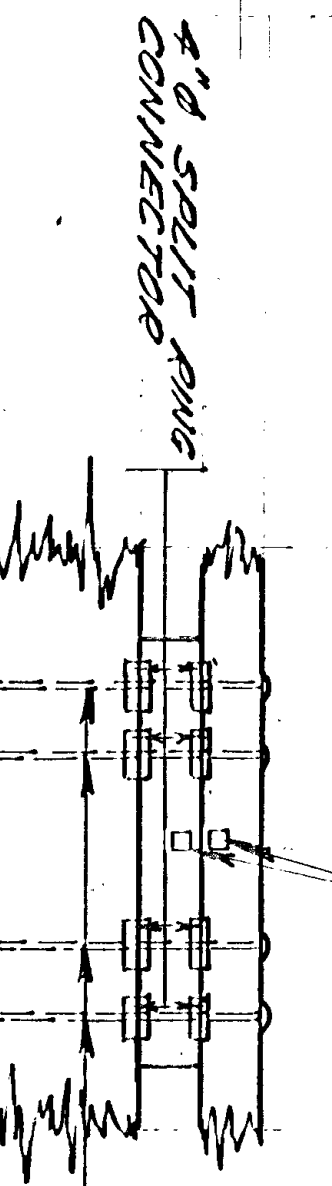
6" x 12" SCUPPER



SPREADER BEAM DETAIL



DETAIL B



CURB & SCUPPER ASSEMBLY DETAIL

EVERALTS ARE IN PLACE ON PANELS AT SPREADER BEAM LOCATION WHEN SHIPPED AND ARE USED FOR LIFTING PANELS ON BRIDGE. EVERALTS ARE TO BE REMOVED AND REPLACED WITH 3/4" x 20" DOME HEAD BOLTS & 1" x 1/2" WASHER PER BOLT TO FASTEN SPREADER BEAM. FIELD DRILLED.

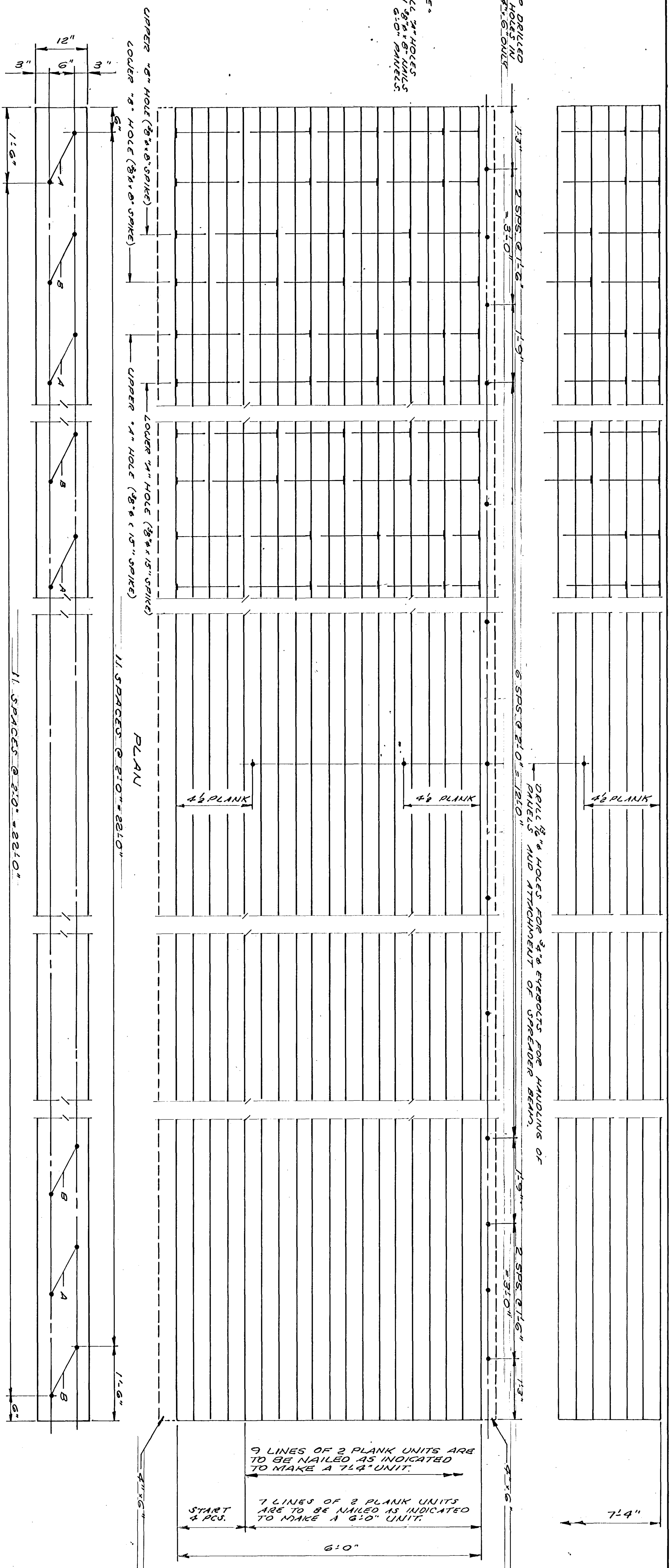
CURBS TO BE PLACED SO TAGS SHOW FROM SCUPPERS. TAGS ARE TO BE PLACED TAG NUMBERS.

SEE SPECIAL PROVISIONS

| QTY | NO. | ITEM | QTY |
|-----|-----|--|--------|
| 20 | 01 | 20 - GALV. 2 1/2" x 3/8" x 2 1/2" PER SPEC. 3306 | 200 |
| 80 | 02 | TOTAL STRUCTURAL STEEL (3306) | 80 LBS |
| 203 | 03 | TOTAL HARDWARE FOR SUPERSTRUCTURE | 203 |
| 168 | 04 | 4" x 3/4" SPLIT RING CONNECTOR | 168 |
| 46 | 05 | 3/4" x 20" DOME HEAD DRIVE SPIKE | 46 |
| 111 | 06 | 1 1/2" x 26" DOME HEAD BOLT | 111 |
| 111 | 07 | 1" x 1/2" WASHER PER BOLT | 111 |
| 36 | 08 | 3/4" x 20" DOME HEAD DRIVE SPIKE | 36 |
| 53 | 09 | 6" x 12" CURB | 53 |
| 206 | 10 | 6" x 12" SCUPPER | 206 |
| 36 | 11 | 6" x 12" PANEL | 36 |
| 111 | 12 | 6" x 12" PANEL | 111 |
| 206 | 13 | 6" x 12" PANEL | 206 |
| 36 | 14 | 6" x 12" PANEL | 36 |
| 111 | 15 | 6" x 12" PANEL | 111 |
| 206 | 16 | 6" x 12" PANEL | 206 |
| 36 | 17 | 6" x 12" PANEL | 36 |
| 111 | 18 | 6" x 12" PANEL | 111 |
| 206 | 19 | 6" x 12" PANEL | 206 |
| 36 | 20 | 6" x 12" PANEL | 36 |
| 111 | 21 | 6" x 12" PANEL | 111 |
| 206 | 22 | 6" x 12" PANEL | 206 |
| 36 | 23 | 6" x 12" PANEL | 36 |
| 111 | 24 | 6" x 12" PANEL | 111 |
| 206 | 25 | 6" x 12" PANEL | 206 |
| 36 | 26 | 6" x 12" PANEL | 36 |
| 111 | 27 | 6" x 12" PANEL | 111 |
| 206 | 28 | 6" x 12" PANEL | 206 |
| 36 | 29 | 6" x 12" PANEL | 36 |
| 111 | 30 | 6" x 12" PANEL | 111 |
| 206 | 31 | 6" x 12" PANEL | 206 |
| 36 | 32 | 6" x 12" PANEL | 36 |
| 111 | 33 | 6" x 12" PANEL | 111 |
| 206 | 34 | 6" x 12" PANEL | 206 |
| 36 | 35 | 6" x 12" PANEL | 36 |
| 111 | 36 | 6" x 12" PANEL | 111 |
| 206 | 37 | 6" x 12" PANEL | 206 |
| 36 | 38 | 6" x 12" PANEL | 36 |
| 111 | 39 | 6" x 12" PANEL | 111 |
| 206 | 40 | 6" x 12" PANEL | 206 |
| 36 | 41 | 6" x 12" PANEL | 36 |
| 111 | 42 | 6" x 12" PANEL | 111 |
| 206 | 43 | 6" x 12" PANEL | 206 |
| 36 | 44 | 6" x 12" PANEL | 36 |
| 111 | 45 | 6" x 12" PANEL | 111 |
| 206 | 46 | 6" x 12" PANEL | 206 |
| 36 | 47 | 6" x 12" PANEL | 36 |
| 111 | 48 | 6" x 12" PANEL | 111 |
| 206 | 49 | 6" x 12" PANEL | 206 |
| 36 | 50 | 6" x 12" PANEL | 36 |
| 111 | 51 | 6" x 12" PANEL | 111 |
| 206 | 52 | 6" x 12" PANEL | 206 |
| 36 | 53 | 6" x 12" PANEL | 36 |
| 111 | 54 | 6" x 12" PANEL | 111 |
| 206 | 55 | 6" x 12" PANEL | 206 |
| 36 | 56 | 6" x 12" PANEL | 36 |
| 111 | 57 | 6" x 12" PANEL | 111 |
| 206 | 58 | 6" x 12" PANEL | 206 |
| 36 | 59 | 6" x 12" PANEL | 36 |
| 111 | 60 | 6" x 12" PANEL | 111 |
| 206 | 61 | 6" x 12" PANEL | 206 |
| 36 | 62 | 6" x 12" PANEL | 36 |
| 111 | 63 | 6" x 12" PANEL | 111 |
| 206 | 64 | 6" x 12" PANEL | 206 |
| 36 | 65 | 6" x 12" PANEL | 36 |
| 111 | 66 | 6" x 12" PANEL | 111 |
| 206 | 67 | 6" x 12" PANEL | 206 |
| 36 | 68 | 6" x 12" PANEL | 36 |
| 111 | 69 | 6" x 12" PANEL | 111 |
| 206 | 70 | 6" x 12" PANEL | 206 |
| 36 | 71 | 6" x 12" PANEL | 36 |
| 111 | 72 | 6" x 12" PANEL | 111 |
| 206 | 73 | 6" x 12" PANEL | 206 |
| 36 | 74 | 6" x 12" PANEL | 36 |
| 111 | 75 | 6" x 12" PANEL | 111 |
| 206 | 76 | 6" x 12" PANEL | 206 |
| 36 | 77 | 6" x 12" PANEL | 36 |
| 111 | 78 | 6" x 12" PANEL | 111 |
| 206 | 79 | 6" x 12" PANEL | 206 |
| 36 | 80 | 6" x 12" PANEL | 36 |
| 111 | 81 | 6" x 12" PANEL | 111 |
| 206 | 82 | 6" x 12" PANEL | 206 |
| 36 | 83 | 6" x 12" PANEL | 36 |
| 111 | 84 | 6" x 12" PANEL | 111 |
| 206 | 85 | 6" x 12" PANEL | 206 |
| 36 | 86 | 6" x 12" PANEL | 36 |
| 111 | 87 | 6" x 12" PANEL | 111 |
| 206 | 88 | 6" x 12" PANEL | 206 |
| 36 | 89 | 6" x 12" PANEL | 36 |
| 111 | 90 | 6" x 12" PANEL | 111 |
| 206 | 91 | 6" x 12" PANEL | 206 |
| 36 | 92 | 6" x 12" PANEL | 36 |
| 111 | 93 | 6" x 12" PANEL | 111 |
| 206 | 94 | 6" x 12" PANEL | 206 |
| 36 | 95 | 6" x 12" PANEL | 36 |
| 111 | 96 | 6" x 12" PANEL | 111 |
| 206 | 97 | 6" x 12" PANEL | 206 |
| 36 | 98 | 6" x 12" PANEL | 36 |
| 111 | 99 | 6" x 12" PANEL | 111 |
| 206 | 100 | 6" x 12" PANEL | 206 |
| 36 | 101 | 6" x 12" PANEL | 36 |
| 111 | 102 | 6" x 12" PANEL | 111 |
| 206 | 103 | 6" x 12" PANEL | 206 |
| 36 | 104 | 6" x 12" PANEL | 36 |
| 111 | 105 | 6" x 12" PANEL | 111 |
| 206 | 106 | 6" x 12" PANEL | 206 |
| 36 | 107 | 6" x 12" PANEL | 36 |
| 111 | 108 | 6" x 12" PANEL | 111 |
| 206 | 109 | 6" x 12" PANEL | 206 |
| 36 | 110 | 6" x 12" PANEL | 36 |
| 111 | 111 | 6" x 12" PANEL | 111 |
| 206 | 112 | 6" x 12" PANEL | 206 |
| 36 | 113 | 6" x 12" PANEL | 36 |
| 111 | 114 | 6" x 12" PANEL | 111 |
| 206 | 115 | 6" x 12" PANEL | 206 |
| 36 | 116 | 6" x 12" PANEL | 36 |
| 111 | 117 | 6" x 12" PANEL | 111 |
| 206 | 118 | 6" x 12" PANEL | 206 |
| 36 | 119 | 6" x 12" PANEL | 36 |
| 111 | 120 | 6" x 12" PANEL | 111 |
| 206 | 121 | 6" x 12" PANEL | 206 |
| 36 | 122 | 6" x 12" PANEL | 36 |
| 111 | 123 | 6" x 12" PANEL | 111 |
| 206 | 124 | 6" x 12" PANEL | 206 |
| 36 | 125 | 6" x 12" PANEL | 36 |
| 111 | 126 | 6" x 12" PANEL | 111 |
| 206 | 127 | 6" x 12" PANEL | 206 |
| 36 | 128 | 6" x 12" PANEL | 36 |
| 111 | 129 | 6" x 12" PANEL | 111 |
| 206 | 130 | 6" x 12" PANEL | 206 |
| 36 | 131 | 6" x 12" PANEL | 36 |
| 111 | 132 | 6" x 12" PANEL | 111 |
| 206 | 133 | 6" x 12" PANEL | 206 |
| 36 | 134 | 6" x 12" PANEL | 36 |
| 111 | 135 | 6" x 12" PANEL | 111 |
| 206 | 136 | 6" x 12" PANEL | 206 |
| 36 | 137 | 6" x 12" PANEL | 36 |
| 111 | 138 | 6" x 12" PANEL | 111 |
| 206 | 139 | 6" x 12" PANEL | 206 |
| 36 | 140 | 6" x 12" PANEL | 36 |
| 111 | 141 | 6" x 12" PANEL | 111 |
| 206 | 142 | 6" x 12" PANEL | 206 |
| 36 | 143 | 6" x 12" PANEL | 36 |
| 111 | 144 | 6" x 12" PANEL | 111 |
| 206 | 145 | 6" x 12" PANEL | 206 |
| 36 | 146 | 6" x 12" PANEL | 36 |
| 111 | 147 | 6" x 12" PANEL | 111 |
| 206 | 148 | 6" x 12" PANEL | 206 |
| 36 | 149 | 6" x 12" PANEL | 36 |
| 111 | 150 | 6" x 12" PANEL | 111 |
| 206 | 151 | 6" x 12" PANEL | 206 |
| 36 | 152 | 6" x 12" PANEL | 36 |
| 111 | 153 | 6" x 12" PANEL | 111 |
| 206 | 154 | 6" x 12" PANEL | 206 |
| 36 | 155 | 6" x 12" PANEL | 36 |
| 111 | 156 | 6" x 12" PANEL | 111 |
| 206 | 157 | 6" x 12" PANEL | 206 |
| 36 | 158 | 6" x 12" PANEL | 36 |
| 111 | 159 | 6" x 12" PANEL | 111 |
| 206 | 160 | 6" x 12" PANEL | 206 |
| 36 | 161 | 6" x 12" PANEL | 36 |
| 111 | 162 | 6" x 12" PANEL | 111 |
| 206 | 163 | 6" x 12" PANEL | 206 |
| 36 | 164 | 6" x 12" PANEL | 36 |
| 111 | 165 | 6" x 12" PANEL | 111 |
| 206 | 166 | 6" x 12" PANEL | 206 |
| 36 | 167 | 6" x 12" PANEL | 36 |
| 111 | 168 | 6" x 12" PANEL | 111 |
| 206 | 169 | 6" x 12" PANEL | 206 |
| 36 | 170 | 6" x 12" PANEL | 36 |
| 111 | 171 | 6" x 12" PANEL | 111 |
| 206 | 172 | 6" x 12" PANEL | 206 |
| 36 | 173 | 6" x 12" PANEL | 36 |
| 111 | 174 | 6" x 12" PANEL | 111 |
| 206 | 175 | 6" x 12" PANEL | 206 |
| 36 | 176 | 6" x 12" PANEL | 36 |
| 111 | 177 | 6" x 12" PANEL | 111 |
| 206 | 178 | 6" x 12" PANEL | 206 |
| 36 | 179 | 6" x 12" PANEL | 36 |
| 111 | 180 | 6" x 12" PANEL | 111 |
| 206 | 181 | 6" x 12" PANEL | 206 |
| 36 | 182 | 6" x 12" PANEL | 36 |
| 111 | 183 | 6" x 12" PANEL | 111 |
| 206 | 184 | 6" x 12" PANEL | 206 |
| 36 | 185 | 6" x 12" PANEL | 36 |
| 111 | 186 | 6" x 12" PANEL | 111 |
| 206 | 187 | 6" x 12" PANEL | 206 |
| 36 | 188 | 6" x 12" PANEL | 36 |
| 111 | 189 | 6" x 12" PANEL | 111 |
| 206 | 190 | 6" x 12" PANEL | 206 |
| 36 | 191 | 6" x 12" PANEL | 36 |
| 111 | 192 | 6" x 12" PANEL | 111 |
| 206 | 193 | 6" x 12" PANEL | 206 |
| 36 | 194 | 6" x 12" PANEL | 36 |
| 111 | 195 | 6" x 12" PANEL | 111 |
| 206 | 196 | 6" x 12" PANEL | 206 |
| 36 | 197 | 6" x 12" PANEL | 36 |
| 111 | 198 | 6" x 12" PANEL | 111 |
| 206 | 199 | 6" x 12" PANEL | 206 |
| 36 | 200 | 6" x 12" PANEL | 36 |
| 111 | 201 | 6" x 12" PANEL | 111 |
| 206 | 202 | 6" x 12" PANEL | 206 |
| 36 | 203 | 6" x 12" PANEL | 36 |
| 111 | 204 | 6" x 12" PANEL | 111 |
| 206 | 205 | 6" x 12" PANEL | 206 |
| 36 | 206 | 6" x 12" PANEL | 36 |
| 111 | 207 | 6" x 12" PANEL | 111 |
| 206 | 208 | 6" x 12" PANEL | 206 |
| 36 | 209 | 6" x 12" PANEL | 36 |
| 111 | 210 | 6" x 12" PANEL | 111 |
| 206 | 211 | 6" x 12" PANEL | 206 |
| 36 | 212 | 6" x 12" PANEL | 36 |
| 111 | 213 | 6" x 12" PANEL | 111 |
| 206 | | | |

SHOP DRILLED
8" HOLES IN
TOP 1/2" OF ONLY

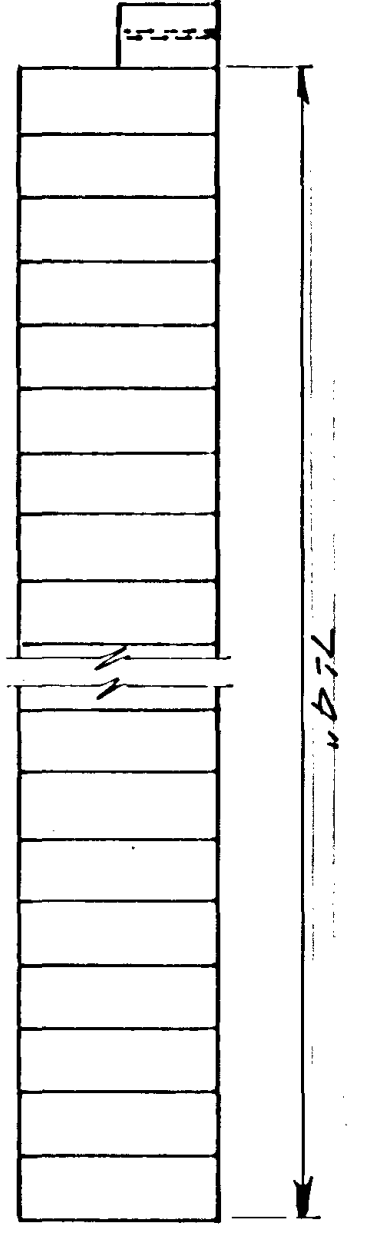
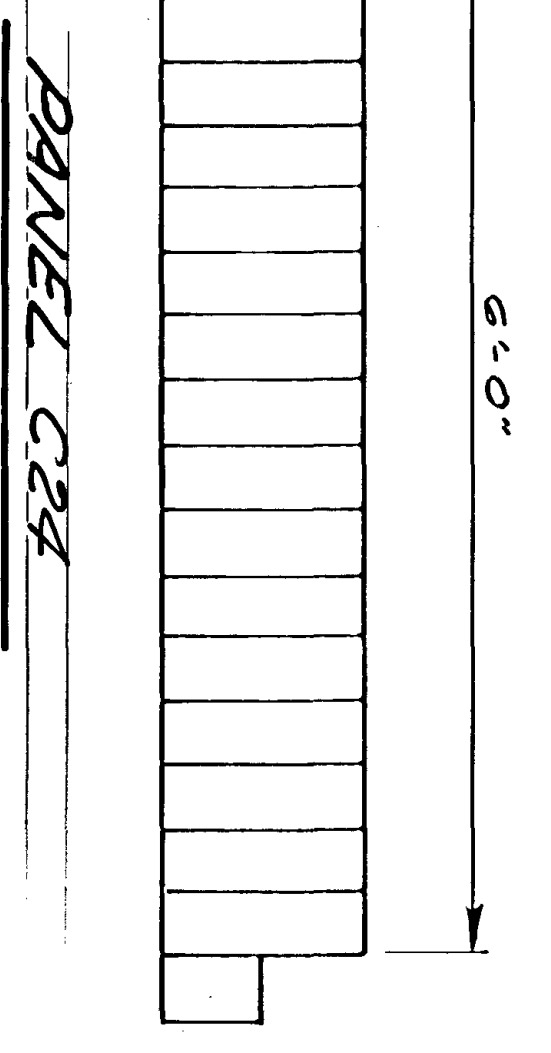
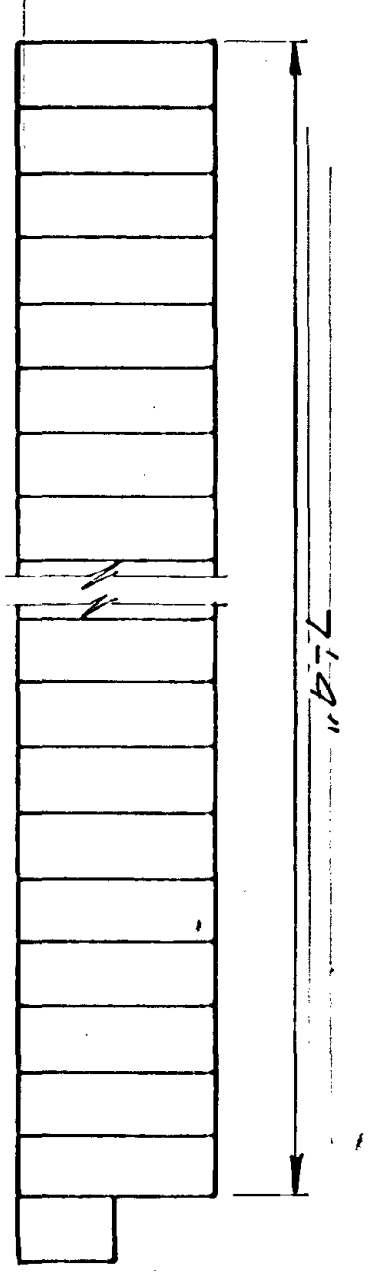
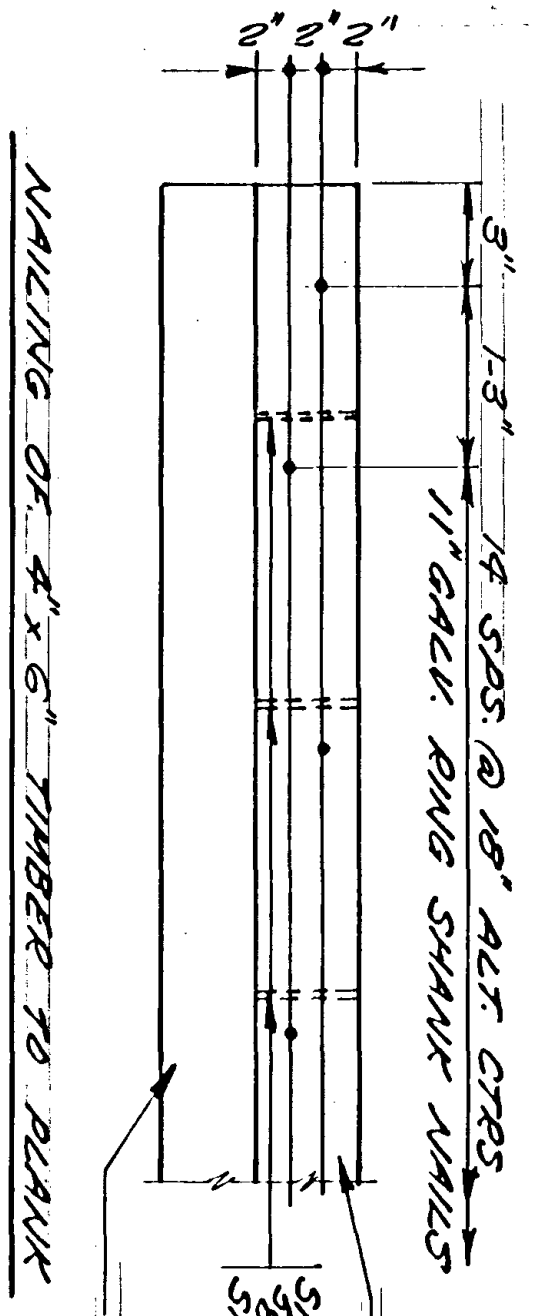
NOTE:
FILE 2" HOLES
WITH 3/8" x 8" NAILS
FOR 6"0" PANELS.



FABRICATION NOTES

LAMINATE 4" x 6" PLANKS USING 3/8" x 8" GALV RING SHANK NAILS. FABRICATE 4 PLANKS FIRST AS SHOWN AND THEN ADD 2 PLANK SECTIONS TO MAKE A 6"0" WIDE OR 7"4" WIDE PANEL. THEN ADD THE 4" x 6" PLANK AS SHOWN, DEPENDING ON THE PANEL TYPE. NAIL 1" GALV RING SHANK NAILS DRILL 3/8" HOLES IN THE UPPER 1/2" OF PLANK AS DETAILED. DRILL 3/8" HOLES FOR PLACING 3/8" EYEBOLTS FOR HANDLING AND WHEN REMOVED FOR FASTENING SPREADER BEAMS. PLANK TO BE PREPARED AS PER DETAIL BEFORE BEING TREATED. SET RING SHANK NAILS IN POSITION IN PREBORED HOLES OF 2 PLANK UNITS. AIR HAMMER TO BE USED TO DRIVE THE NAILS SO PLANKS ARE DRIVEN TIGHT TOGETHER TO MAKE DIMENSIONS OF 6"0" AND 7"4" WIDE UNITS.

ALL PLANK ARE SURFAGED ONE SIDE SO THAT THE UNITS WILL BE 6"0" OR 7"4" WIDE AFTER FABRICATING THE PANELS.
PLANKS TO BE CREOSOTE PRESURE TREATED AS PER SPEC. 3491.



TREATED TIMBER FOR PANELS

| NUMBER REQ'D | ITEM | M.B.M. |
|--------------|-----------------------|-------------|
| 224 | 4" x 6" x 24'0" | 2,112 1,728 |
| 22 | 1/8" 4" x 12" x 24'0" | .048 .048 |
| 1 | 4" x 6" x 24'0" | 2,160 1,824 |
| TOTAL M.B.M. | | 2,160 1,824 |

CALCULATED HARDWARE FOR PANELS

| NUMBER REQ'D | ITEM | WEIGHT |
|--------------|------------------------|--------|
| 224 | 3/8" x 8" R.S. SPIKES | 60 48 |
| 120 | 3/8" x 15" R.S. SPIKES | 7 7 |
| 17 | 3/8" x 11" R.S. SPIKES | 4 4 |
| 12 | 3/8" x 8" R.S. SPIKES | 4 7 |
| TOTAL | | 71 71 |

9 LINES OF 2 PLANK UNITS ARE TO BE NAILED AS INDICATED TO MAKE A 7'4" UNIT.

7 LINES OF 2 PLANK UNITS ARE TO BE NAILED AS INDICATED TO MAKE A 6'0" UNIT.

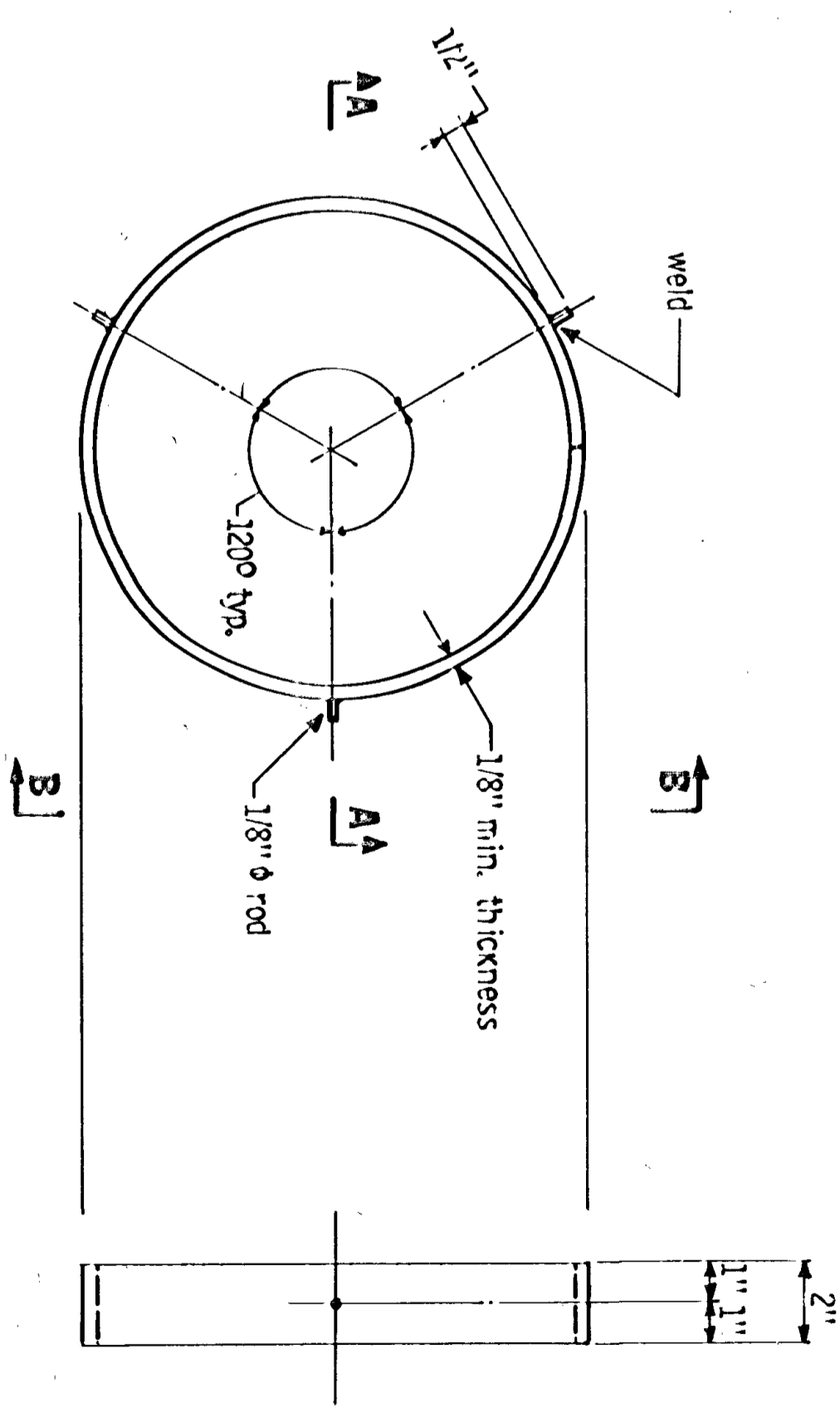
PANEL A224

PANEL B224

S.P. 02-598-01

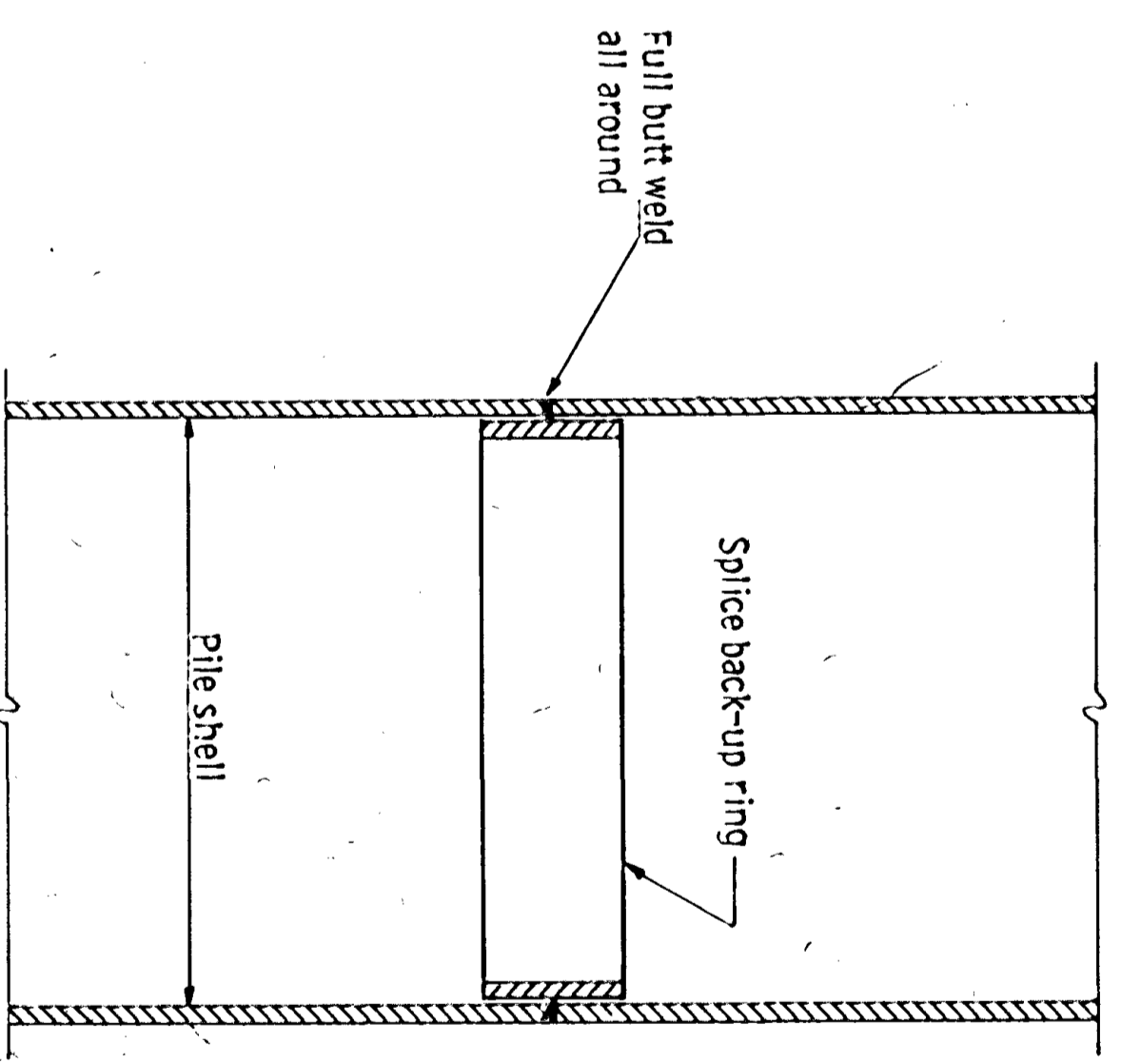
24 FT. PREFAB TIMBER
PANEL DETAILS

BRIDGE
NO. 02534



PLAN VIEW
(pile not shown)

SECTION B - B
(pile not shown)



SECTION A - A

NOTES:
 Approved commercial pile splice back-up ring may be used in lieu of the type detailed. Back-up ring shall have a tight fit.
 Welding electrodes shall be A. W. S. Type E7016 or E7018 (low-hydrogen).
 Low-hydrogen electrodes shall be supplied in hermetically (air-tight) sealed containers.
 Low-hydrogen electrodes shall be stored in holding ovens at a temperature of not less than 250° F.
 Low-hydrogen electrodes shall be placed in a holding oven for at least 8 hours, after having been exposed to the atmosphere for more than 2 hours.
 Electrodes which have become wet, soiled or damaged shall not be used.
 Welding shall not be done when the ambient temperature is lower than 0° F. or when the pile is wet or exposed to falling rain or snow. When the pile metal temperature is below 32° F., the pile metal in the area of the weld shall be heated to a minimum temperature of 70° F. and maintained at this temperature during welding.

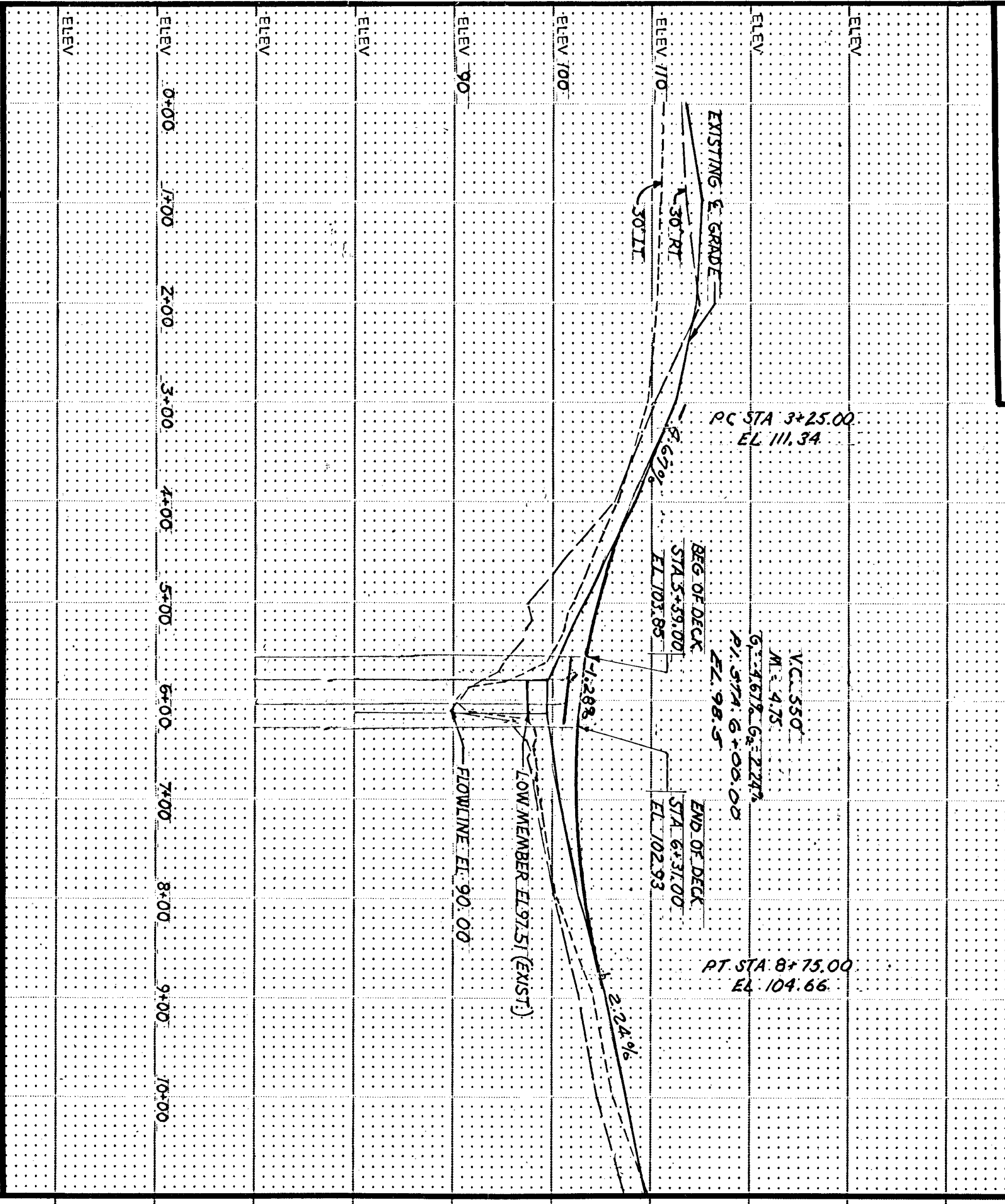
APPROVED July 21, 1972
Charles E. Sillit
 Engineering Standards Engineer
 RESEARCH AND STANDARDS
 DIVISION

MINNESOTA
 DEPARTMENT OF TRANSPORTATION
PILE SPlice
 CAST-IN-PLACE CONCRETE PILES

DETAIL NO.
B201

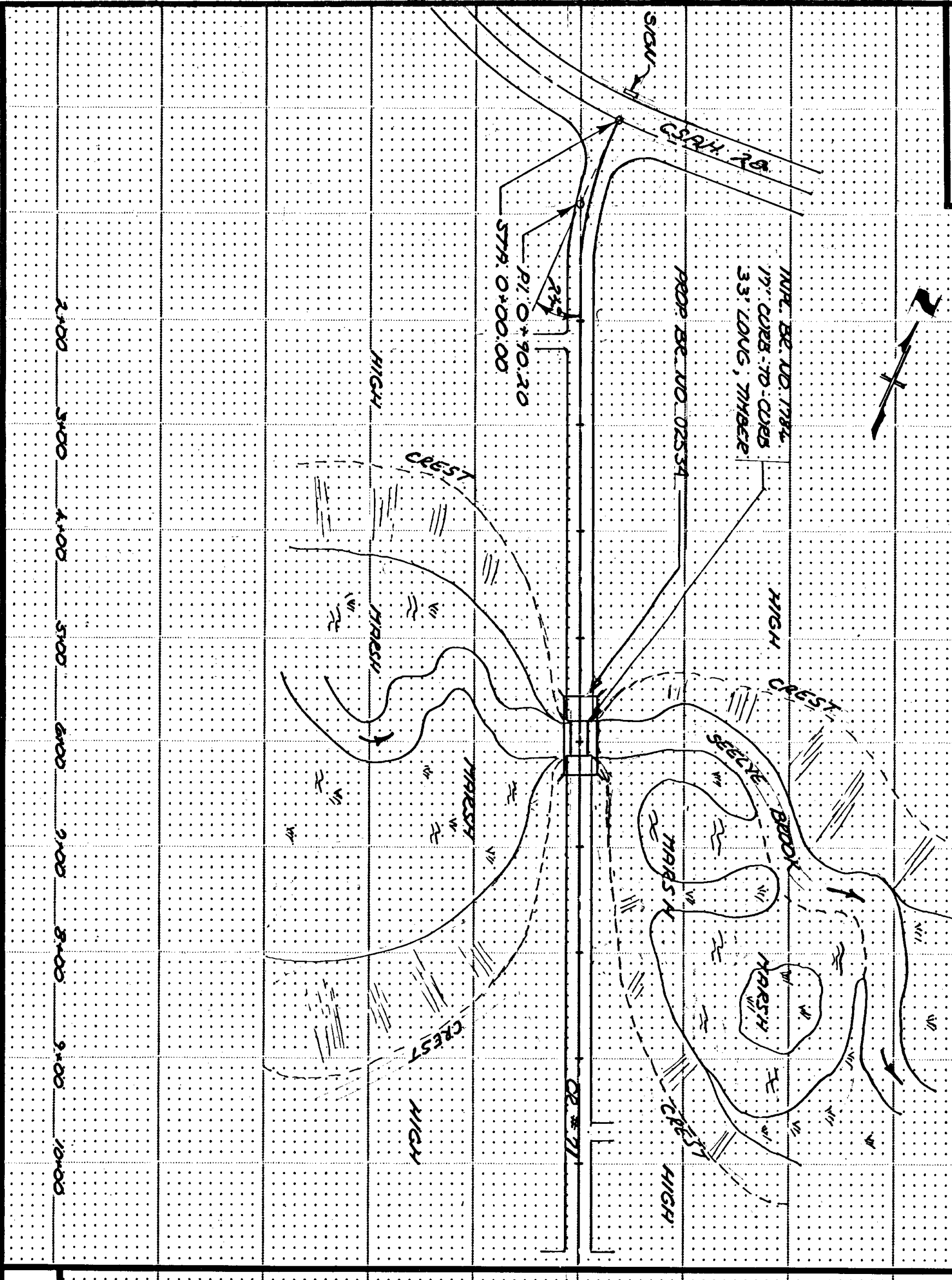
CONTRACTED PROFILE

SCALE: HOR. 1" = 100' VERT. 1" = 5'



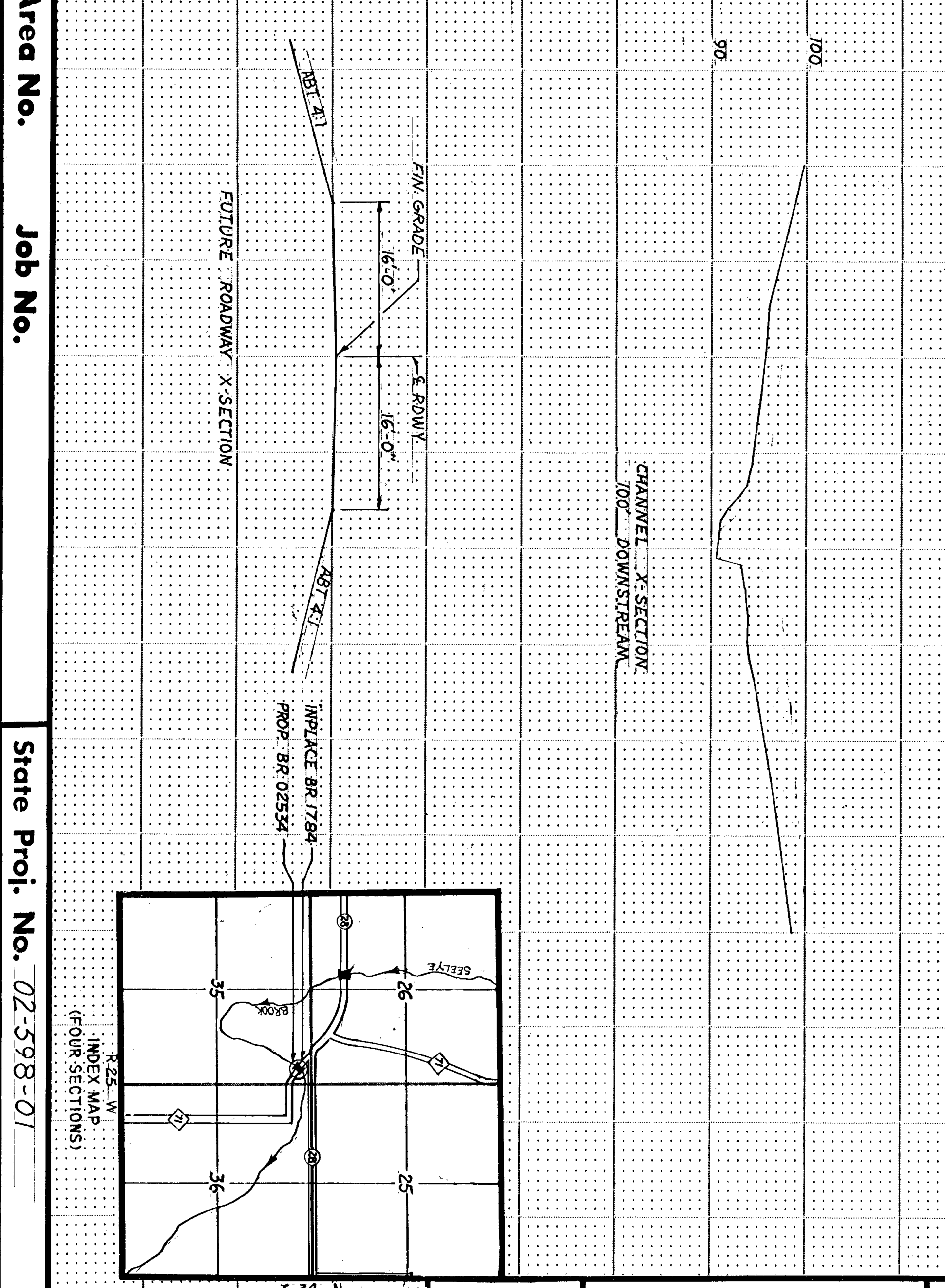
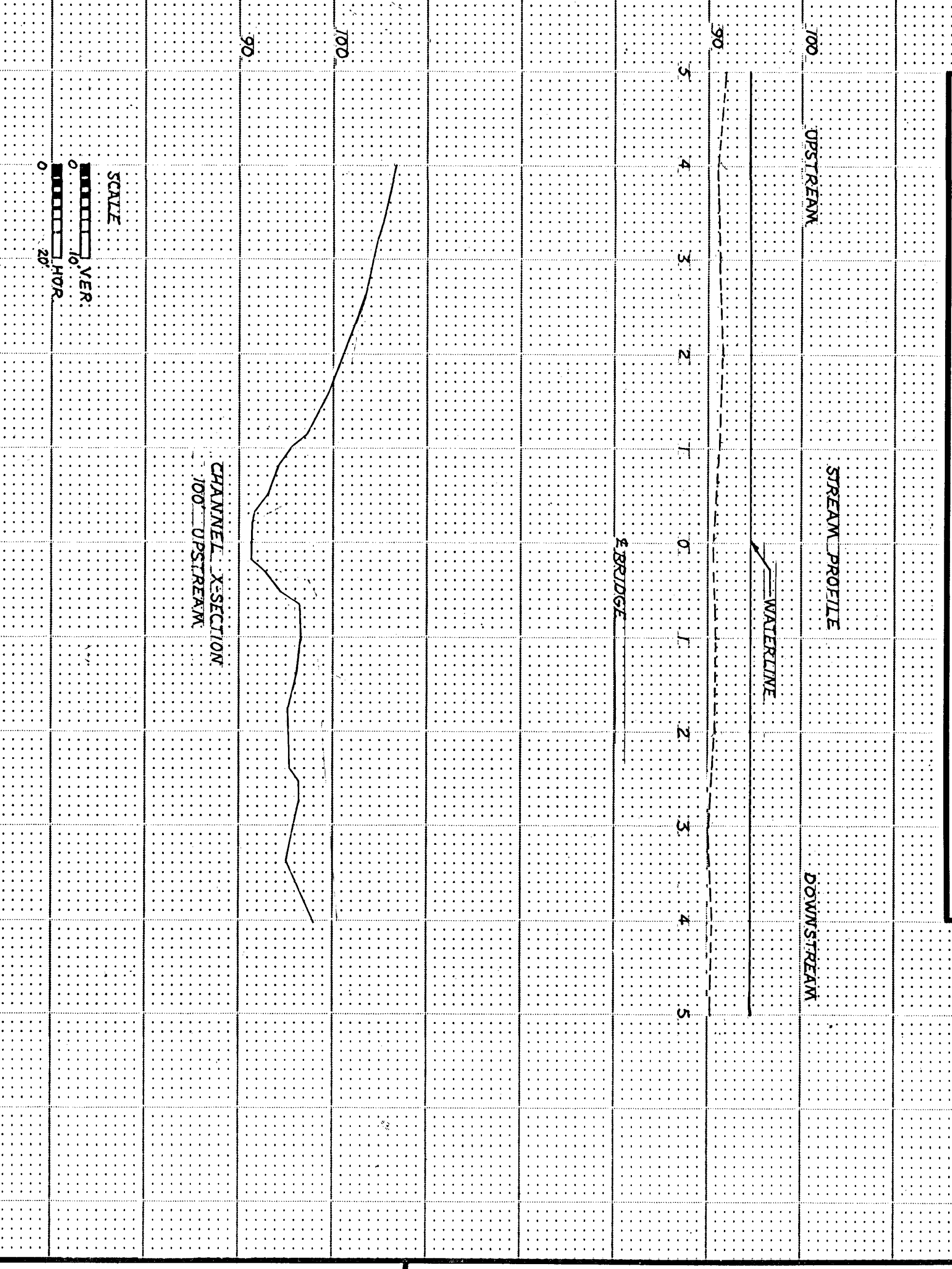
PLAT

SCALE: 1" = 100'



TYPICAL SECTIONS & PERTINENT DATA

SCALES AS SHOWN



Fed. Proj. No.

LOCATION ENGINEER'S OBSERVATIONS AT BRIDGE SITE

- Special Features: Waterfalls, dams, floods, ice, debris, sliding banks, recreational boating.
- Other bridges or culverts over the same stream [particularly structures which carry high water without overflow of roadway]: (Given location, type, length, height above high water, cross-sectional area etc.)
- Apparent highwater elevation: _____ Obtained from: _____
- Other data: Approx. velocity of water at time of survey: _____

HYDRAULIC ENGINEERS RECOMMENDATION

DATE MAY 7, 1979

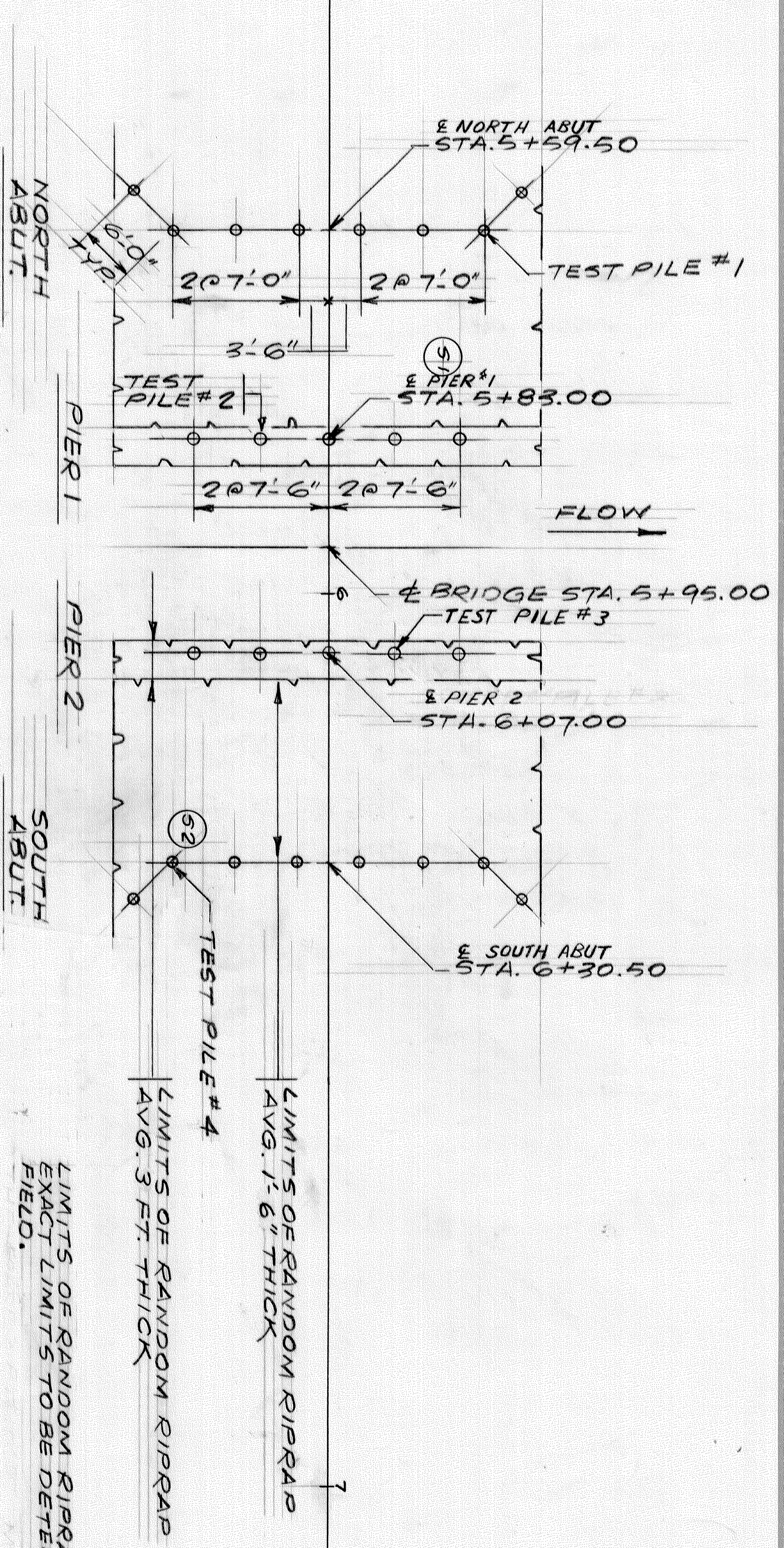
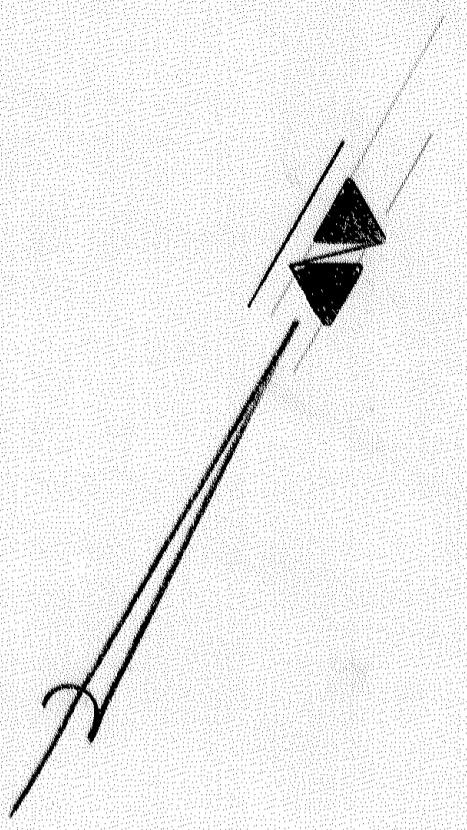
Stream or ditch designation: SELVIE BROOK
 Drainage area: 40.0 Sq. miles
 Max. flood on record: LNK. Design flood (1.50 yr. freq.): 1000 C.F.S.
 Max. observed highwater elevation: LNK. Design highwater elevation: 99.0
 Design mean velocity through structure: 3.2 F.P.S.
 Low superstructure at or above elevation: 101.0
 Flowline elevation: 90.0. Skew angle: 100.0
 Waterway area req'd. below elevation: 99.0 Sq. Ft. at Pt. angles to channel:
 In the interest of flood plain zoning the regional flood (100 yr. freq.) is: 1200 C.F.S. at stage: 100 and mean velocity of: 3.5 F.P.S. with: 0.4 Ft. swifthead.
 The above recommendation will provide a structure of adequate waterway to pass the regional flood within criteria established by the Dept. of Natural Resources.

**324 FT. TRAGEDO TIMBER SPANS
32 FT. ROADWAY**

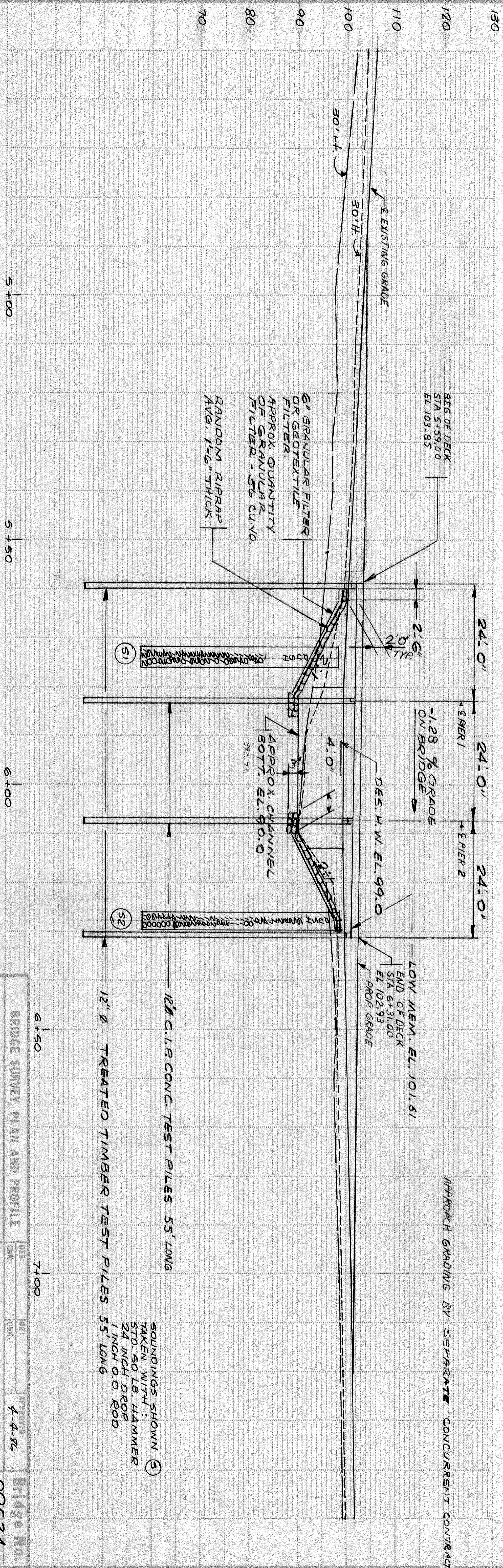
Bridge survey sheets made from: ERICKSON ENGINEERING SURVEY NOTES
 Bench mark elevation: 100.00 (MS&P-1929 PROJ) ASSUMED
 Location: K.W. CORNER OF BRIDGE ON TOP OF CURB.

BRIDGE SURVEY

MINNESOTA
 DEPARTMENT OF TRANSPORTATION
 AT MILE POINT: ON CR 71
 (T.H. CSAH, CR. etc.)
 PROPOSED BRIDGE LOCATED 0.1 MILES SOUTH OF
 JCT. C.S.A.H. 28 ON SELVIE BRK.
 SEC. 35 TWP. 34 N. R. 25 W.
 TOWNSHIP ST. FRANCIS COUNTY ANOKA
 BRIDGE NO. 02534
 APP'D D. G. B.
 SHEET NO. 8 OF 9 SHEETS



LIMITS OF RANDOM RIPRAP SHOWN ARE APPROX. ONLY. EXACT LIMITS TO BE DETERMINED BY THE ENGINEER IN FIELD.



APPROACH GRADING BY SEPARATE CONCURRENT CONTRACT

12" C.I.P. CONC. TEST PILES 55' LONG
 12" Ø TREATED TIMBER TEST PILES 55' LONG
 SOUNDINGS SHOWN (S)
 TAKEN WITH:
 50 LB. HAMMER
 24 INCH DROP
 1 INCH Ø Ø ROD

| | | | | | | | |
|--------------------------------|--|------|--|------|--|------------------|--|
| BRIDGE SURVEY PLAN AND PROFILE | | DES: | | DR: | | APPROVED: | |
| State Proj. No. 02-598-01 | | CHR: | | CHR: | | 4-4-82 | |
| Sheet No. 9 of 9 Sheets | | | | | | Bridge No. 02534 | |