

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

CONSTRUCTION PLAN FOR MEDIAN RECONSTRUCTION

County State Aid Highway No. 3

Between CSAH I - E. RIVER ROAD And CSAH II - FOLEY BLVD

From STATION 252+33 To STATION 291+43

Give proper reference to Sections, Township and Range

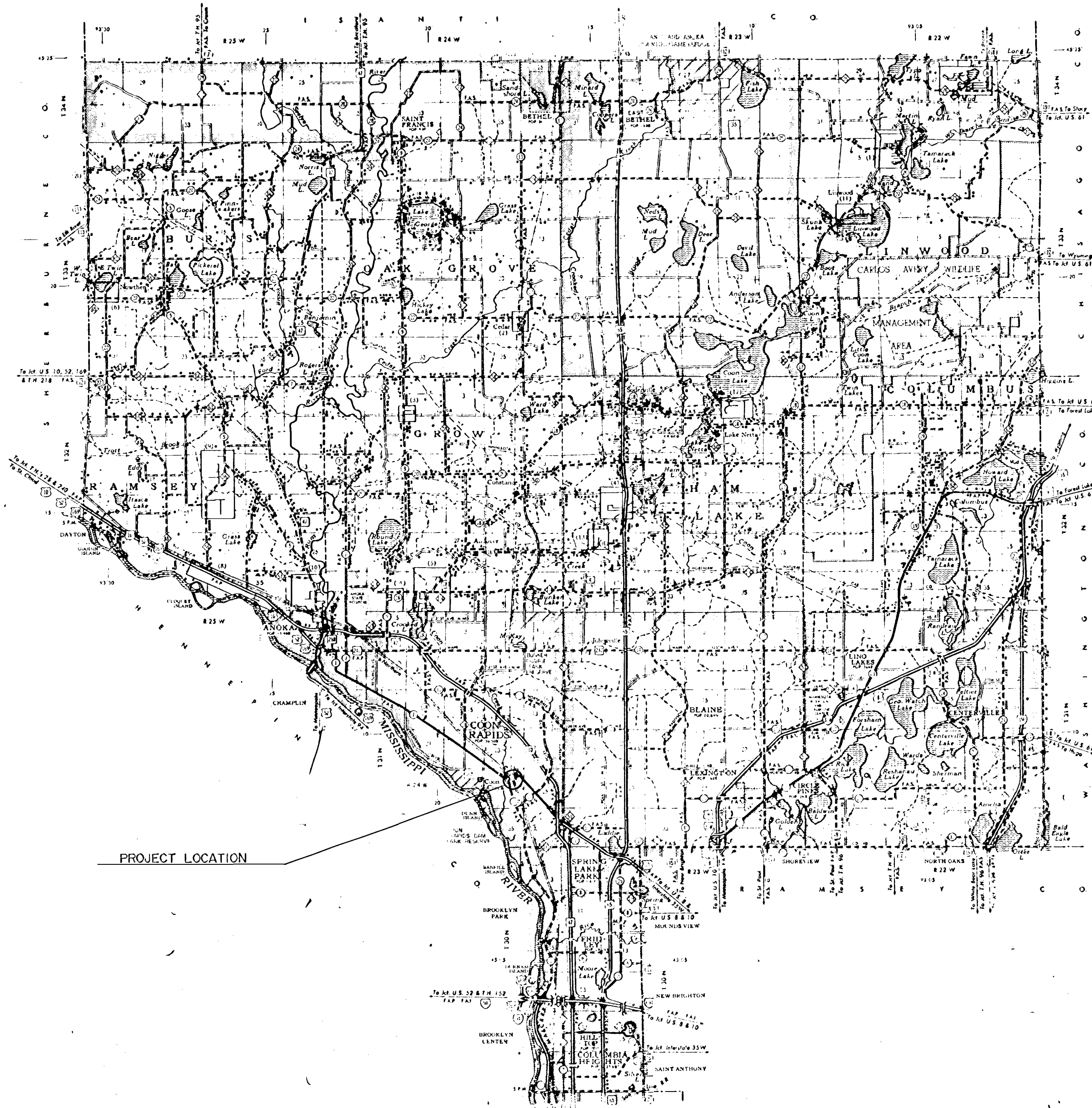
GROSS LENGTH 3910 FEET 0.74 MILES
BRIDGES-LENGTH 451.76 FEET 0.09 MILES
EXCEPTIONS-LENGTH -0- FEET 0- MILES
NET LENGTH 3910 FEET 0.74 MILES

INDEX OF SHEETS

- Sheet No. 1. Title Sheet & Layout Map
- " 2. Estimated Quantities
- " 3-5. Plan Quantities
- " 6. Elevation - Bridge No. 02522
- " 7. Elevation - Bridge No. 02521
- " 8. Existing Expansion Device
- " 9. Extend Expansion Device
- " 10. Split Median Barrier

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 (Legal Land)
- VACATED PLATTERED PROPERTY
- CORPORATE OR CITY LIMITS
- TRUNK HIGHWAY CENTER LINE
- RETAINING WALL
- RAILROAD
- RAILROAD RIGHT OF WAY LINE
- RIVER OR CREEK
- DRY RUN
- GRANDAGE DITCH
- ELECTRIC POWER LINE
- TELEPHONE OR TELEGRAPH LINE
- JOINT TELEPHONE AND POWER
- CONDUIT
- TELEPHONE CABLE - AERIAL
- TELEPHONE CABLE - UNDERGROUND
- POWER CABLE - UNDERGROUND
- GAS MAIN
- COULVERT
- DROP INLET
- GUARD RAIL
- BARBED WIRE FENCE
- WOVEN WIRE FENCE
- CHAIN LINK FENCE
- RAILROAD SNOW FENCE
- STONE WALL OR FENCE
- HEDGE
- WATER PIPE
- SEWER PIPE
- DRAIN 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)
- " (Frame)
- " (Concrete)
- " (Stone)
- " (Tile)
- " (Brick)
- " (Stucco)
- IRON PIPE OR ROD
- MONUMENT (STONE, CONCRETE, OR METAL)
- WOODEN PILE
- GRAVEL PIT
- SAND PIT
- BORROW PIT
- ROCK QUARRY
- MEANDER CORNER



DESIGN DESIGNATION

ADT (CURRENT YEAR) 15,562
ADT (FUTURE YEAR) 24,900
T (HEAVY COMMERCIAL)
9 Ton Design
Design Speed 45 MPH
Design Speed not achieved at:
STA _____ TO STA _____ MPH _____
STA _____ TO STA _____ MPH _____

SPECIFICATIONS

THE "STANDARD SPECIFICATIONS FOR CONSTRUCTION," 1983 EDITION AND SUPPLEMENTAL SPECIFICATIONS, DATED AUGUST 29, 1985 SHALL GOVERN.

ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES WILL BE COMPLIED WITH, IN THE CONSTRUCTION OF THIS PROJECT.

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.

Paul K. Rued COUNTY ENGINEER DATE 4/16/86

ANOKA COUNTY REG. NO. 6549

RECOMMENDED FOR APPROVAL _____ DISTRICT STATE AID ENGINEER 19____

RECOMMENDED FOR APPROVAL _____ 19____

APPROVED _____ 19____ STATE AID ENGINEER

Minn. Proj. No. _____ County Proj. No. 85-19-03

State Proj. No. _____ S.A.P. _____

STATEMENT OF ESTIMATED QUANTITIES

ITEM NO.	ITEM	UNIT	TOTAL ESTIMATED QUANTITIES	TOTAL FINAL QUANTITIES
2021.501	MOBILIZATION	LUMP SUM		
2031.501	FIELD OFFICE TYPE D	EACH	1	
2104.501	REMOVE CURB AND GUTTER	LIN. FT.	120	
2331.521	6" IRREGULAR WIDTH PAVING	SQ. YD.	13 P	
2531.501	CONCRETE CURB AND GUTTER DESIGN SPECIAL	LIN. FT.	120	
2554.501	TRAFFIC BARRIER DES. C 8311	LIN. FT.	320	
2554.501	TRAFFIC BARRIER DES. D 8311	LIN. FT.	1700	
2554.501	TRAFFIC BARRIER DES. B 8307/TERMINAL ENDS	EACH	2	
0554.602	TWISTED END TREATMENT	EACH	2	
0554.602	TRAFFIC BARRIER BRIDGE CONN. DESIGN 8318 MODIFIED	EACH	8	
0563.601	TRAFFIC CONTROL	LUMP SUM.	1	
0404.602	CONCRETE OVERLAY	CU. YD.	17 P	
0433.605	EXTEND EXPANSION DEVICE, TYPE A	EACH	8	
2401.514	SPLIT MEDIAN BARRIER CONCRETE (3X46) TYPE A-A	LIN. FT.	1230P	
2401.541	REINFORCEMENT BARS	POUND	P	
2433.506	REMOVE CONCRETE MEDIAN	LIN. FT.	734P	
2433.506	REMOVE SLAB AND MEDIAN	LIN. FT.	734P	
2433.516	ANCHORAGES, TYPE 1	EACH	738 P	

STANDARD PLATES	
PLATE NO.	DESCRIPTION
0004A	SPECIFICATION REFERENCE TO STD. PLATES (1983)
8000H	STANDARD BARRICADES
8307M	STRUCTURAL PLATE BEAM GUARDRAIL
8318B	GUARDRAIL ANCHORAGE PLATE FOR BRIDGES
8322C	CONCRETE MEDIAN BARRIER
8311B	PLATE BEAM BARRIER
8319C	TWISTED END TREATMENT

DESIGN DATA

MAXIMUM ALLOWABLE DESIGN STRESSES,
 REINFORCED CONCRETE
 $f'_c = 4000$ P.S.I. $n = 8$
 STRUCTURAL STEEL
 $f_y = 36,000$ P.S.I. Mn/DOT 3306

GOVERNING SPECIFICATIONS

THE 1983 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION SHALL GOVERN.

NO CUTTING WILL BE PERMITTED UNTIL THE CUTTING LIMITS HAVE BEEN DEFINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. REMOVAL AND RECONSTRUCTION SHALL CONFORM TO Mn/DOT 2433.

THE FIRST DIGIT OR THE FIRST TWO DIGITS OF EACH BAR MARK INDICATE THE BAR SIZE.

THE CONTRACTOR SHALL MAKE FIELD MEASUREMENTS AS NECESSARY, PRIOR TO FABRICATION OF THE EXPANSION JOINT DEVICES AND BARRIER PLATES TO ASSURE PROPER FIT IN THE FINAL WORK.

PREFORMED JOINT FILLER MATERIALS ARE INCIDENTAL. PAYMENT TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS.

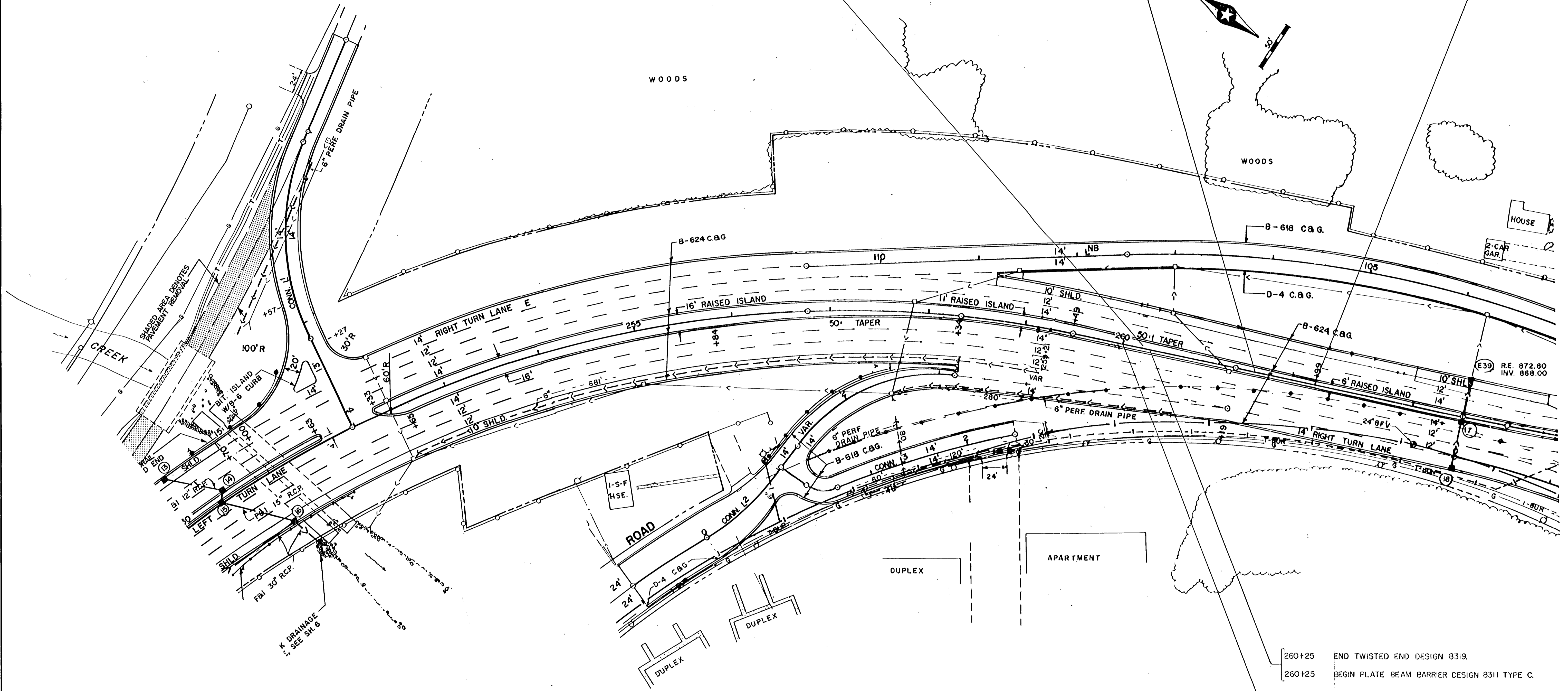
PROVIDE SAWCUT IN CONCRETE WEARING COURSE OVER ALL CONSTRUCTION JOINTS IN EXISTING SLAB AND SEAL WITH CONCRETE JOINT SEALER PER Mn/DOT 3720.

APPROVED BONDING GROUT TO BE APPLIED TO ALL VERTICAL EDGES BETWEEN NEW AND INPLACE CONCRETE.

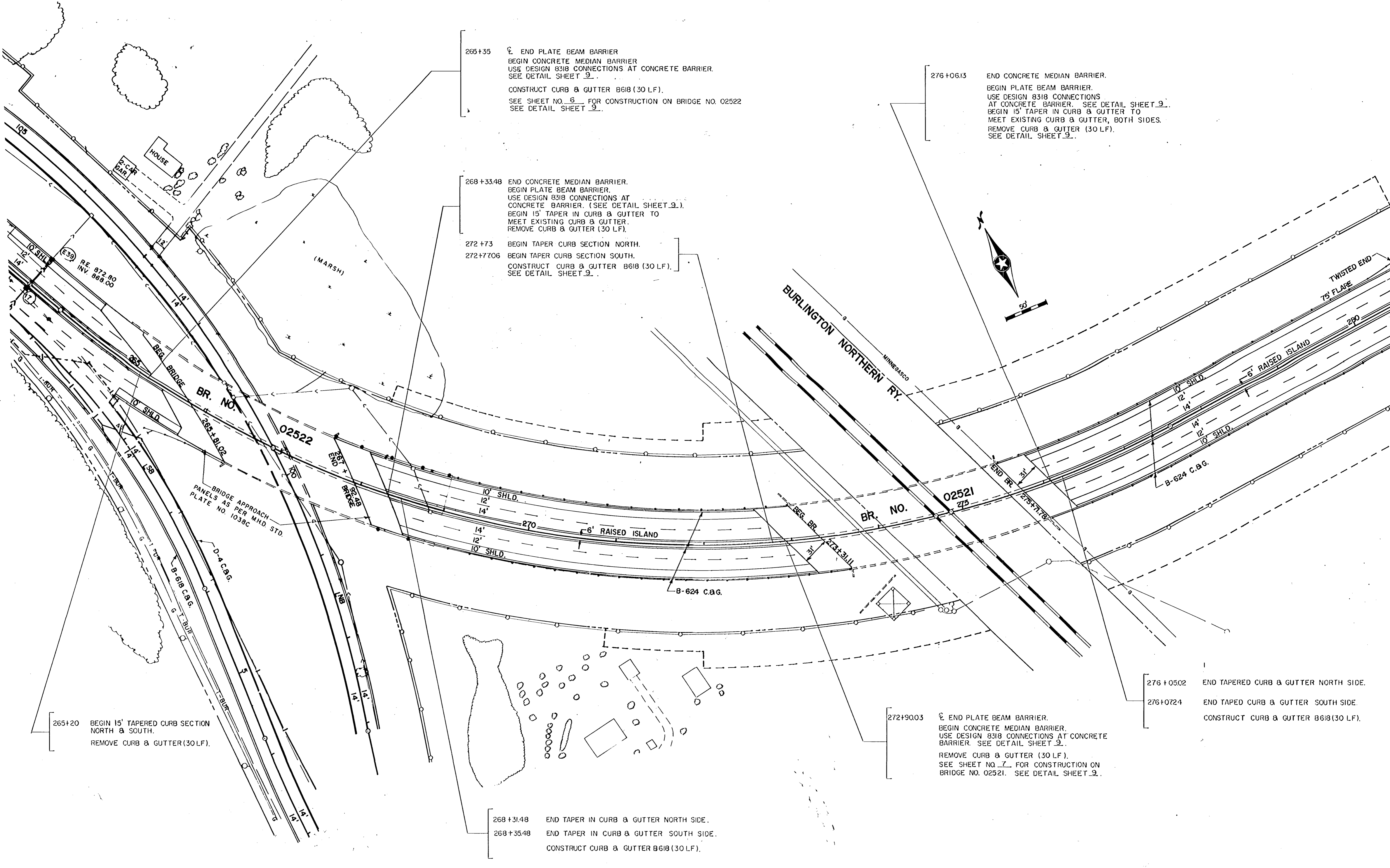
260+20 BEGIN DESIGN 8307M TERMINAL END.
 260+325 END DESIGN 8307M TERMINAL END.
 BEGIN DESIGN 8311 TYPE C PLATE BEAM BARRIER.

260+99 BEGIN DESIGN 8311 TYPE D PLATE BEAM BARRIER.
 END DESIGN 8311 TYPE C PLATE BEAM BARRIER.

260+67.75 END PLATE BEAM BARRIER DESIGN 8311 TYPE C.
 BEGIN 31'-3" TRANSITION TO TYPE D.
 TRANSITION PAID AS 62'-6" OF TYPE C
 (31'-3" EACH SIDE).



260+25 END TWISTED END DESIGN 8319.
 260+25 BEGIN PLATE BEAM BARRIER DESIGN 8311 TYPE C.
 260+00 BEGIN CONSTRUCTION
 260+00 BEGIN TWISTED END DESIGN 8319 WEST BOUND LANE.



265+35 ⚡ END PLATE BEAM BARRIER.
 BEGIN CONCRETE MEDIAN BARRIER.
 USE DESIGN 8318 CONNECTIONS AT CONCRETE BARRIER.
 SEE DETAIL SHEET 9.
 CONSTRUCT CURB & GUTTER B618 (30 LF).
 SEE SHEET NO. 6 FOR CONSTRUCTION ON BRIDGE NO. 02522.
 SEE DETAIL SHEET 9.

276+06.13 END CONCRETE MEDIAN BARRIER.
 BEGIN PLATE BEAM BARRIER.
 USE DESIGN 8318 CONNECTIONS
 AT CONCRETE BARRIER. SEE DETAIL SHEET 9.
 BEGIN 15' TAPER IN CURB & GUTTER TO
 MEET EXISTING CURB & GUTTER, BOTH SIDES.
 REMOVE CURB & GUTTER (30 LF).
 SEE DETAIL SHEET 9.

268+33.48 END CONCRETE MEDIAN BARRIER.
 BEGIN PLATE BEAM BARRIER.
 USE DESIGN 8318 CONNECTIONS AT
 CONCRETE BARRIER. (SEE DETAIL SHEET 9).
 BEGIN 15' TAPER IN CURB & GUTTER TO
 MEET EXISTING CURB & GUTTER.
 REMOVE CURB & GUTTER (30 LF).

272+73 BEGIN TAPER CURB SECTION NORTH.
 272+77.06 BEGIN TAPER CURB SECTION SOUTH.
 CONSTRUCT CURB & GUTTER B618 (30 LF).
 SEE DETAIL SHEET 9.

276+05.02 END TAPERED CURB & GUTTER NORTH SIDE.
 276+07.24 END TAPERED CURB & GUTTER SOUTH SIDE.
 CONSTRUCT CURB & GUTTER B618 (30 LF).

265+20 BEGIN 15' TAPERED CURB SECTION
 NORTH & SOUTH.
 REMOVE CURB & GUTTER (30 LF).

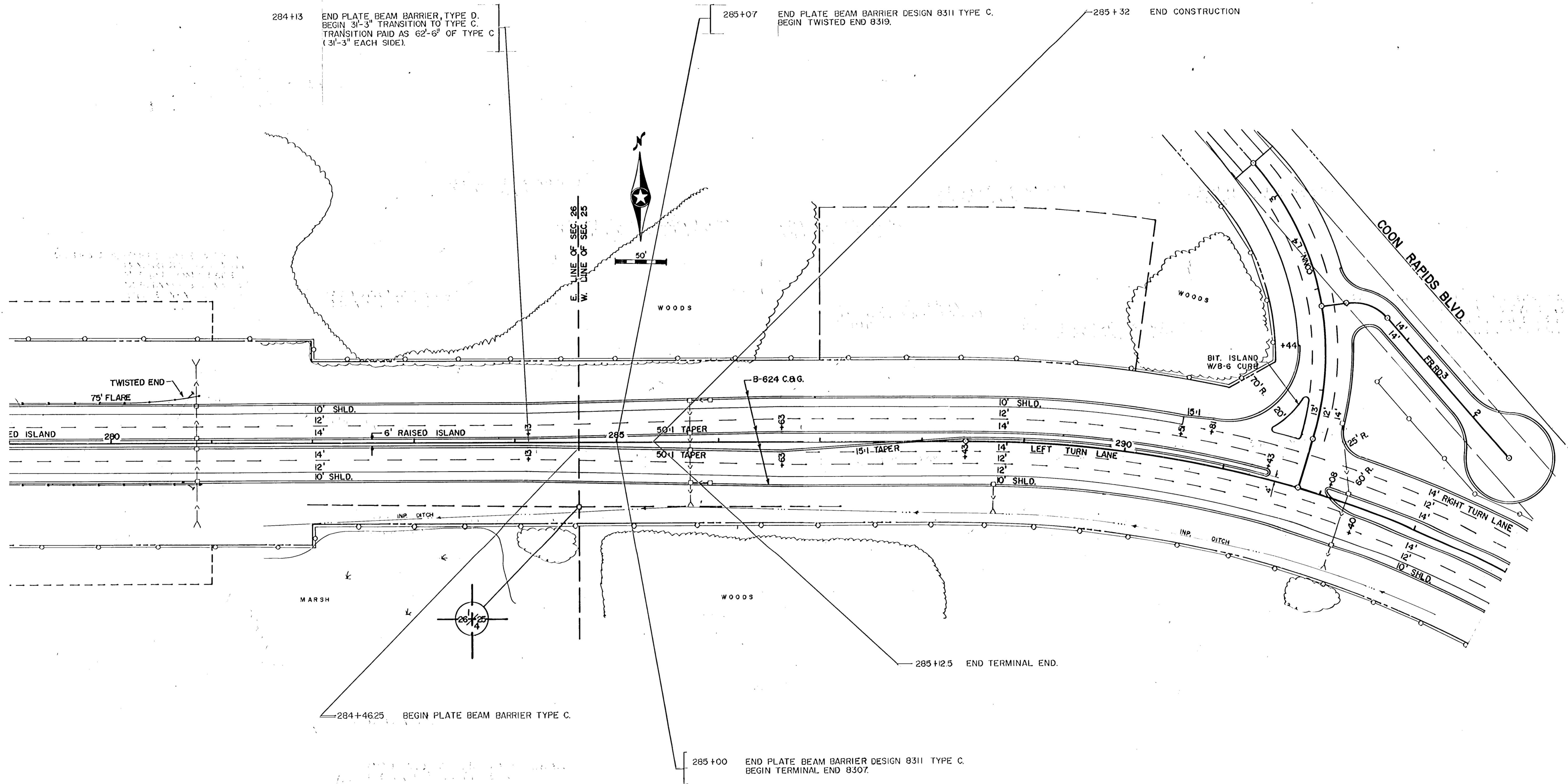
272+90.03 ⚡ END PLATE BEAM BARRIER.
 BEGIN CONCRETE MEDIAN BARRIER.
 USE DESIGN 8318 CONNECTIONS AT CONCRETE
 BARRIER. SEE DETAIL SHEET 9.
 REMOVE CURB & GUTTER (30 LF).
 SEE SHEET NO. 7 FOR CONSTRUCTION ON
 BRIDGE NO. 02521. SEE DETAIL SHEET 9.

268+31.48 END TAPER IN CURB & GUTTER NORTH SIDE.
 268+35.48 END TAPER IN CURB & GUTTER SOUTH SIDE.
 CONSTRUCT CURB & GUTTER B618 (30 LF).

284+13 END PLATE BEAM BARRIER, TYPE D.
BEGIN 3'-3" TRANSITION TO TYPE C.
TRANSITION PAID AS 62'-6" OF TYPE C
(31'-3" EACH SIDE).

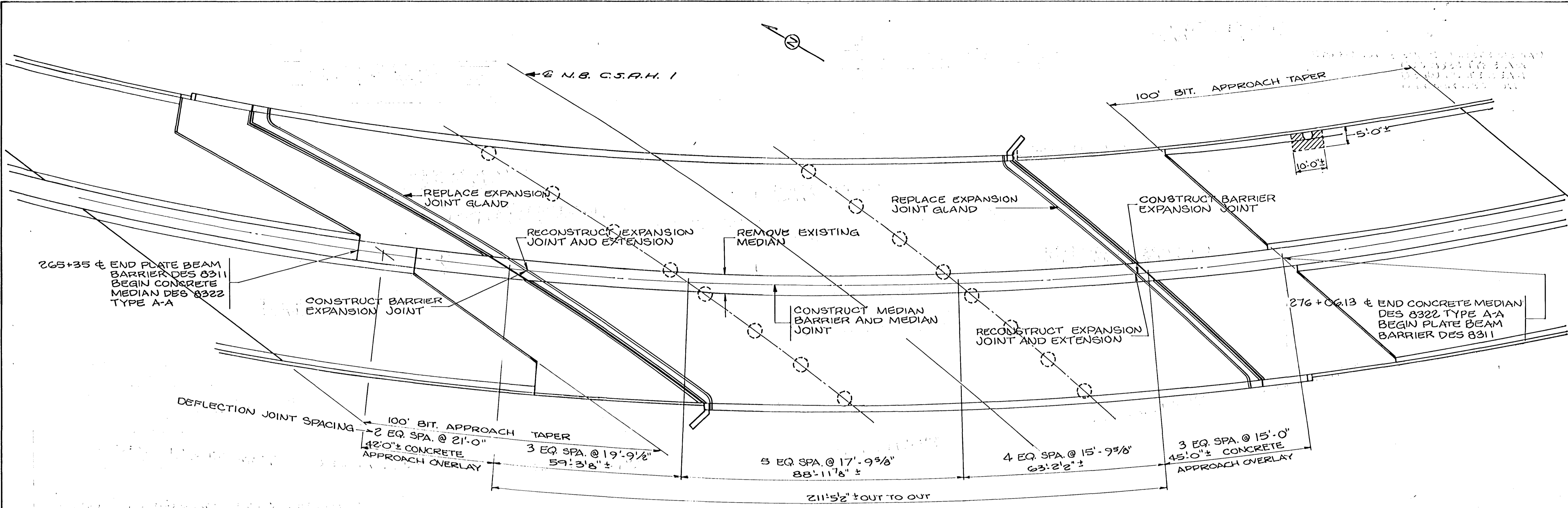
285+07 END PLATE BEAM BARRIER DESIGN 8311 TYPE C.
BEGIN TWISTED END 8319.

285+32 END CONSTRUCTION

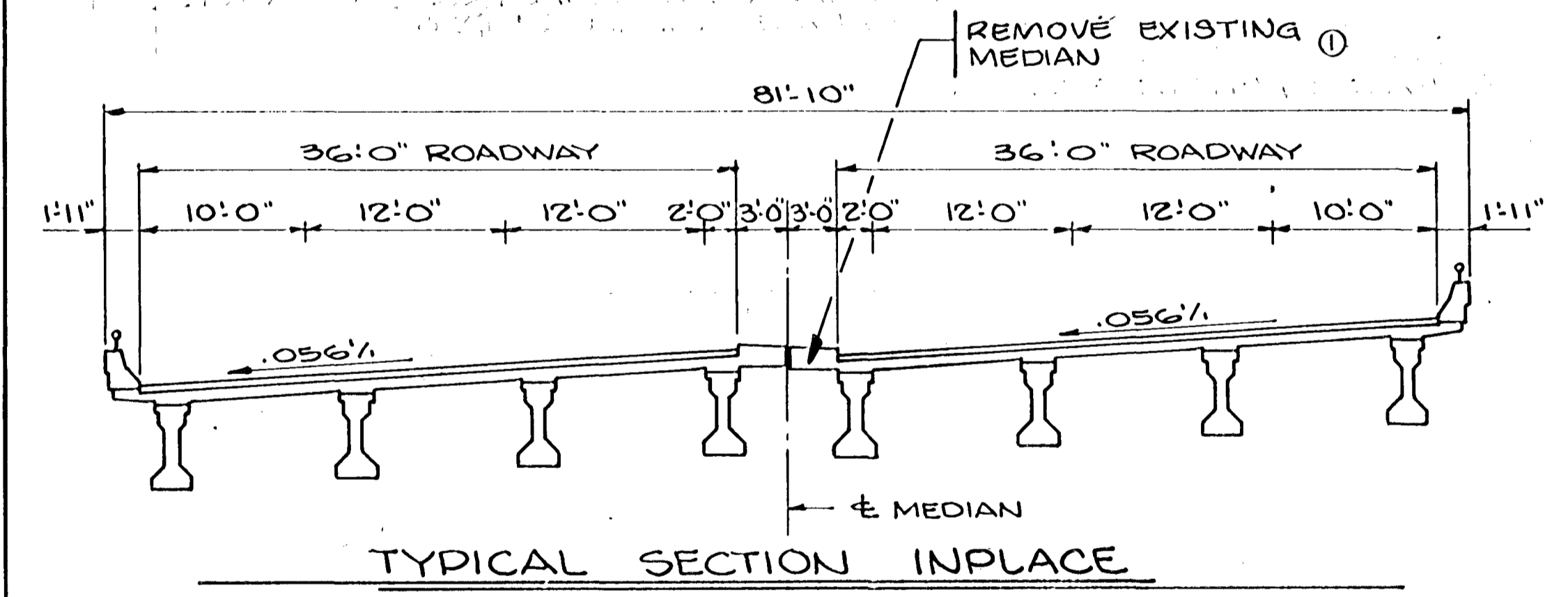


284+46.25 BEGIN PLATE BEAM BARRIER TYPE C.

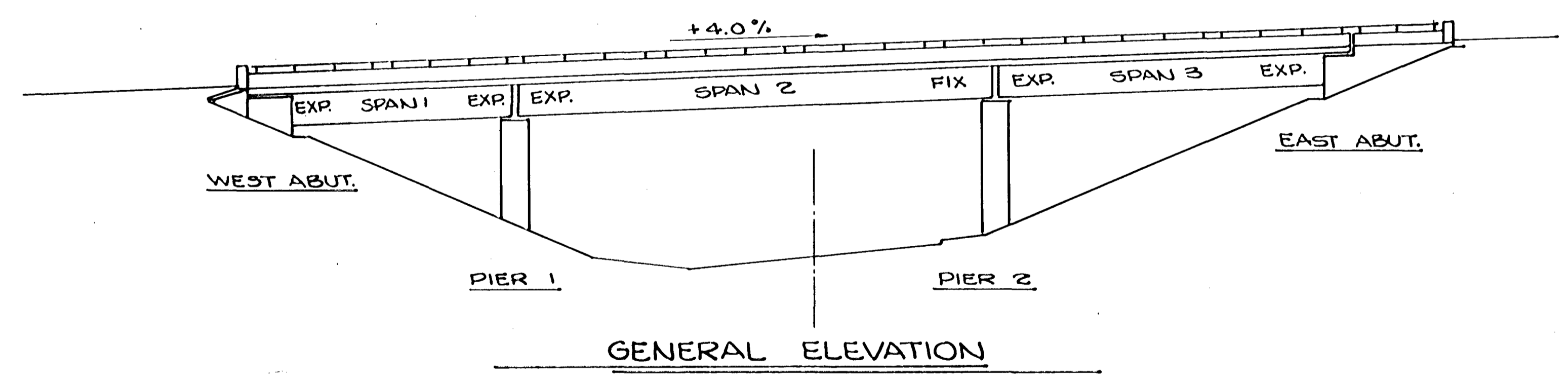
285+00 END PLATE BEAM BARRIER DESIGN 8311 TYPE C.
BEGIN TERMINAL END 8307.



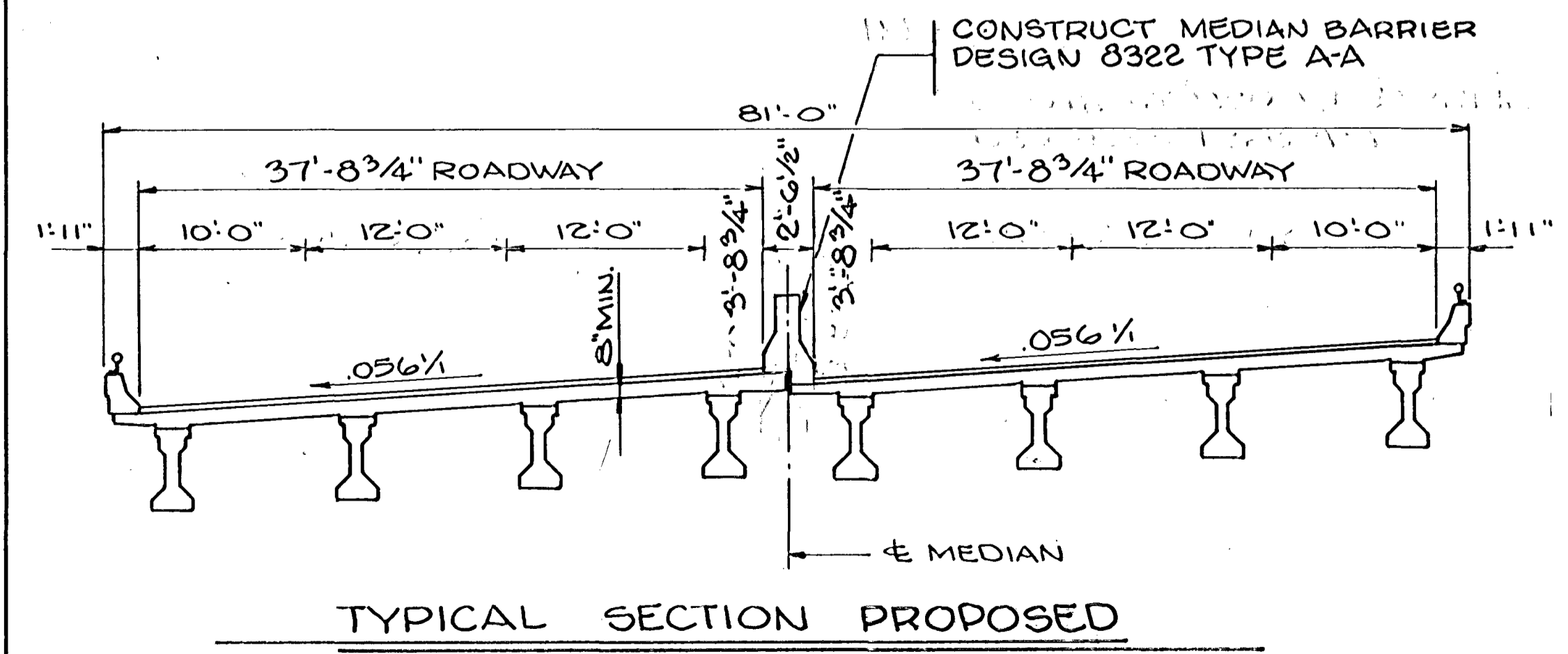
GENERAL PLAN



TYPICAL SECTION INPLACE



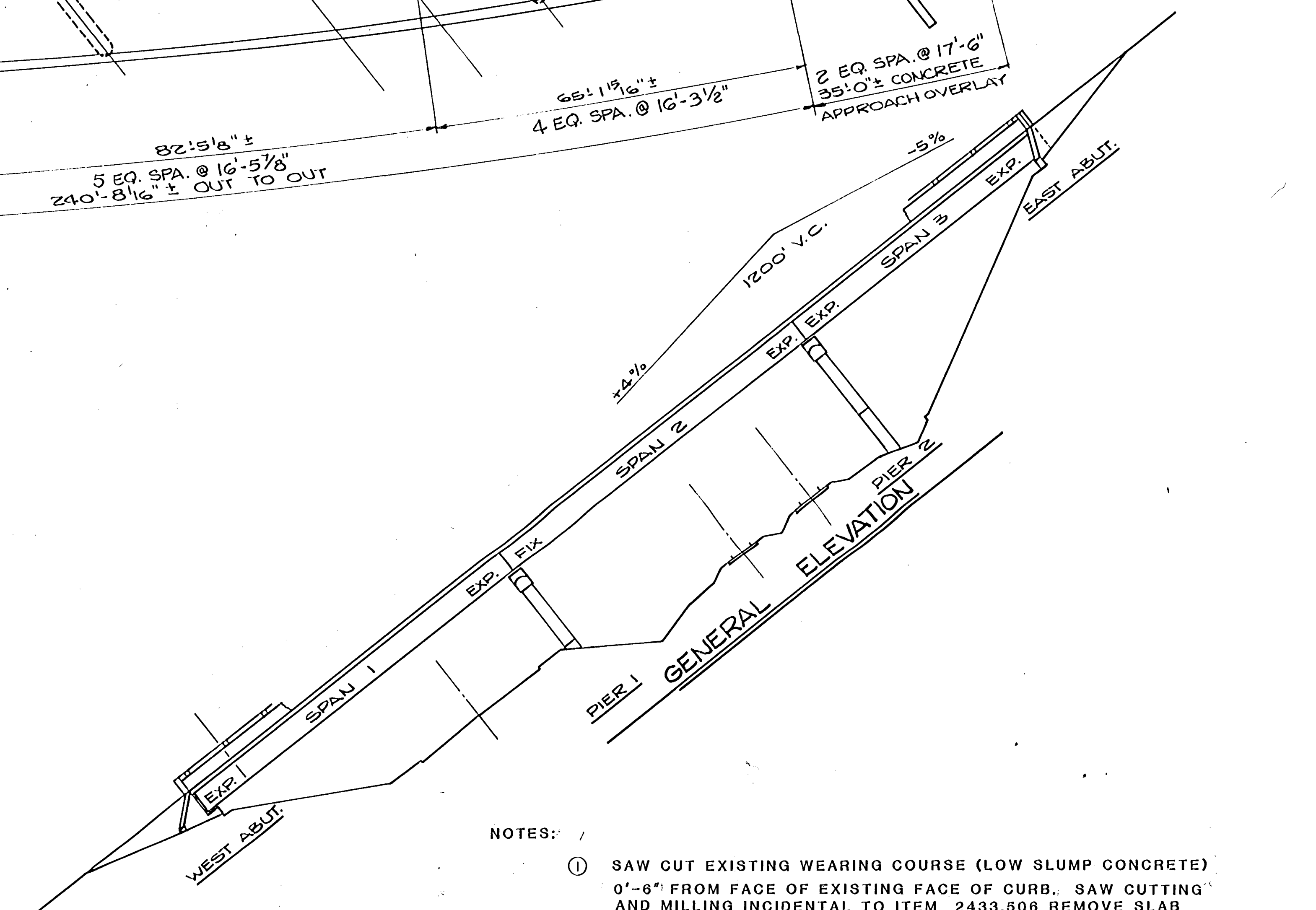
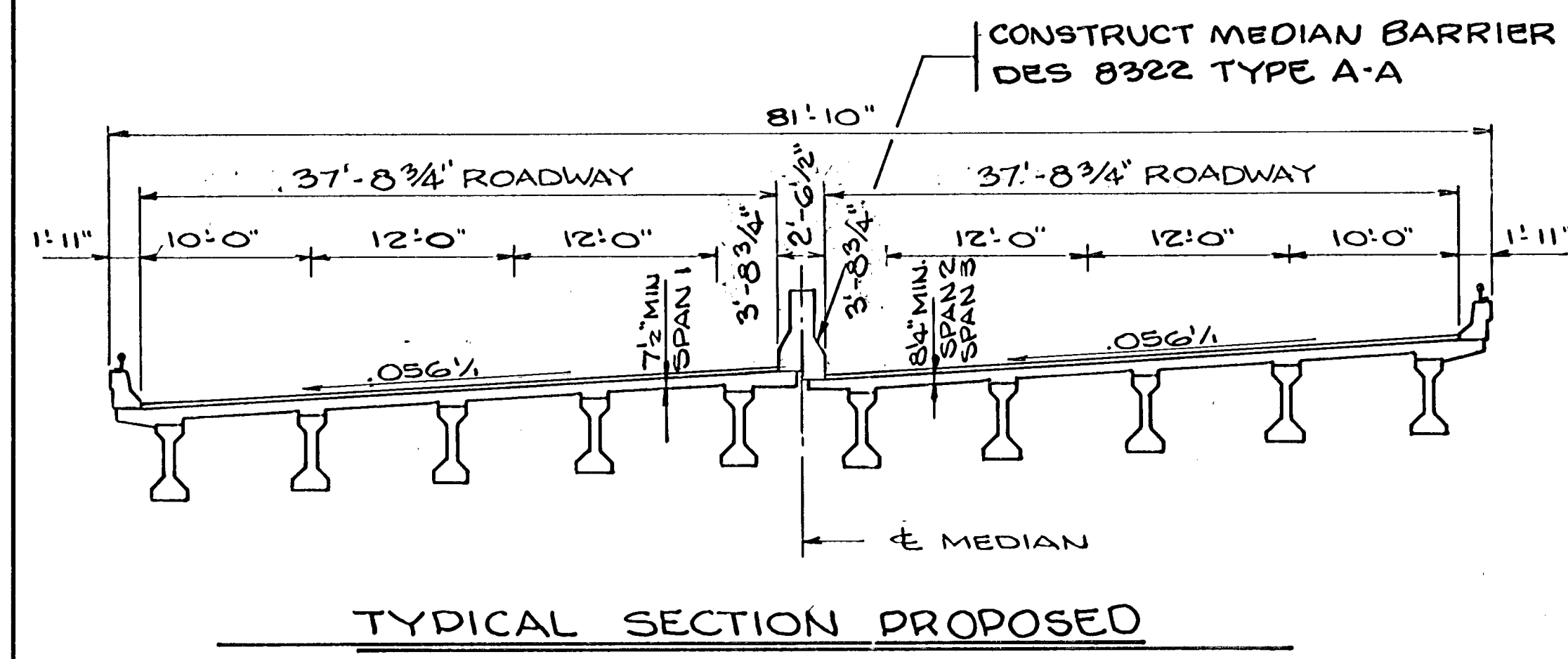
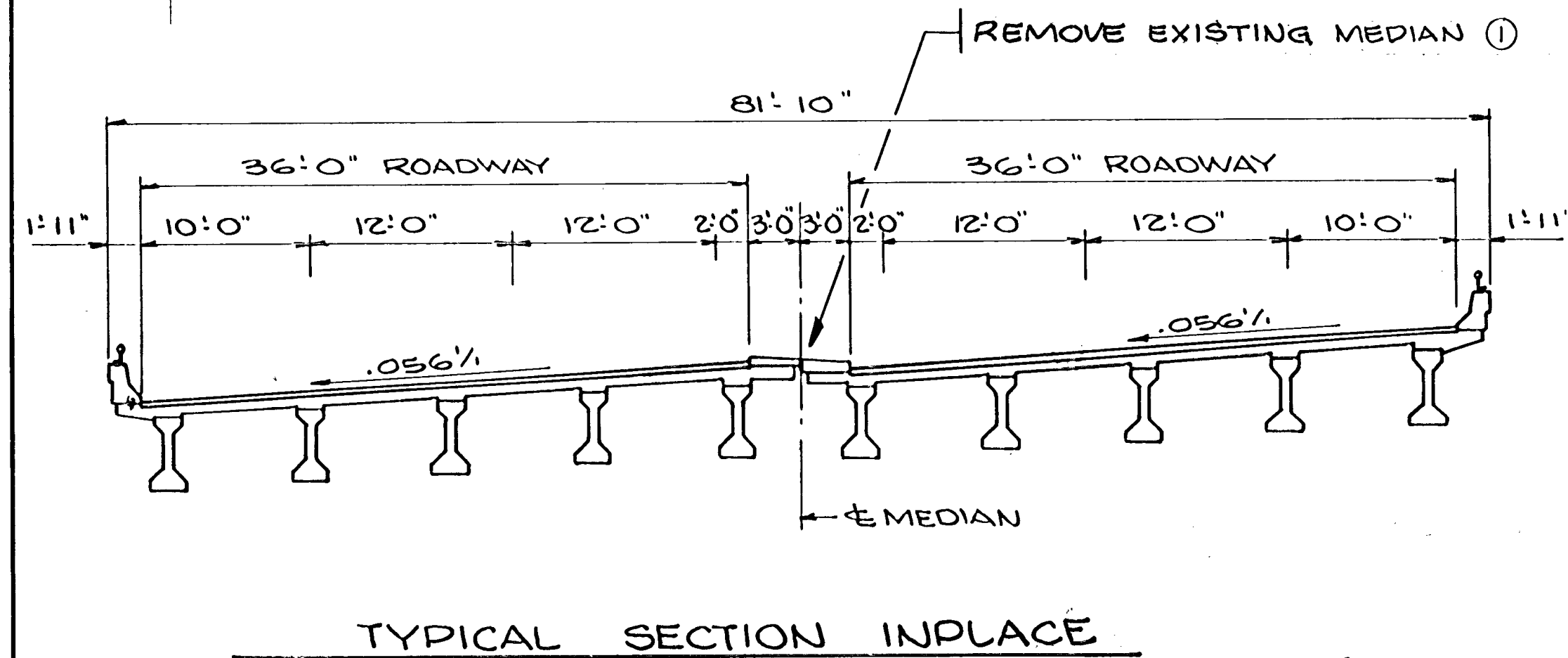
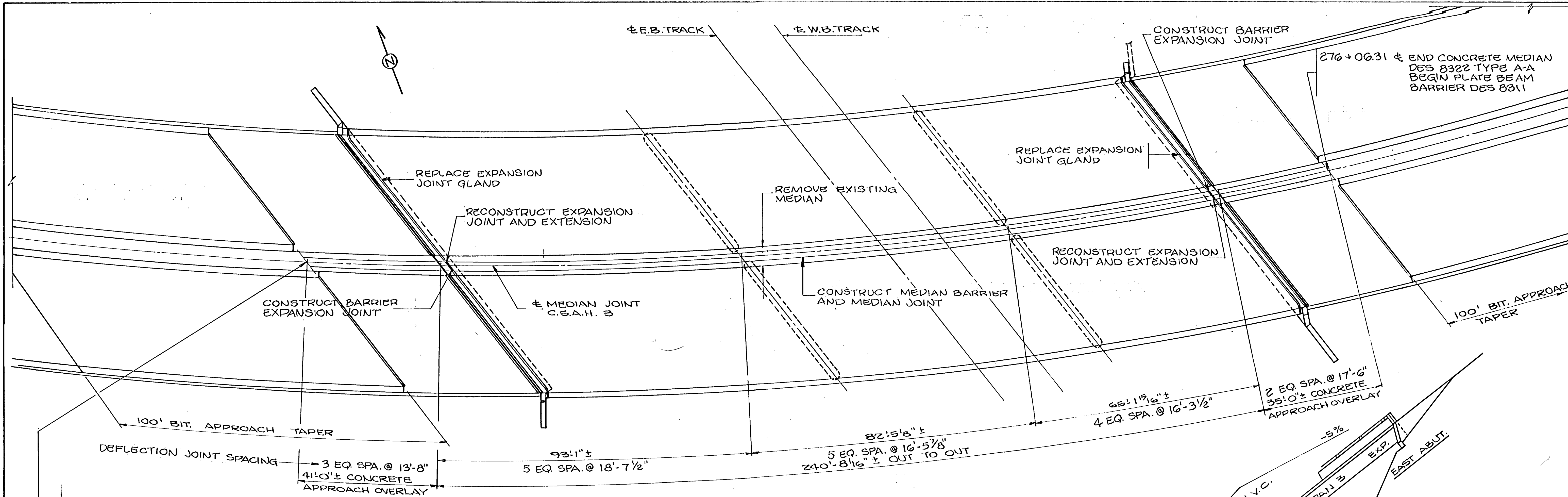
GENERAL ELEVATION



TYPICAL SECTION PROPOSED

NOTES:
 ① SAW CUT EXISTING WEARING COURSE (LOW SLUMP CONCRETE) 0'-6" FROM FACE OF EXISTING FACE OF CURB. SAW CUTTING AND MILLING INCIDENTAL TO ITEM 2433.506 REMOVE SLAB AND MEDIAN.

GENERAL PLAN & ELEVATION		DES:	DR: R.H.	APPROVED:	BRIDGE NO. 02522
C.S.A.H. 3 (COON RAPIDS BLVD. BY-PASS) OVER EAST RIVER RD. N.B. (C.S.A.H. 1) IN COON RAPIDS, C.P. 85-19-03		CHK:	CHK.		
SHEET NO. 6 of 10 SHEETS					



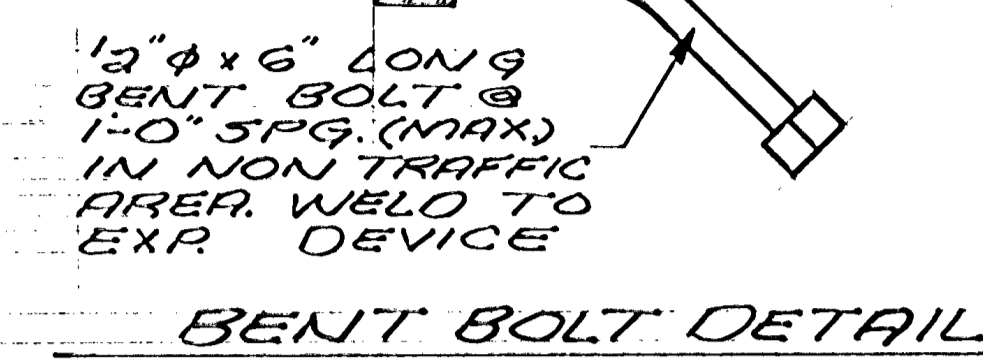
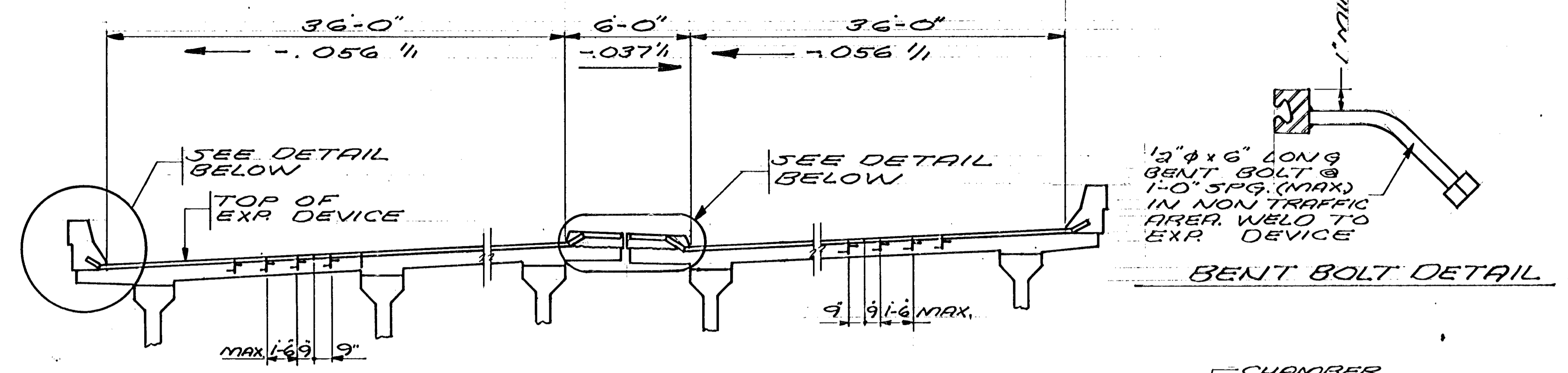
NOTES:
 ① SAW CUT EXISTING WEARING COURSE (LOW SLUMP CONCRETE) 0'-6" FROM FACE OF EXISTING FACE OF CURB. SAW CUTTING AND MILLING INCIDENTAL TO ITEM 2433.506 REMOVE SLAB AND MEDIAN.

GENERAL PLAN & ELEVATION C.S.A.H. 3 (COON RAPIDS BLVD. BY-PASS) OVER BURLINGTON NORTHERN R.R. IN COON RAPIDS C.P. 85-19-03		DES: CHK:	DR: R.H. CHK:	APPROVED	BRIDGE NO. 02521
SHEET NO. 7 OF 10 SHEETS					

NOTES

GALVANIZE STRUCTURAL STEEL AFTER FABRICATION PER SPEC. 3394.
 JOINTS IN ROWS, R. OR EXTRUSION SHALL BE LOCATED AT BREAKS IN TRANSVERSE PROFILE & AS OTHERWISE REQUIRED JOINTS SHALL BE CLOSE FIT & WELDED. REPAIR AFTER WELDING AS PER SPEC. 3471, 3L.
 STRUCTURAL STEEL SHALL COMPLY WITH SPEC. 3306, SPEC. 3307 & SPEC. 3309.
 EXP. DEVICE SHALL BE STRAIGHTENED TO A TOLERANCE OF 1/8" IN 10 FT.
 CAP SCREWS SHALL BE COUNTERSUNK 1/16" BELOW TOP OF PLATE.
 GALVANIZE SCREWS & NUTS PER SPEC. 3392.
 NEW REINFORCEMENT BARS ARE TO HAVE THE SAME TREATMENT AS THE INPLACE REINFORCEMENT.
 WHEN EXP. DEVICES ARE USED AT ENDS OF BRIDGE, THE BRIDGE CONTRACTOR SHALL FURNISH EXPANSION DEVICE & GLAND.

① 5/8" MAX. WHEN SNOWPLOW FINGERS ARE USED. USE 1/8" (WITH 1/4" MAX.) WHEN SNOWPLOW FINGERS ARE NOT USED.

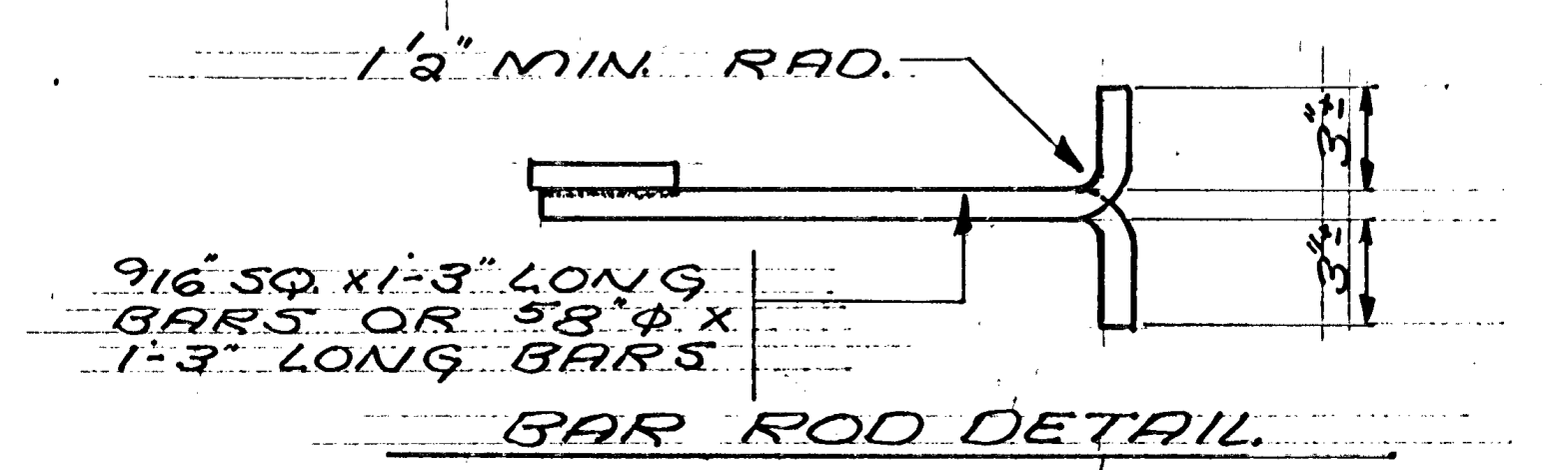
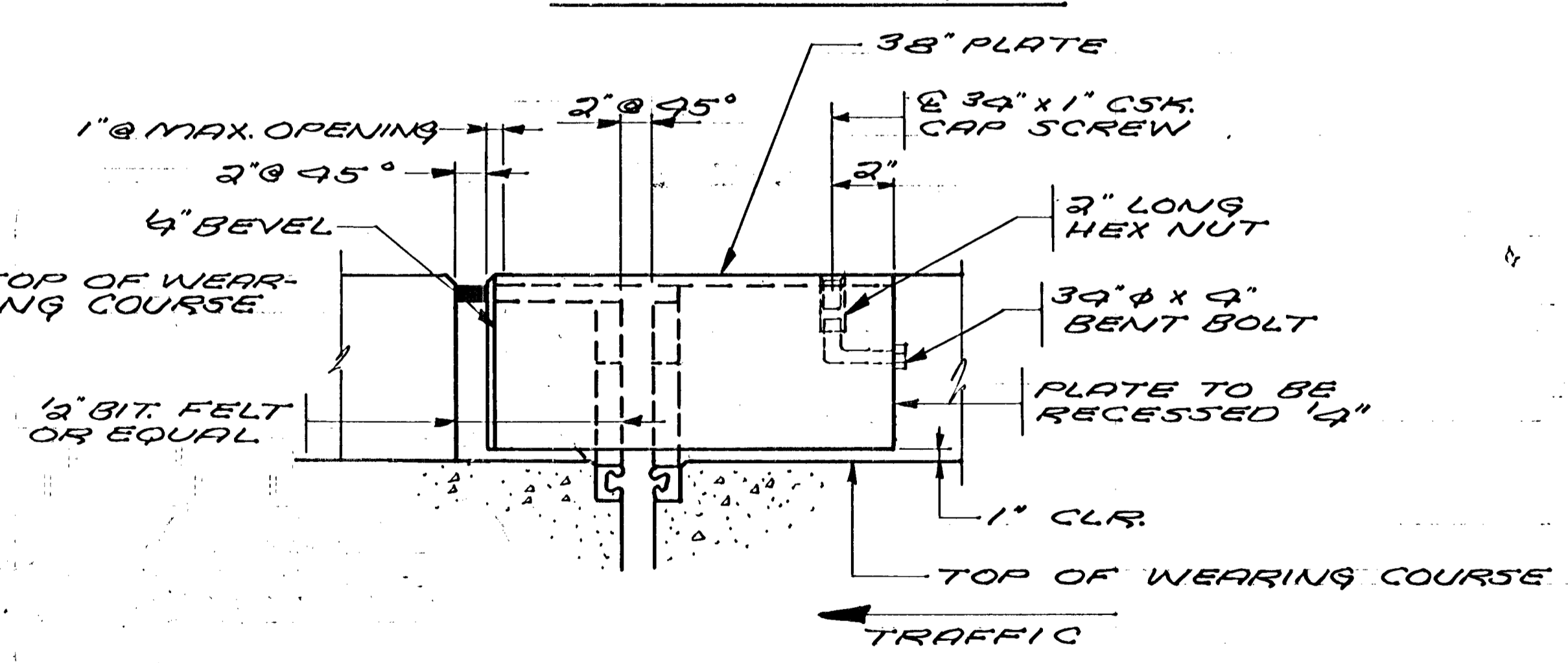
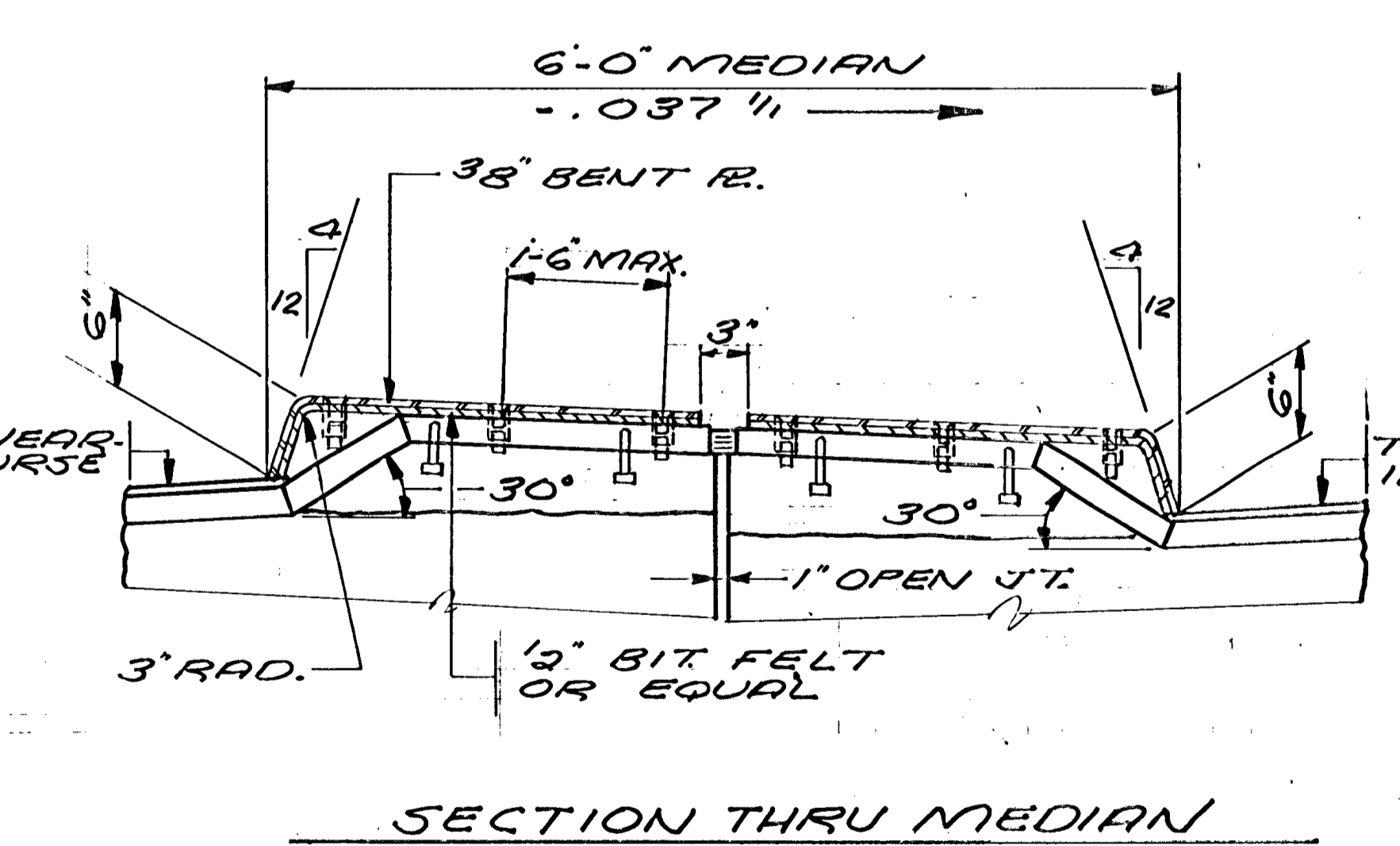
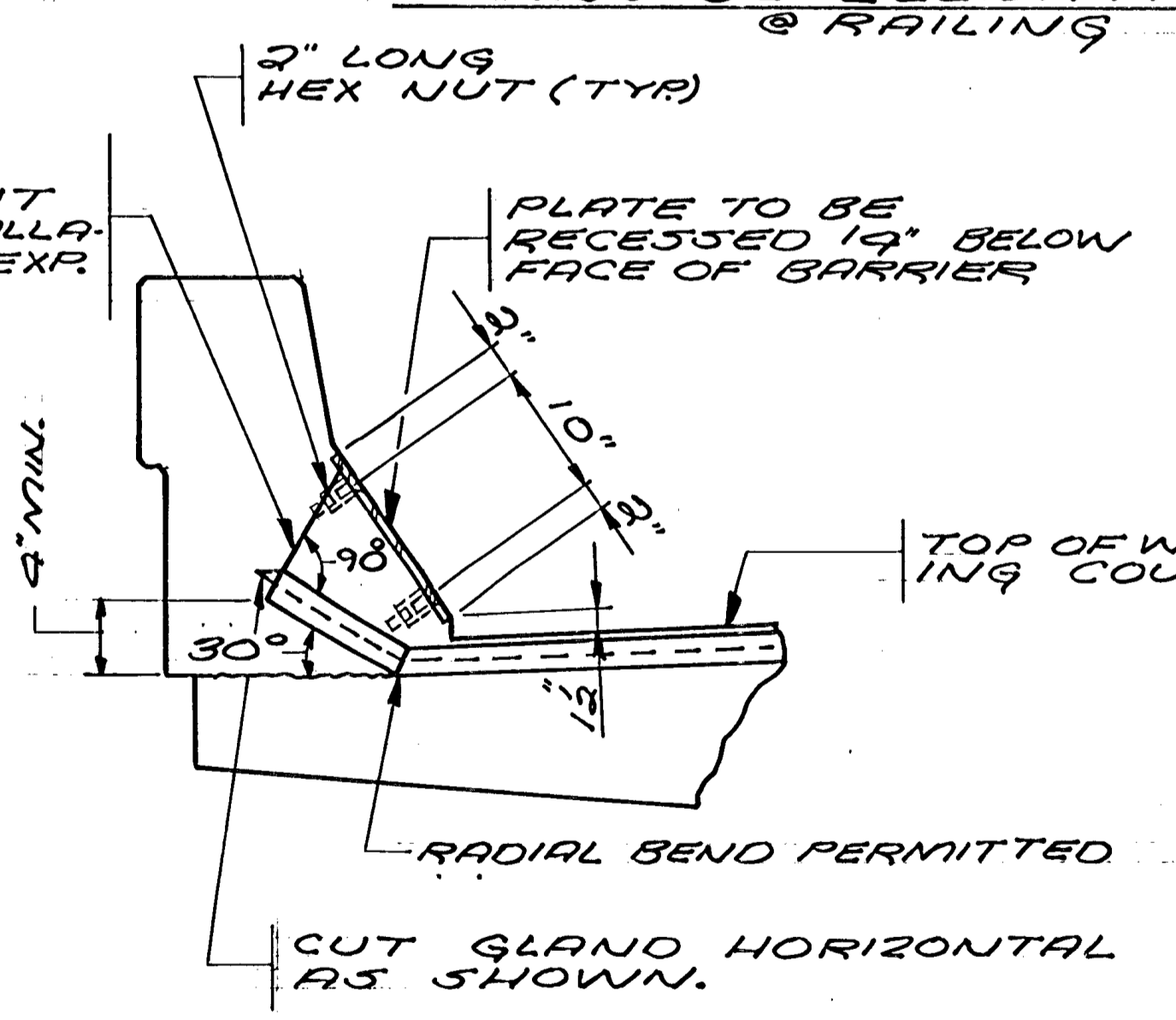
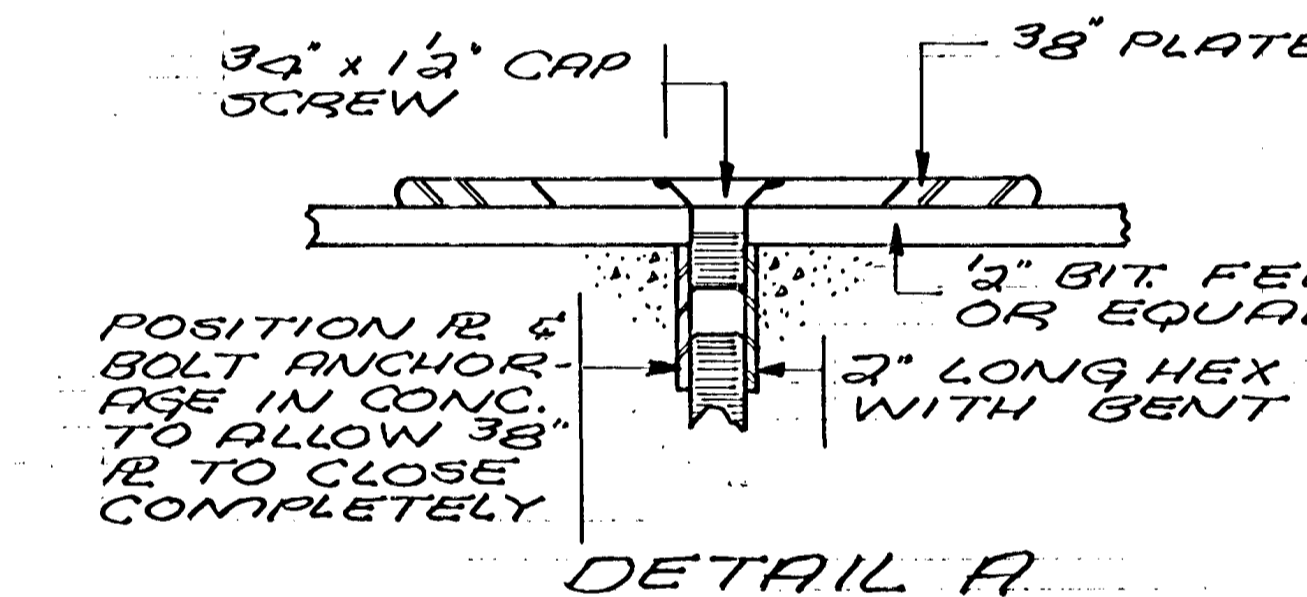
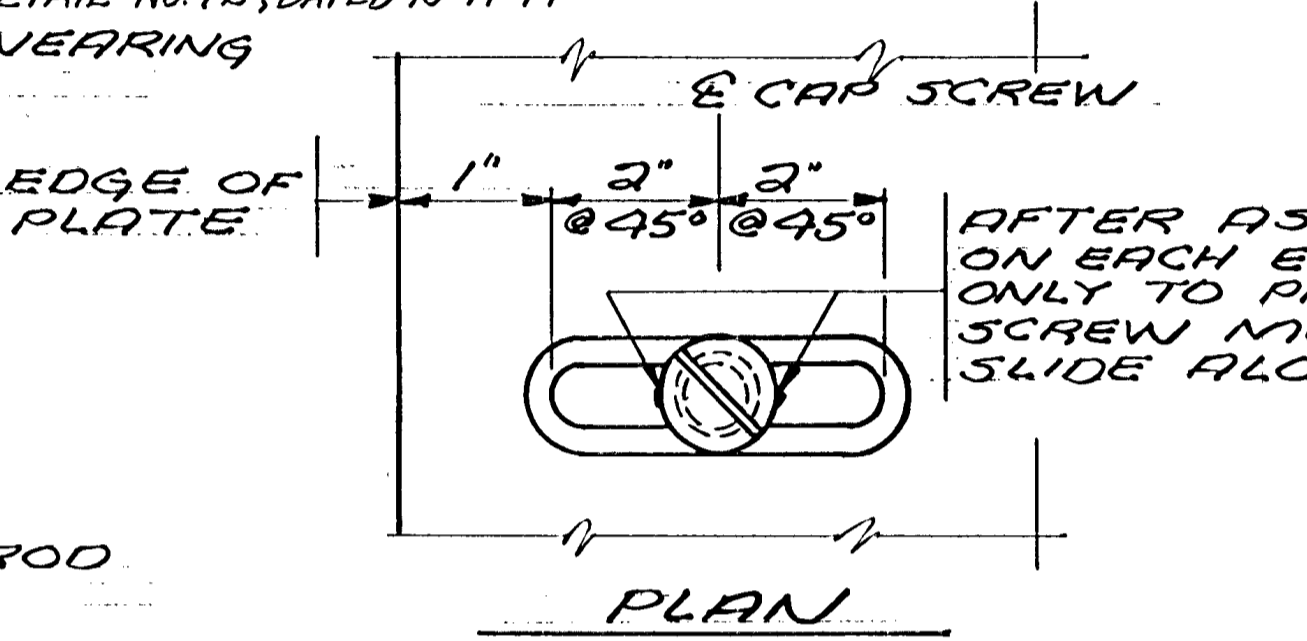
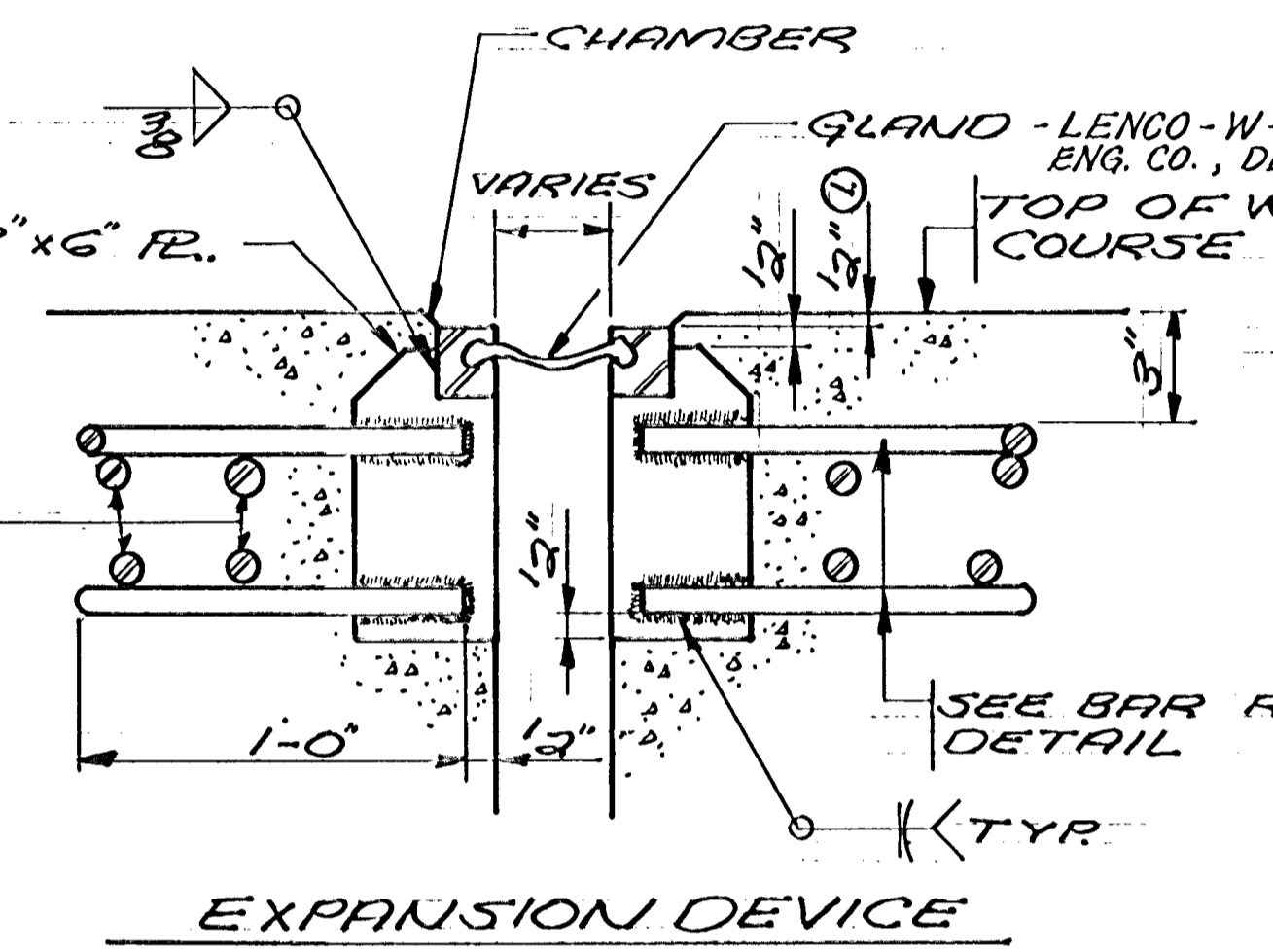
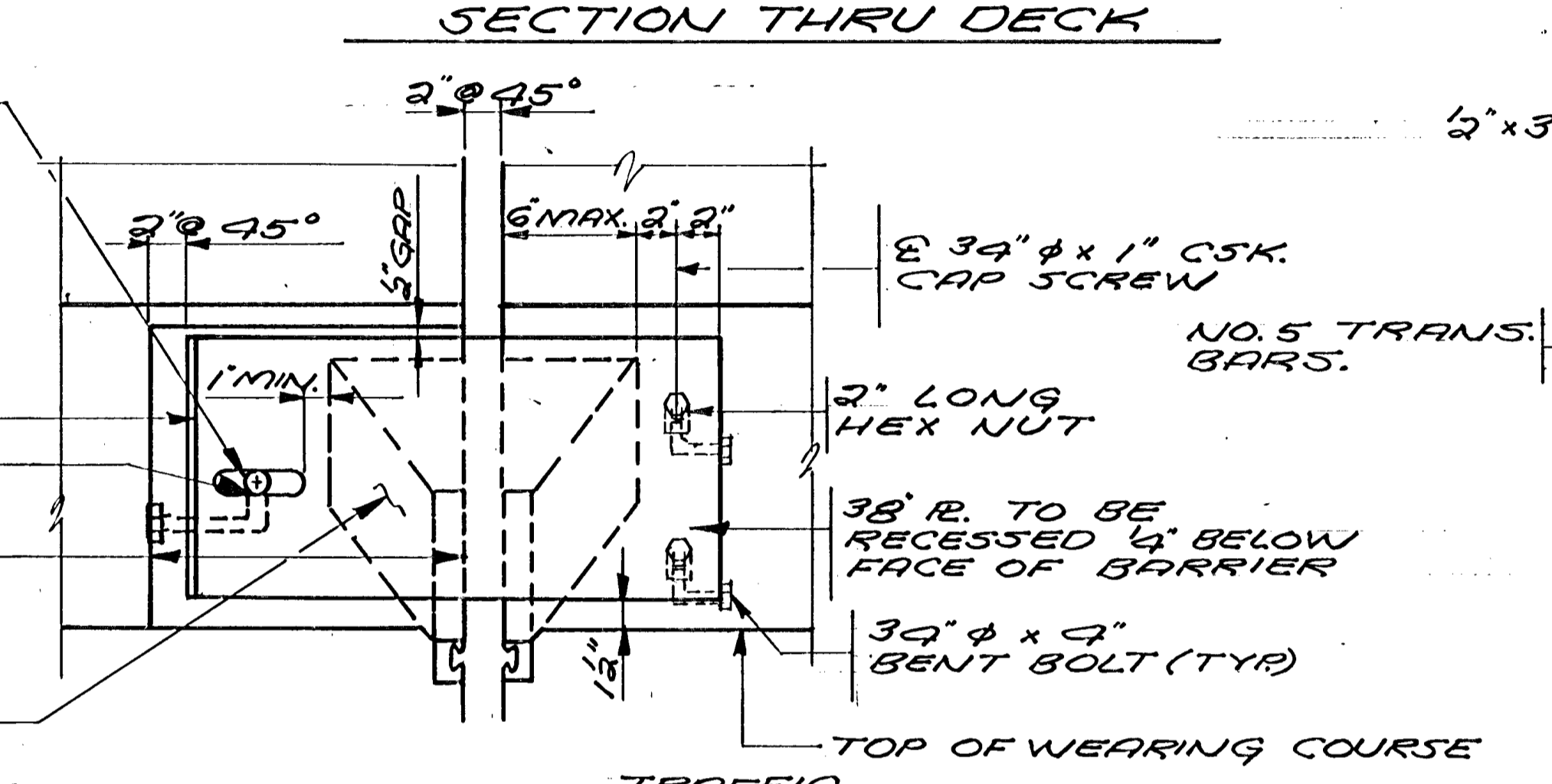


1" x 5" SLOTTED HOLE FOR 3/4" x 1 1/2" CSK. CAP SCREW WITH 2" LONG HEX NUT & 3/4" x 9" BENT BOLT. DO NOT TIGHTEN DOWN CAP SCREW

1/2" BIT FELT OR EQUAL

BLOCK OUT FLARED AREA AS SHOWN FOR GLAND INSTALLATION

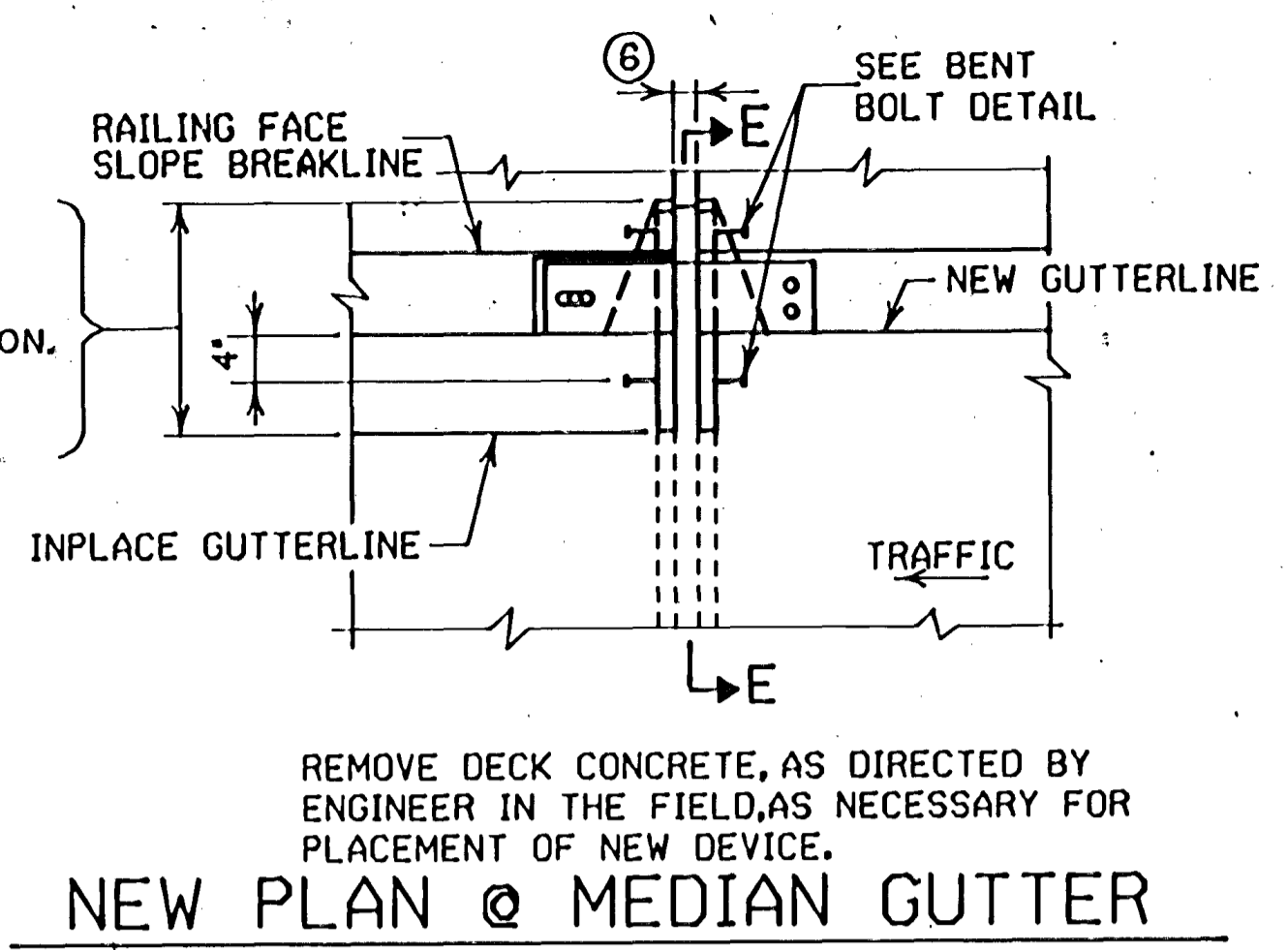
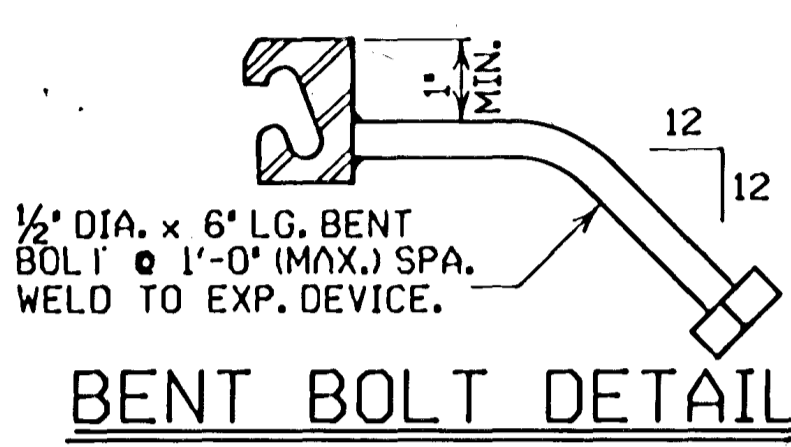
EDGE OF BLOCK OUT FOR INSTALLATION OF EXP. DEVICE.



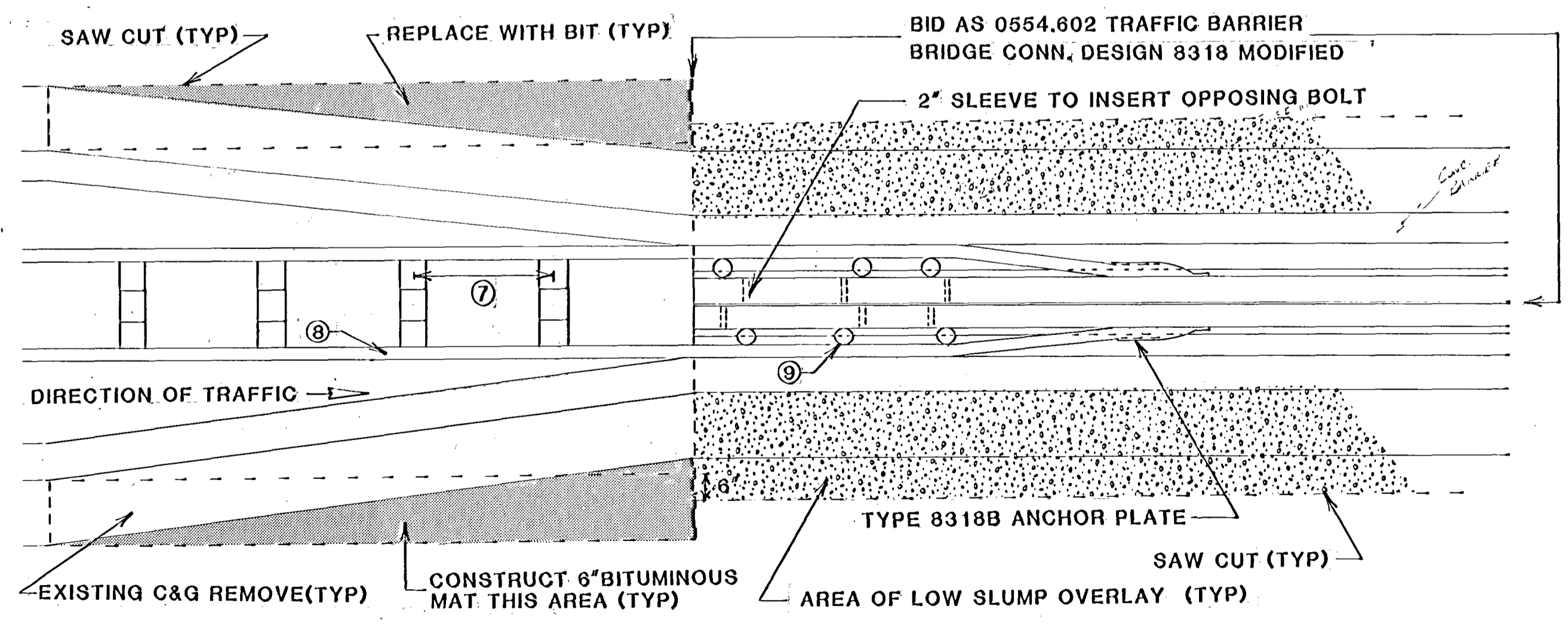
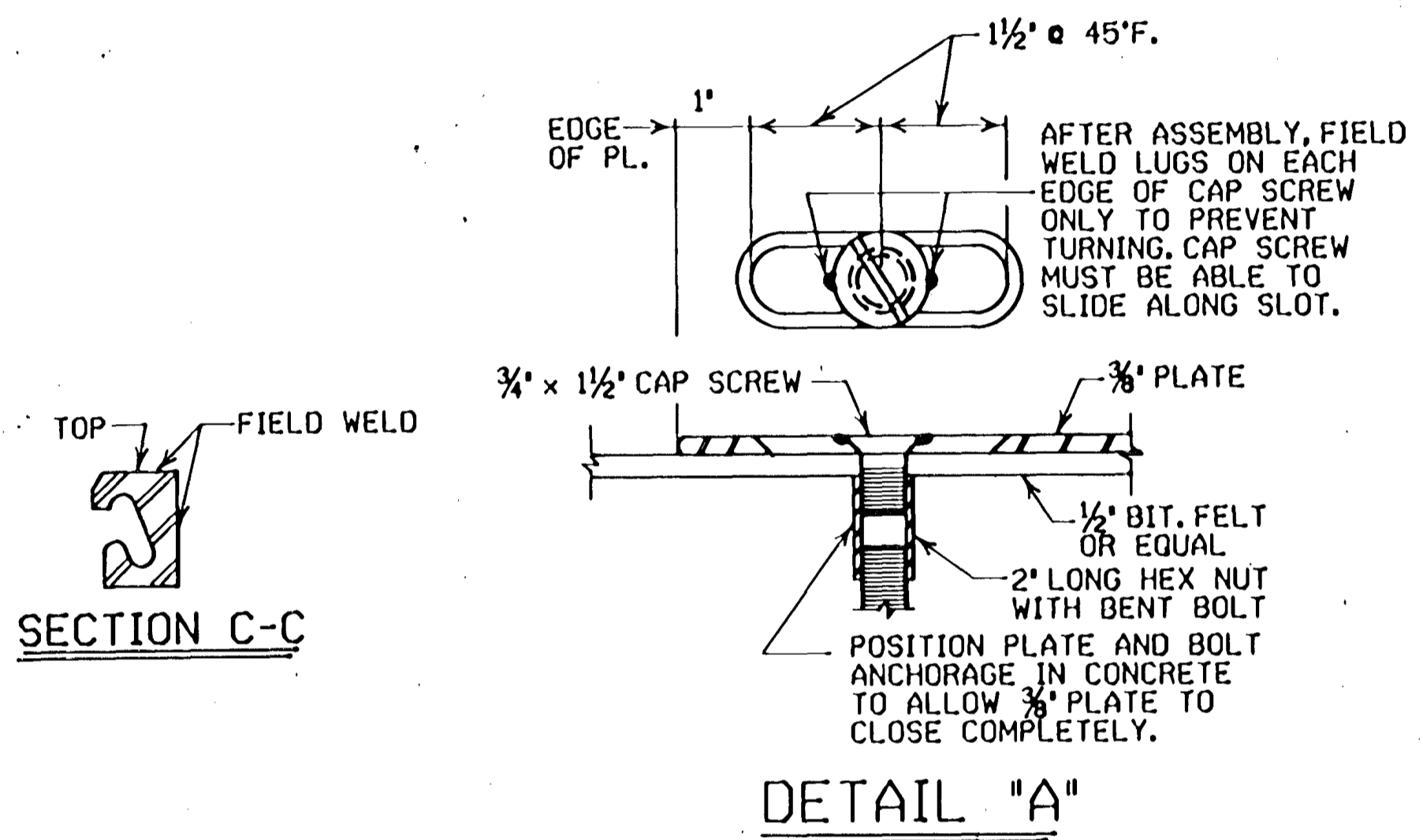
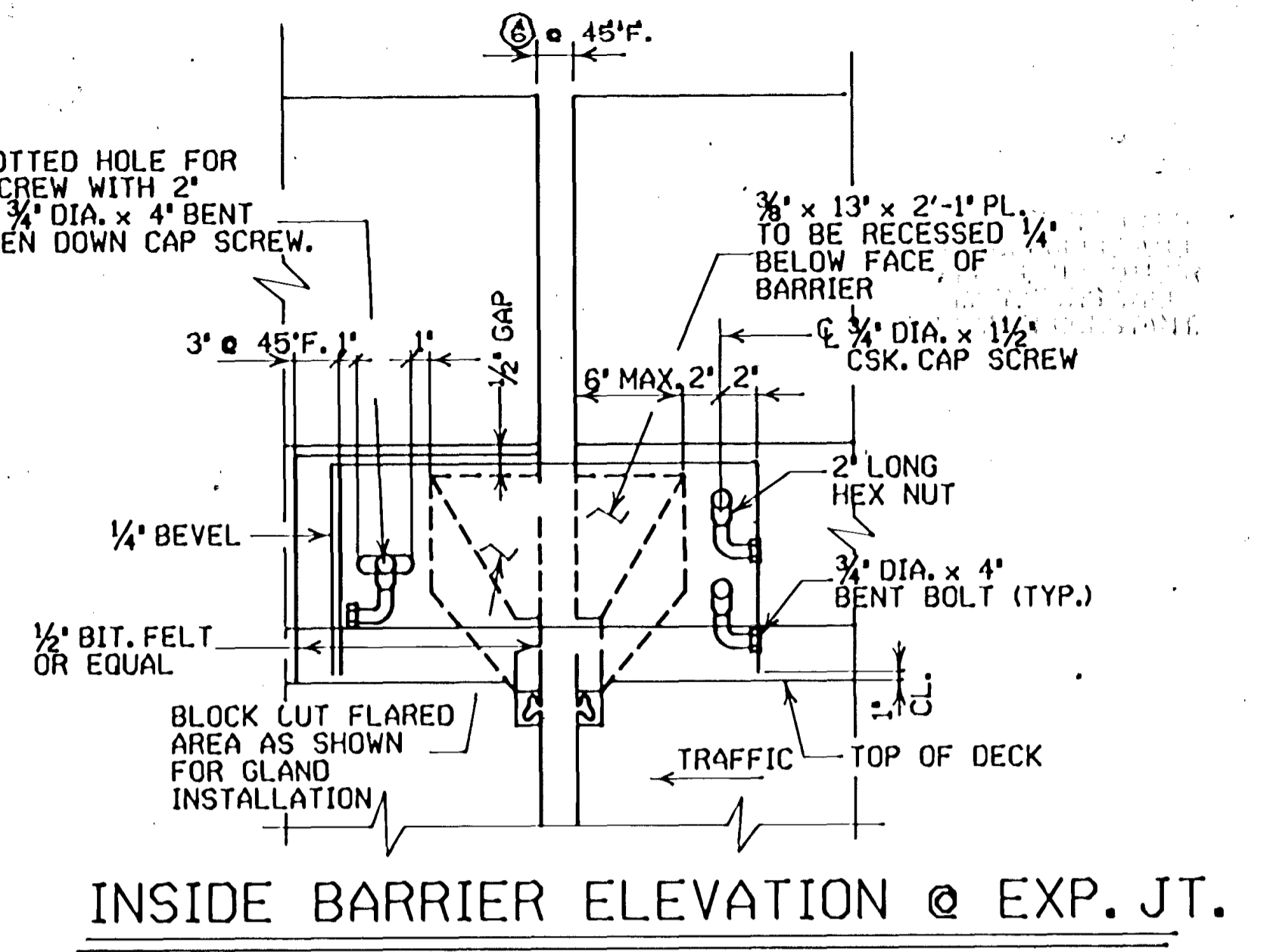
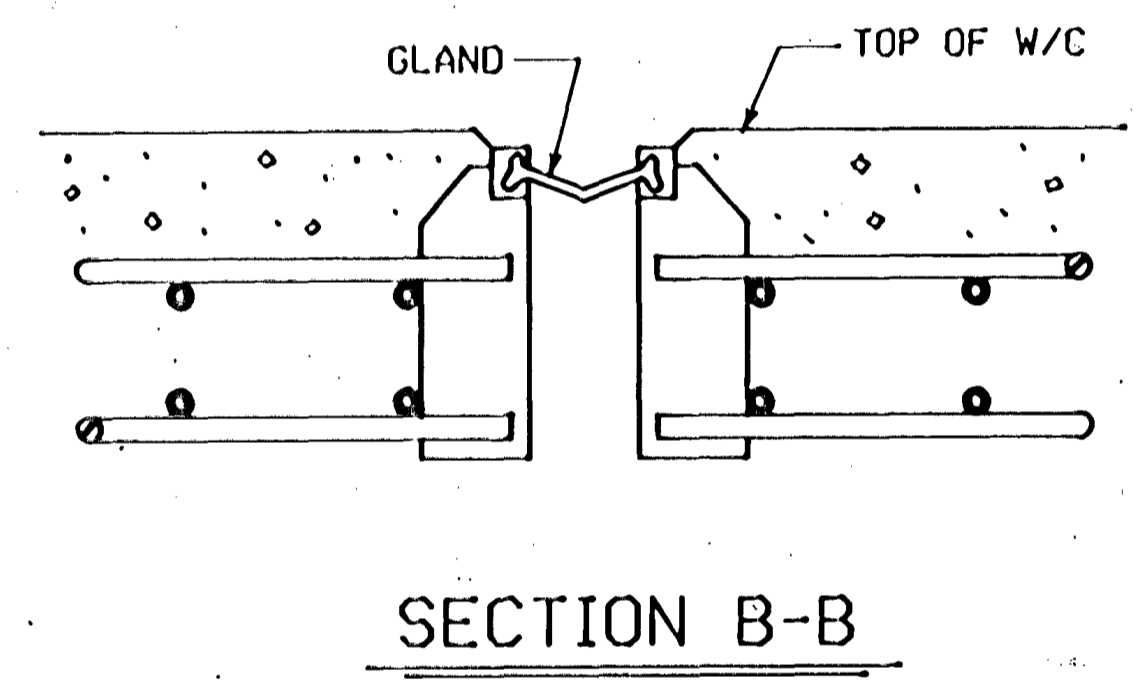
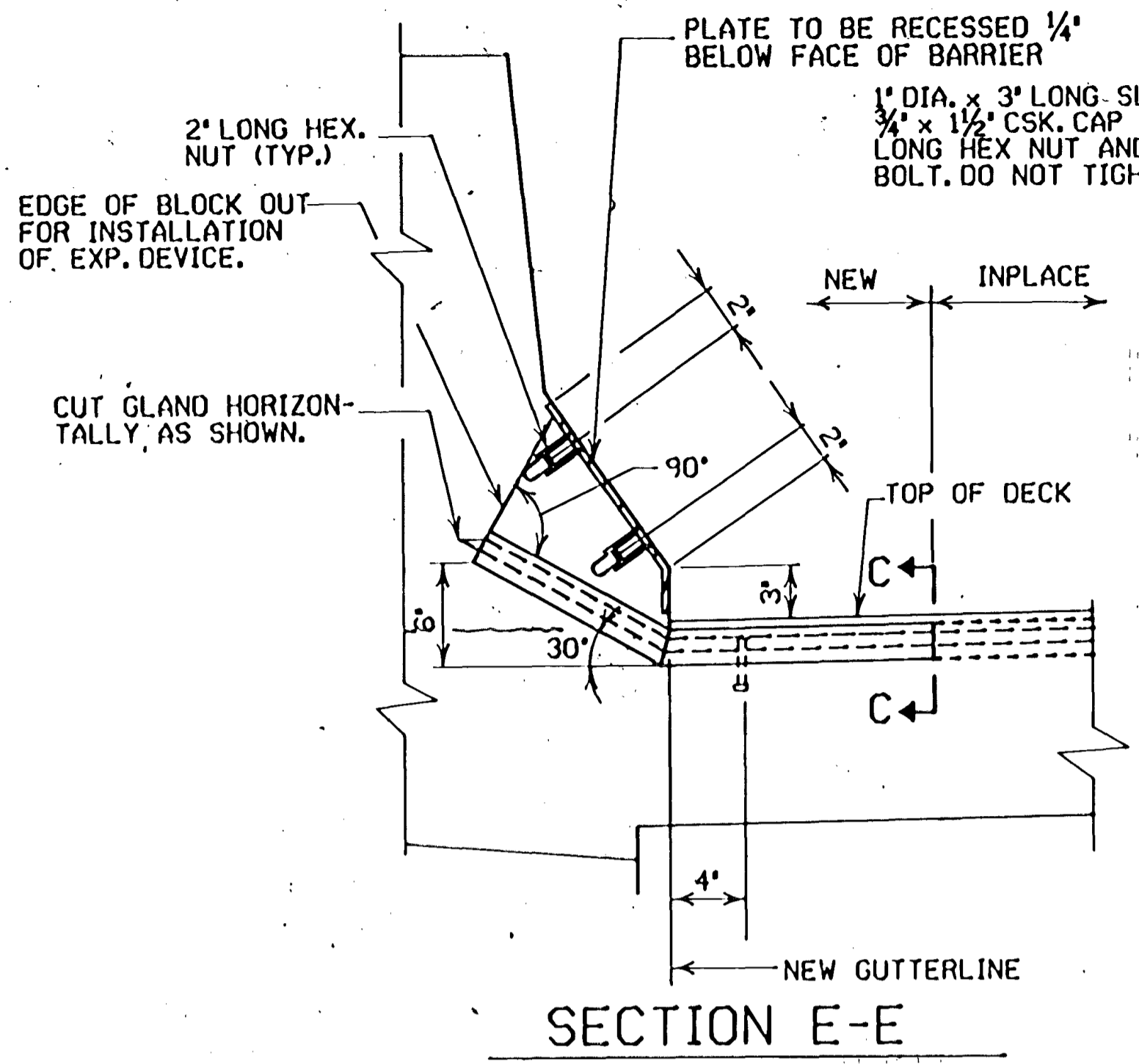
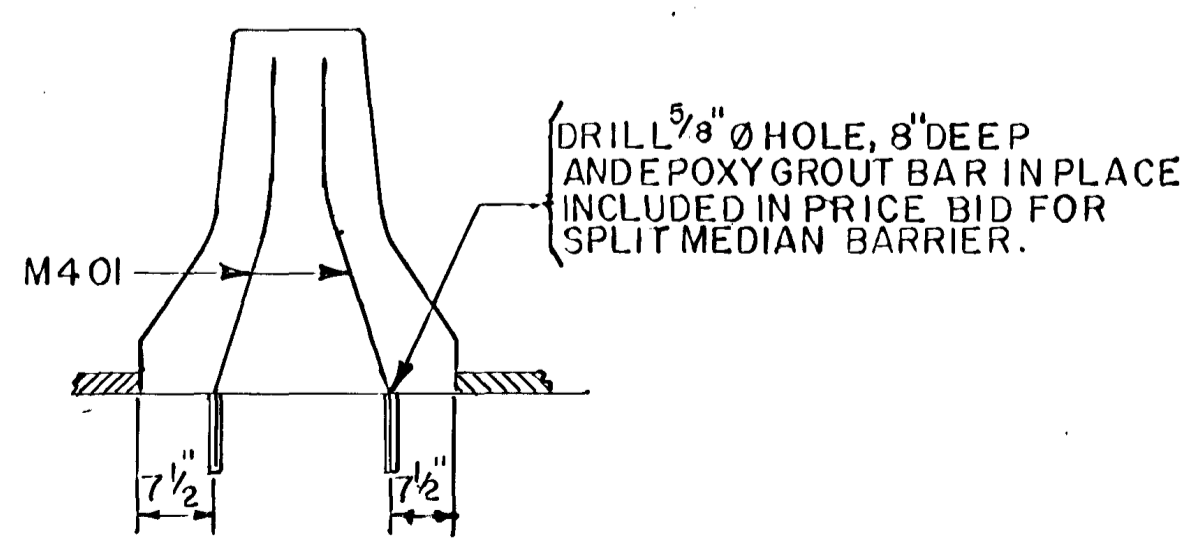
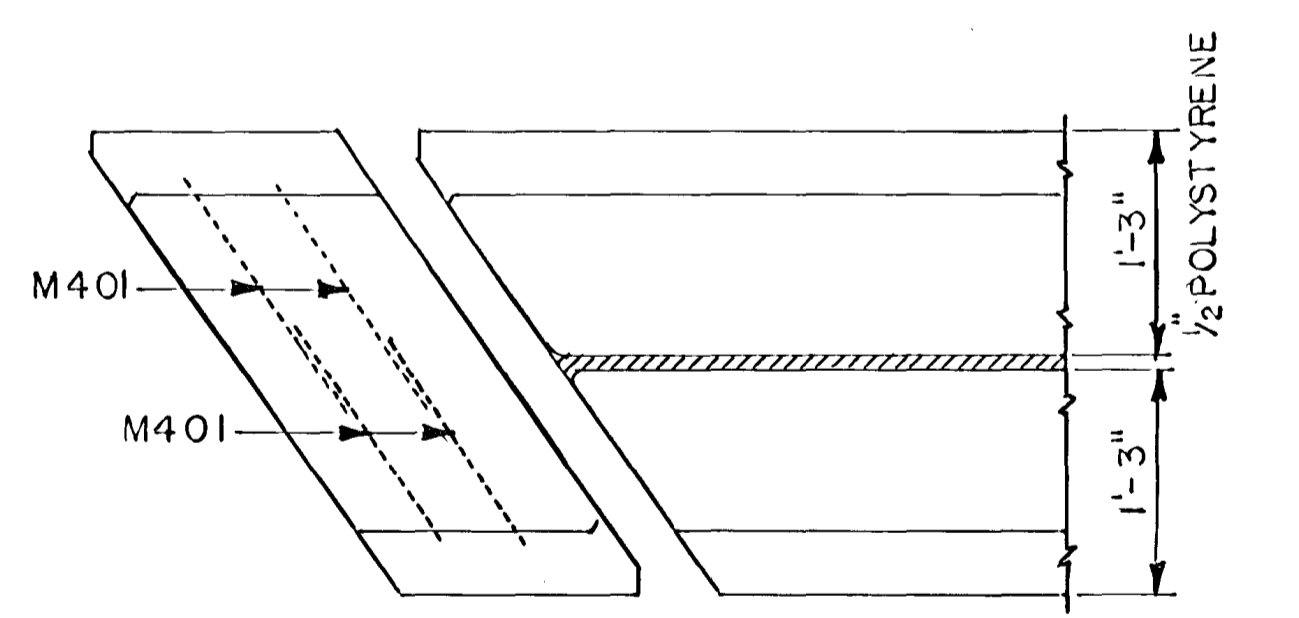
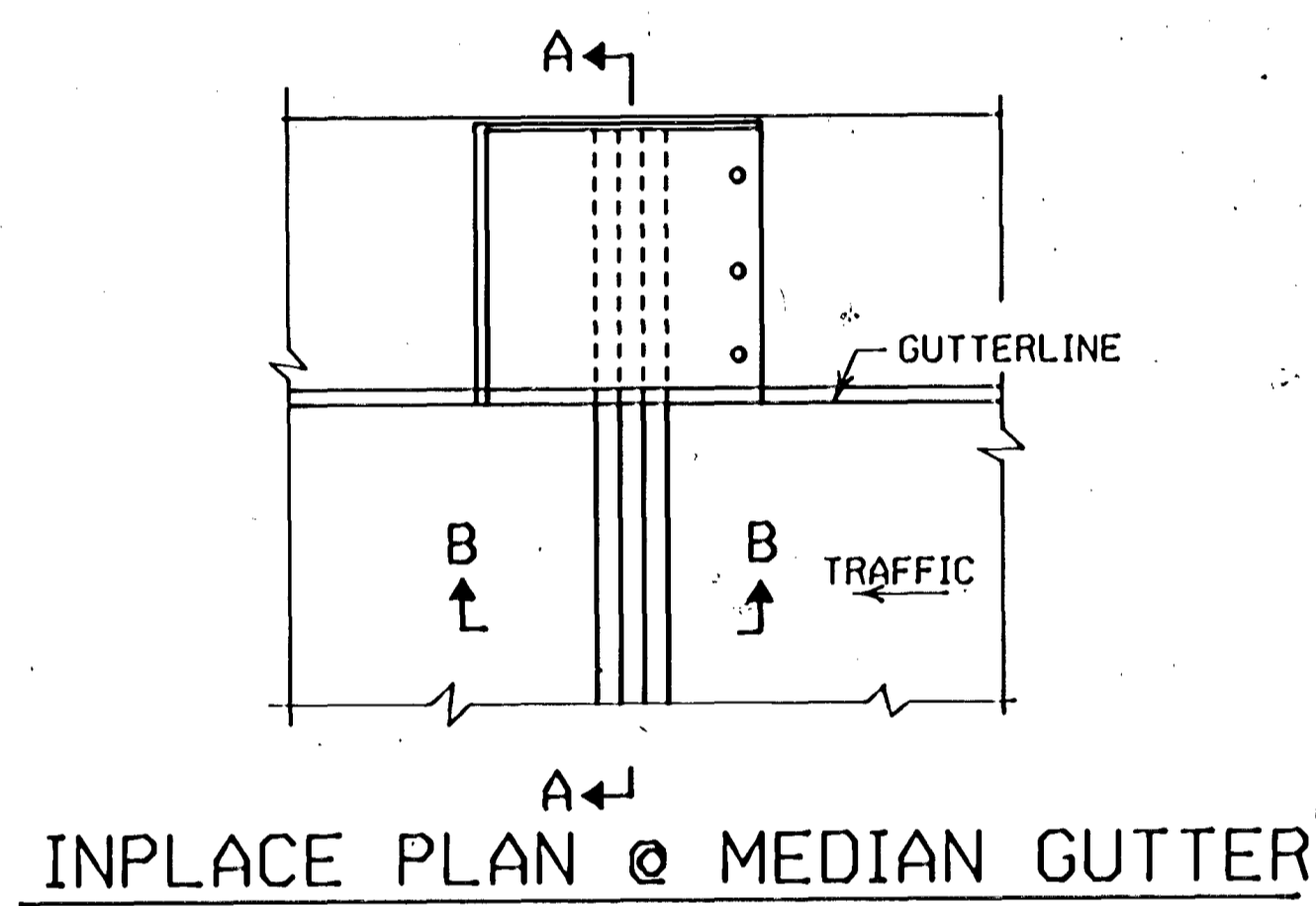
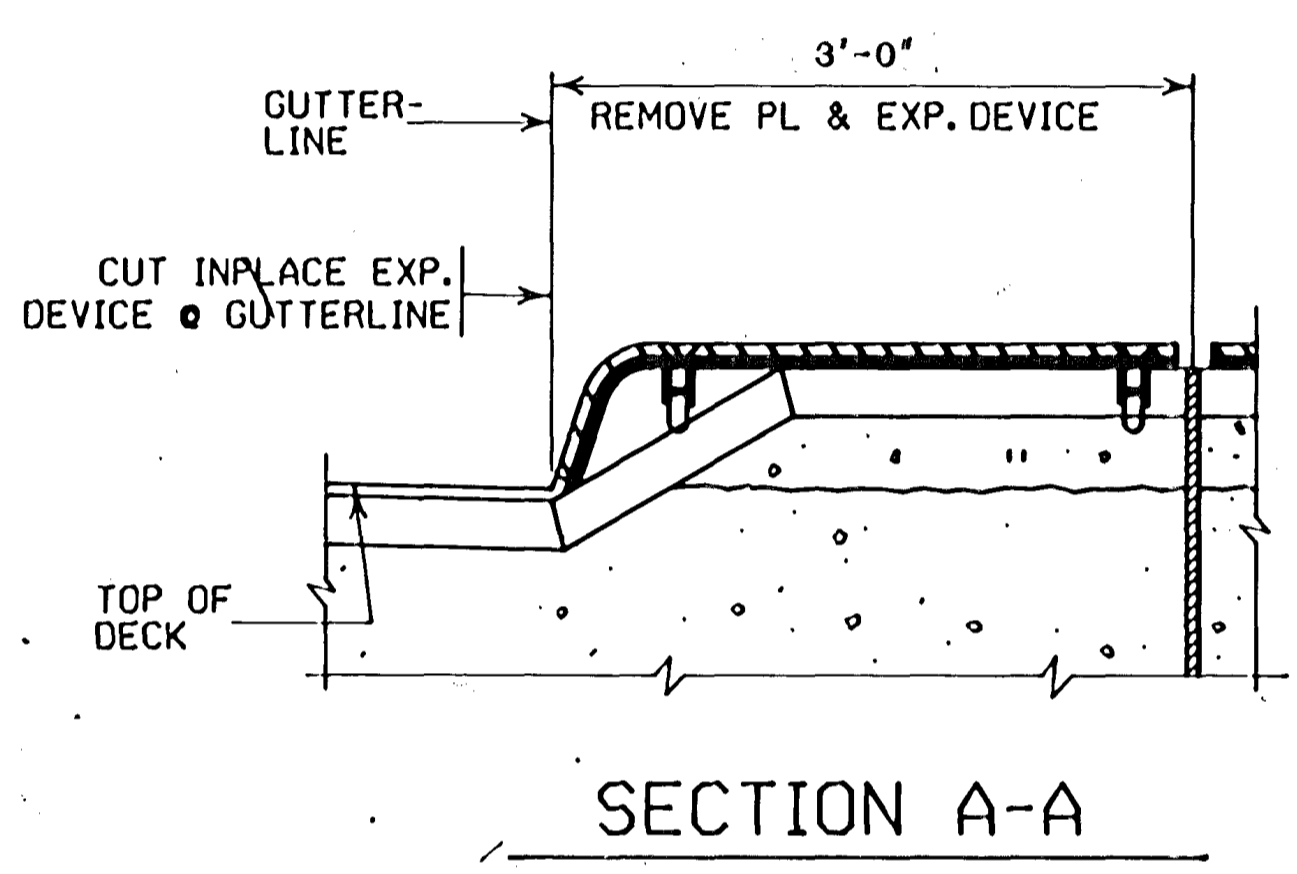
NOTE: THIS SHEET IS FOR INFORMATION ON EXISTING BRIDGES ONLY AND IS A DUPLICATE OF THE PLAN SHEET FROM THE BRIDGE RECONSTRUCTION OF 1983.

C.P. 85-19-03

EXISTING WATERPROOF EXPANSION DEVICE	DRAWN: D.J.V.	CHECKED: R.R.T.	APPROVED:	BRIDGE NUMBERS: 02521 & 02522
	SHEET 8 OF 10 SHEETS			

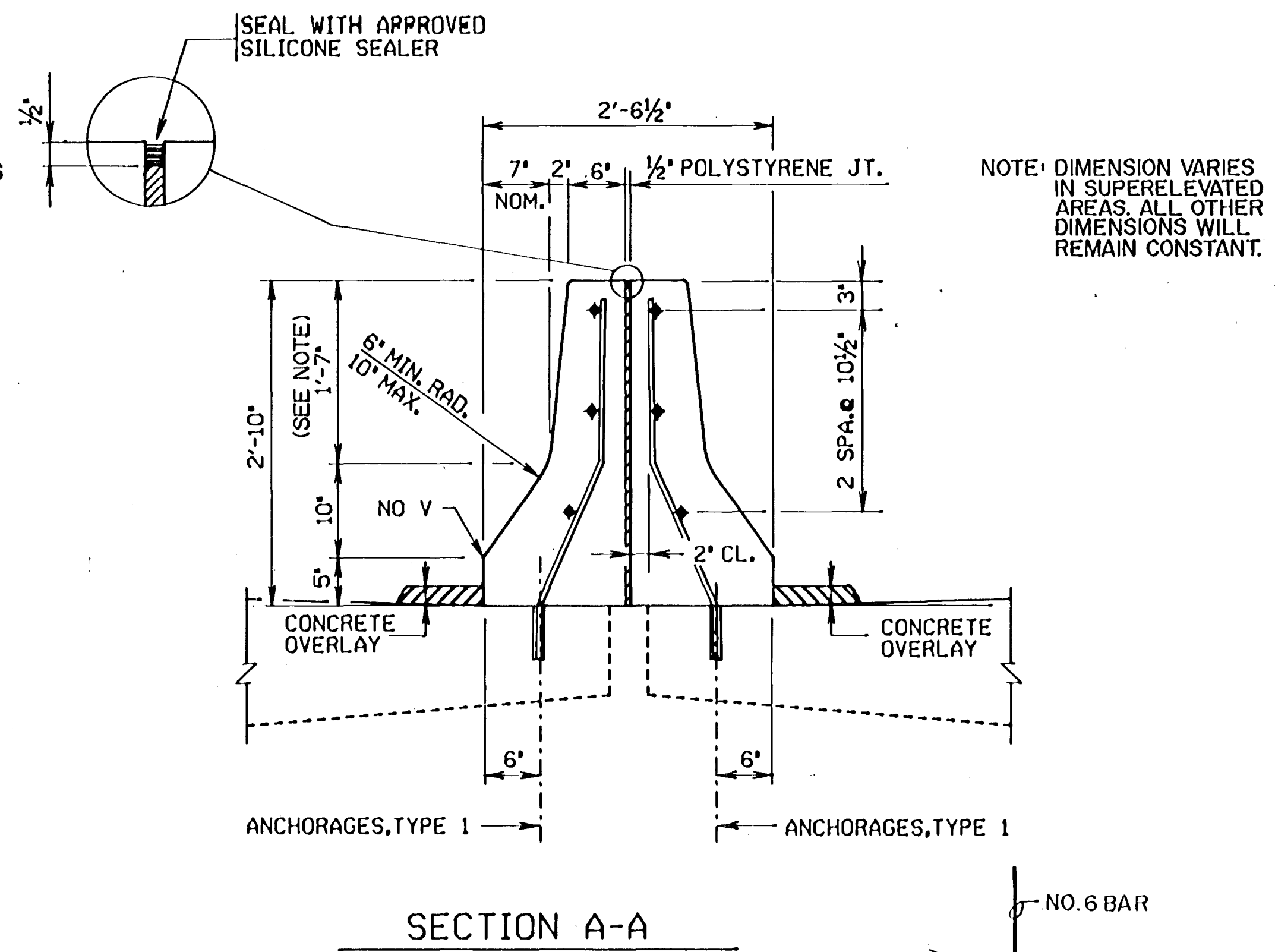
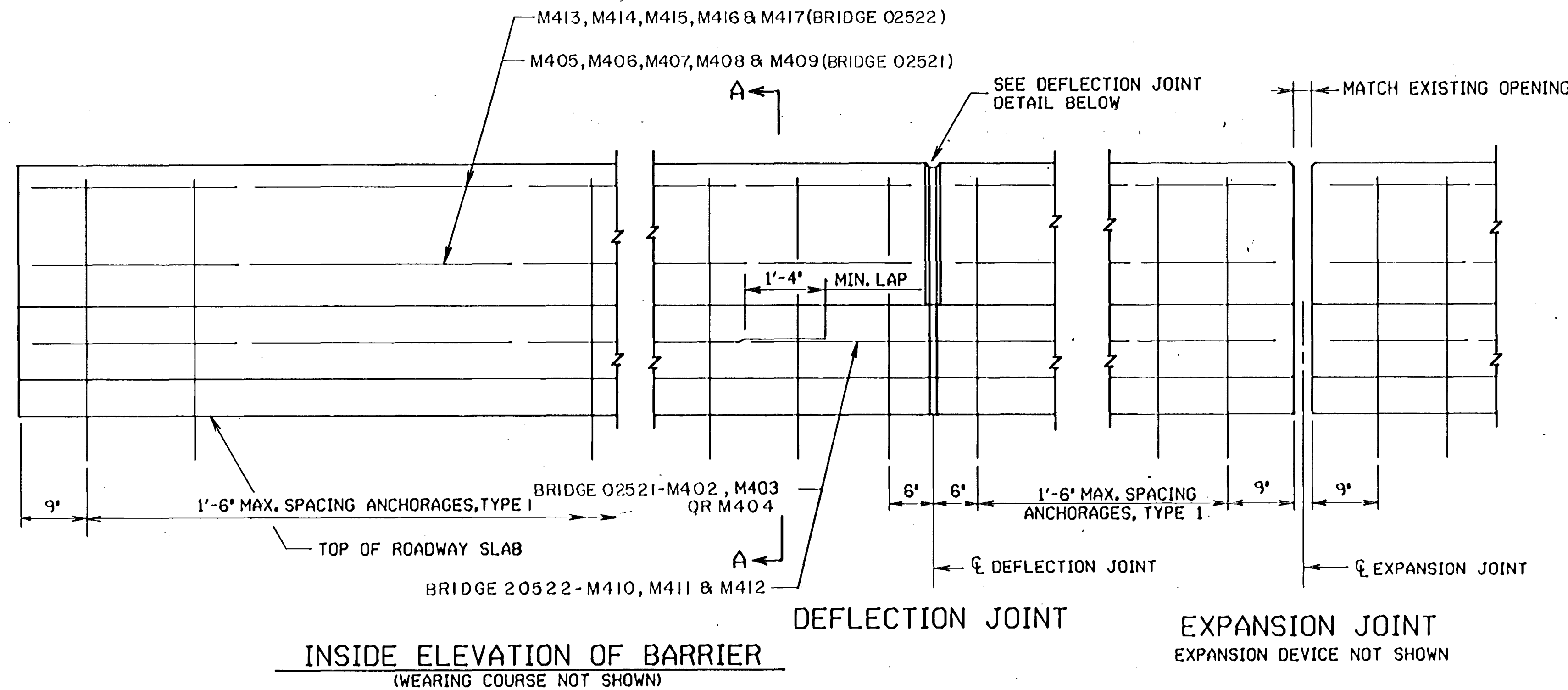


REMOVE DECK CONCRETE, AS DIRECTED BY ENGINEER IN THE FIELD, AS NECESSARY FOR PLACEMENT OF NEW DEVICE.



- NOTES:**
- GALVANIZE STRUCTURAL STEEL AFTER FABRICATION AS PER SPEC. 3394.
 - JOINTS IN THE EXTRUSION SHALL BE AT LOCATIONS SHOWN IN THE PLAN.
 - JOINTS SHALL BE CLOSE FIT AND WELDED. REPAIR AFTER WELDING AS PER SPEC. 2471.3L.
 - STRUCTURAL STEEL SHALL COMPLY WITH SPEC. 3306, SPEC. 3307 OR SPEC. 3309.
 - CAP SCREWS SHALL BE COUNTERSUNK 1/16" BELOW TOP OF PLATE.
 - GALVANIZE SCREWS AND NUTS AS PER SPEC. 3392.
 - ⑥ TO LINE UP WITH INPLACE JOINT.
 - ⑦ POST SPACING 3'-3" FIRST 8 POSTS ON EACH END OF CONCRETE MEDIAN 6'6" TYPICAL ADDITIONAL POSTS INCIDENTAL.
 - ⑧ DOUBLE RAIL 25' FROM END OF CONCRETE MEDIAN PLUS 10' ON TO MEDIAN IN DIRECTION OF TRAFFIC FLOW ONLY.
 - ⑨ 6" ID SCH 40 STEEL TUBING 1'-2" LONG 3 REQ. PER CONNECTION INCLUDING 1'-7 1/2" x 5/8" BOLT AND 1'-1 1/2" x 5/8" BUTTON HEAD BOLT WITH NUTS PER TUBE.

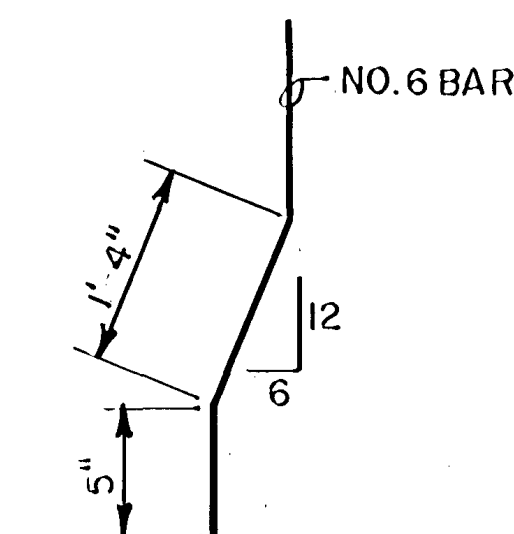
TITLE: **EXTEND EXPANSION DEVICE, TYPE A**



BILLS OF REINFORCEMENT FOR BARRIERS ①

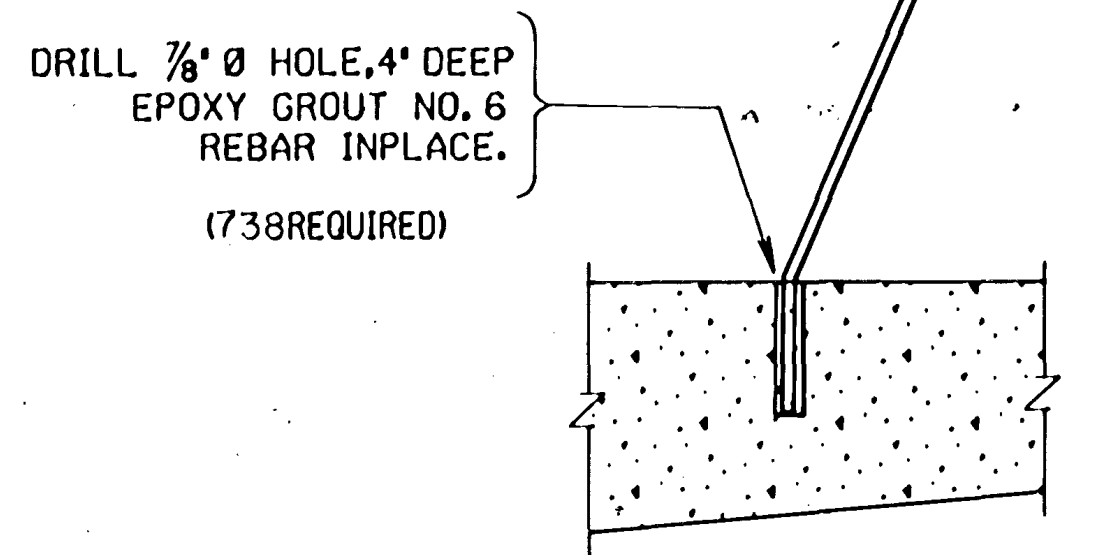
BAR	BR	LENGTH	SHAPE	LOCATION
② M602	368	3' 2"	BENT	ANCHORAGE
M410	4	21' 6"	STRT.	HORZ. EAST END BOTTOM
M411	4	22' 10"	STRT.	HORZ. WEST END BOTTOM
M412	20	22' 3"	STRT.	HORZ. BRIDGE BOTTOM
M413	8	20' 6"	STRT.	HORZ. EAST END TOP 2 ROWS
M414	12	19' 3"	STRT.	HORZ. BRIDGE TOP 2 ROWS
M415	20	17' 4"	STRT.	HORZ. BRIDGE TOP 2 ROWS
M416	16	15' 4"	STRT.	HORZ. BRIDGE TOP 2 ROWS
M417	12	14' 6"	STRT.	HORZ. WEST END TOP 2 ROWS

BAR	BR	LENGTH	SHAPE	LOCATION
② M601	370	3' 2"	BENT	ANCHORAGE
M402	4	21' 6"	STRT.	HORZ. EAST END BOTTOM
M403	4	18' 0"	STRT.	HORZ. WEST END BOTTOM
M404	24	21' 4"	STRT.	HORZ. BRIDGE BOTTOM
M405	12	13' 2"	STRT.	HORZ. EAST END TOP 2 ROWS
M406	20	18' 1 1/2"	STRT.	HORZ. BRIDGE TOP 2 ROWS
M407	20	16' 0"	STRT.	HORZ. BRIDGE TOP 2 ROWS
M408	16	15' 9 1/2"	STRT.	HORZ. BRIDGE TOP 2 ROWS
M409	8	17' 0"	STRT.	HORZ. BRIDGE TOP 2 ROWS

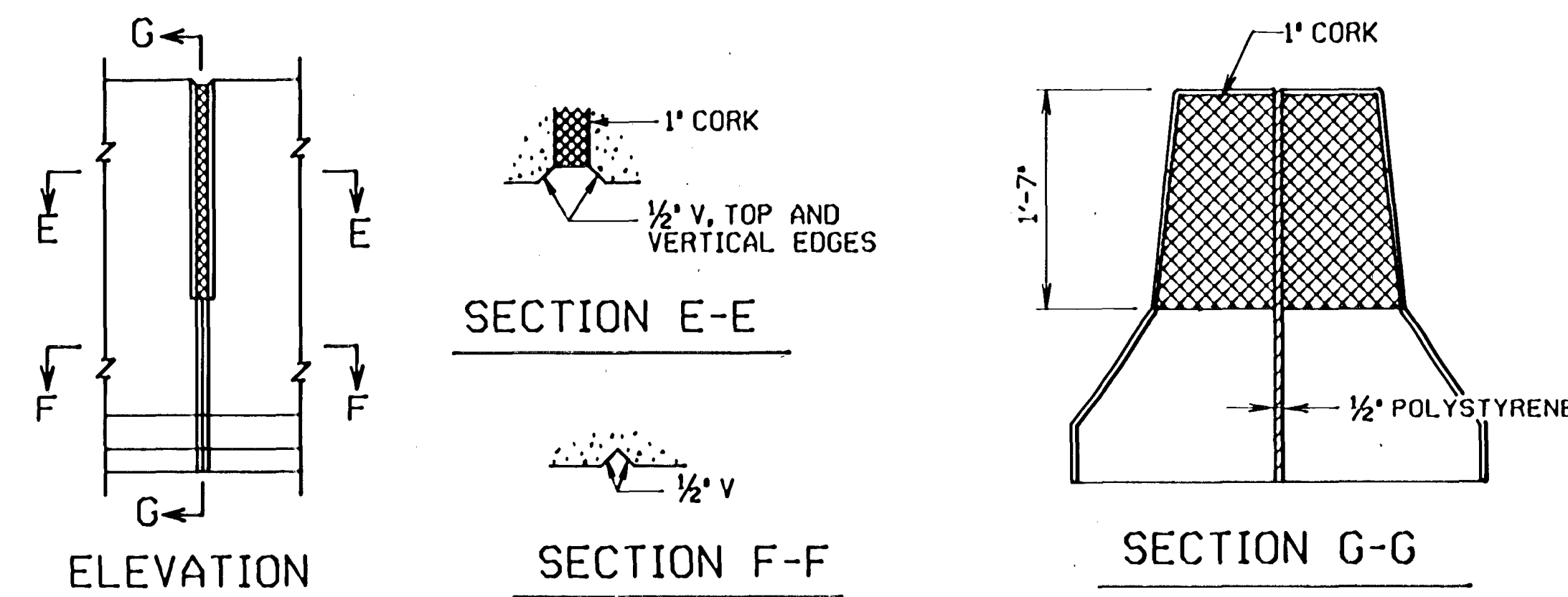


M601 & M602

- ① INCLUDED IN PRICE BID FOR SPLIT MEDIAN BARRIER, EXCEPT AS NOTED.
- ② INCLUDED IN PRICE BID FOR ANCHORAGES, TYPE 1.
- ③ BOTTOM ROW OF BARS ONLY LAP 1' 4" EXCEPT AT EXPANSION JOINTS



ANCHORAGE DETAILS
ANCHORAGES TO BE INCLUDED IN PRICE BID FOR ANCHORAGES, TYPE 1



DEFLECTION JOINT DETAIL

GENERAL NOTES:

- CONCRETE BARRIER = 675 LBS./FT.
- CONCRETE BARRIER = .167 CU. YDS./FT.
- BARRIER TO BE CONCRETE (3X46).
- FINISH ALL EDGES OF BARRIER WITH 1/2\"/>
- SEE GENERAL PLAN SHEET FOR JOINT SPACING.
- MAXIMUM SPACING OF CONCRETE DEFLECTION JOINTS SHALL BE 20'-0".

TITLE:
SPLIT MEDIAN BARRIER
(TYPE J)