

MINNESOTA DEPARTMENT OF TRANSPORTATION

CONSTRUCTION PLAN FOR DECK REPAIR

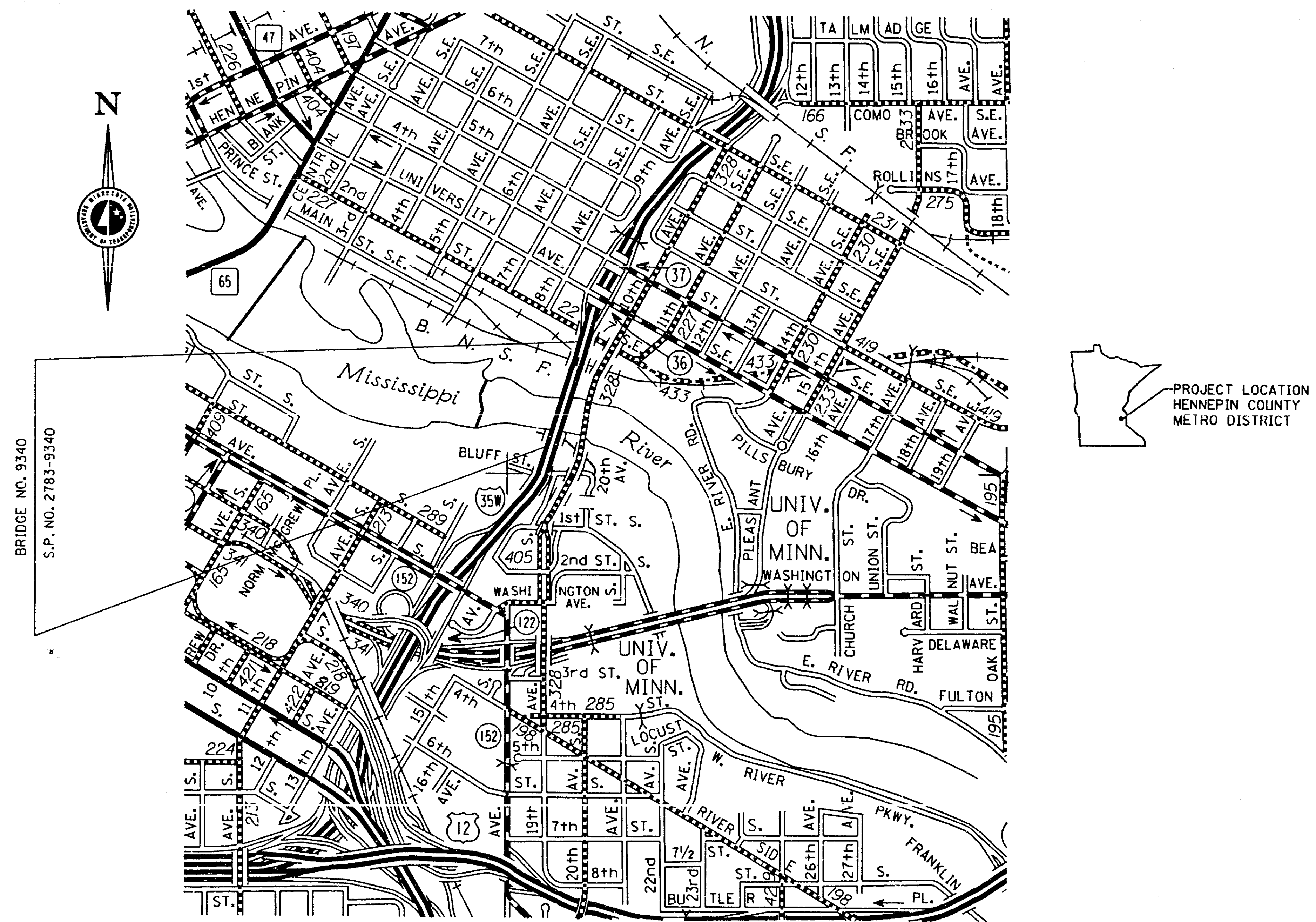
BRIDGE 9340

FED. PROJECT NO. IM 035W - 3 (263)

GOVERNING SPECIFICATIONS
 THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION
 "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AS AMENDED BY THE
 MAY 2, 1994, SUPPLEMENTAL SPECIFICATIONS SHALL GOVERN.

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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.

DATE 1-29-98 ENGR. *Arden Ottman*
 DESIGN UNIT ARLEN OTTMAN REG. NO. 7578

APPROVED BY 1-30-98 *Donald J. Blum*
 STATE BRIDGE ENGINEER

I HEREBY CERTIFY THAT THE FINAL FIELD REVISIONS, IF ANY, OF THIS PLAN WERE MADE BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE _____ REG. NO. _____

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

JOB NUMBER: T52646

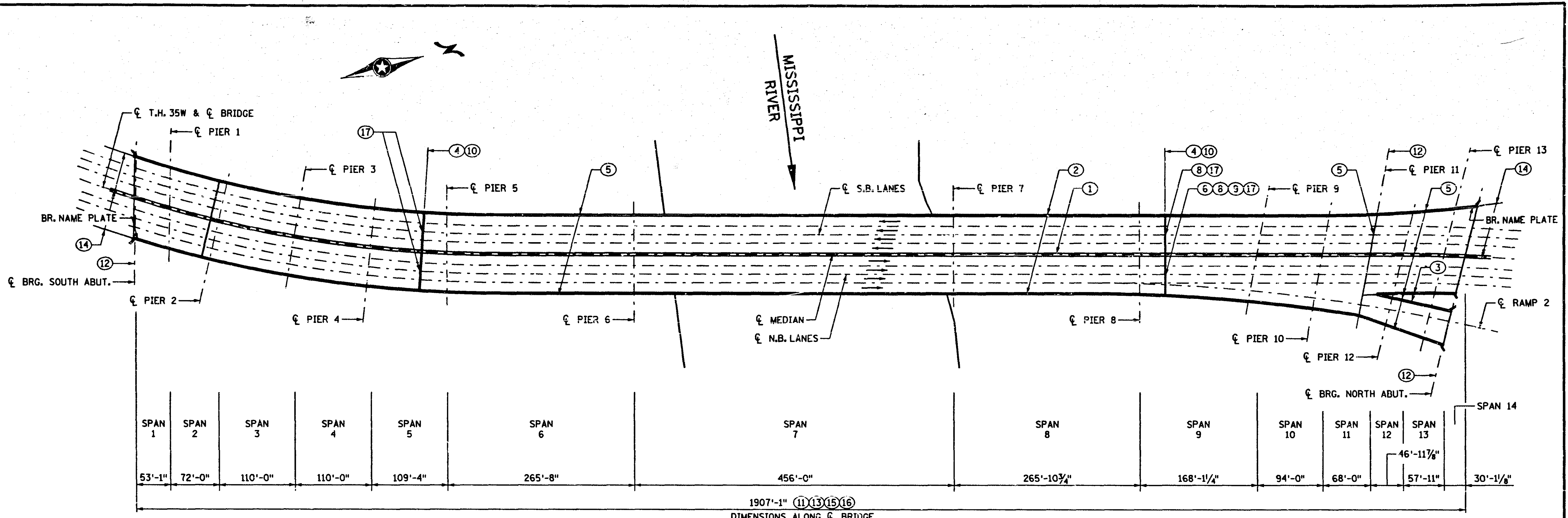
STATE PROJECT NO. 2783-9340 (T.H. 35W=394) SHEET 0 OF 61 SHEETS BRIDGE 9340

ADJACENT DOCUMENT WAS SUPPLIED BY AGENCY NAMED BELOW. DURING THE REGULAR COURSE OF BUSINESS, TO BE FILMED BY STATE OF MINNESOTA MICROGRAPHIC SERVICES UNIT ACCORDING TO NATIONAL BUREAU OF STANDARDS REQUIREMENTS FOR PERMANENT MICROFILM AND ACCORDING TO PROCEDURES FOR THE DOCUMENT SERIES.

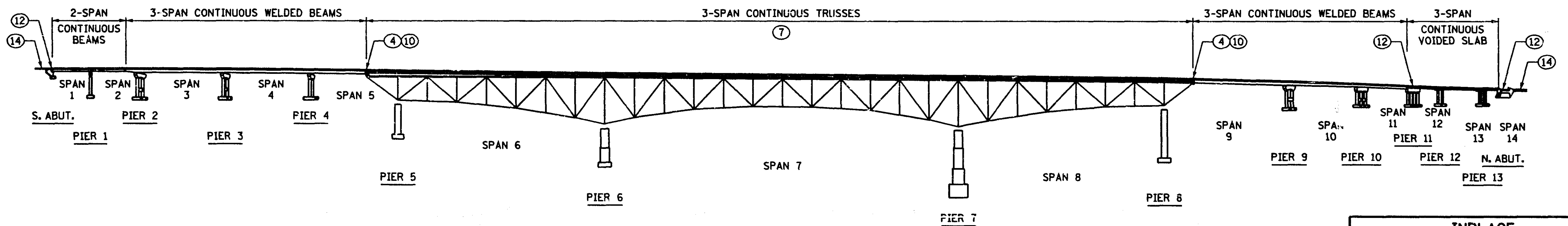
Record Series Titled

BRIDGE DESIGN TRANSPORTATION

ORA-9-98



INPLACE GENERAL PLAN



INPLACE GENERAL ELEVATION

INPLACE BRIDGE NO. 9340	
T.H. 35W OVER RAILROADS, BLUFF ST., MISSISSIPPI RIVER AND 2ND ST. S.E. IN MINNEAPOLIS.	
INPLACE BRIDGE DATA:	
DECK AREA	205,560 SQ. FT.
YEAR BUILT	1967
DESIGN LOADING	H20-S16-44
A.D.T. (1992)	120,000

NOTES:

DIMENSIONS GIVEN TO INPLACE BRIDGE WERE TAKEN FROM THE ORIGINAL PLANS FOR BR. 9340.
SEE SHEET NO. 2 FOR REPAIR NOTES CORRESPONDING TO (N)

JOB NO. T52646

DESIGN UNIT: ARLEN OTTMAN

CERTIFIED BY: *Arden Ottman*
REG. NO. 7578
PROFESSIONAL ENGINEER
1-29 19 98

TITLE: GENERAL PLAN AND ELEVATION

DES: E.O.W.	DR: L.J.H.	APPROVED: 1-30-98
CHK: A.D.O.	CHK: A.D.O.	

SHEET NO. 1 OF 61 SHEETS

BRIDGE NO. 9340

ADJACENT DOCUMENT WAS SUPPLIED BY AGENCY NAMED BELOW. DURING THE REGULAR COURSE OF BUSINESS, TO BE FILMED BY STATE OF MINNESOTA MICROGRAPHIC SERVICES UNIT ACCORDING TO NATIONAL BUREAU OF STANDARDS REQUIREMENTS FOR PERMANENT MICROFILM AND ACCORDING TO PROCEDURES FOR THE DOCUMENT SERIES.

NOTES FOR REPAIR

- ① REPLACE PLATE BEAM MEDIAN BARRIER, CONCRETE CURB AND CANTILEVERED PORTION OF DECK WITH TYPE-F BARRIERS FOR FULL LENGTH OF BRIDGE. REPLACE MEDIAN DECK SLAB IN SPANS 1 THROUGH 11. PLACE PRECAST MEDIAN CAP OVER TRUSS SPANS.
- ② CONSTRUCT NEW CONCRETE FACING AT OUTSIDE TRAFFIC RAILINGS. REMOVE METAL TUBULAR RAIL.
- ③ CONSTRUCT NEW CONCRETE FACING AT TRAFFIC RAILING BETWEEN NB ROADWAY AND RAMP 2 IN SPANS 12, 13, AND 14.
- ④ REMOVE EXISTING DRAIN TROUGHS AND DRAIN PIPES BENEATH FINGER-TYPE EXPANSION JOINTS AT ENDS OF TRUSS SPANS AND INSTALL PROTECTIVE CURTAINS ON FLOOR BEAMS AND CROSS-GIRDERS.
- ⑤ REPAIR SPALLED CONCRETE ON BOTTOM SIDE OF SLAB OVERHANG AT OUTSIDE EDGES OF BRIDGE AND ON BOTTOM AND EDGES OF SLAB SPANS, NO. 12, 13, AND 14. REPAIR DELAMINATED SHOTCRETE ON PIER 11 CAP.
- ⑥ CONSTRUCT NEW STEEL BRACING OF CROSS-GIRDER AT JUNCTURE OF EAST TRUSS AND NORTH APPROACH SPANS.
- ⑦ REPLACE LOOSE AND MISSING BOLTS AT CONNECTIONS OF STRINGERS AND FLOOR GIRDERS IN TRUSS SPANS.
- ⑧ ADJUST BOLT TENSION AT CONNECTION OF PLATE GIRDER TO CROSS-GIRDER AT JUNCTURE OF TRUSS SPANS AND NORTH APPROACH SPANS.
- ⑨ DRILL OUT CRACK RELIEF HOLES AT CRACKS IN CROSS-GIRDERS AT JUNCTURE OF EAST TRUSS AND NORTH APPROACH SPANS.
- ⑩ PAINT ACCESSIBLE STRUCTURAL STEEL BETWEEN END FLOORBEAM AND CROSS-GIRDER AT ENDS OF TRUSS SPANS.
- ⑪ SEAL CRACKS IN EXISTING 1/2" THICK LOW-SLUMP CONCRETE DECK OVERLAY.
- ⑫ REMOVE AND REPLACE GLAND IN STRIP SEAL EXPANSION JOINTS AT THE NORTH AND SOUTH ABUTMENTS, AND AT PIER 11.
- ⑬ PROVIDE ACCESS WITHIN LANE CLOSURES FOR DECK SURVEY BY MN/DOT PERSONNEL.
- ⑭ CONSTRUCT GUARDRAIL TRANSITION SECTION, TYPE B.
- ⑮ FURNISH AND INSTALL PROVISIONS FOR A FUTURE ANTI-ICING SYSTEM.
- ⑯ FURNISH AND INSTALL A CONDUIT SYSTEM IN THE CONCRETE FACING AT THE EAST TRAFFIC RAILING.
- ⑰ CLEAN ROCKER BEARING ASSEMBLIES AT JUNCTURE OF TRUSS AND SOUTH AND NORTH APPROACH SPANS.

SCHEDULE OF QUANTITIES FOR BRIDGE 9340

ITEM NO.	ITEM	UNIT	QUANTITY TOTAL
2013.602	TCLP TEST	EACH	1
2021.501	MOBILIZATION	LUMP SUM	1
2031.501	FIELD OFFICE, TYPE D	EACH	1
2100.603	ANTI-ICING SYSTEM PROVISIONS	LUMP SUM	1
2401.512	BRIDGE SLAB CONCRETE (3Y33)	SQ. FT.	11715 (P)
2401.514	MEDIAN BARRIER CONCRETE (3Y46)	LIN. FT.	3813 (P)
2401.541	REINFORCEMENT BARS (EPOXY COATED)	POUND	156,040 (P)
2401.604	PRECAST MEDIAN CAP	LIN. FT.	1065 (P)
2402.521	STRUCTURAL STEEL (3306)	POUND	1435 (P)
2402.601	ADJUST BOLT TENSION	LUMP SUM	1
2402.601	DRAINAGE SYSTEM, TYPE SPECIAL	LUMP SUM	1
2402.602	REPLACE BOLT	EACH	36
2402.602	DRILL HOLE 1/2" DIAMETER	EACH	4
2433.502	REMOVE CONCRETE	CU. YD.	18 (P)
2433.505	REMOVE CONCRETE BRIDGE DECK	SQ. FT.	12376 (P)
2433.506	REMOVE MEDIAN RAIL	LIN. FT.	1907 (P)
2433.516	ANCHORAGES, TYPE REINFORCEMENT BARS	EACH	8801
2433.602	RECONSTRUCT RAILING	LIN. FT.	4018 (P)
2433.603	REPAIR CONCRETE SURFACE, BRIDGE SLAB	SQ. FT.	8400
2433.603	REPAIR CONCRETE SURFACE, PIER CAP	SQ. FT.	50
2433.605	REPOSITION FILL PLATE	EACH	7
2433.605	CLEAN ROCKER BEARING	EACH	4
2433.607	REPLACE WATERPROOF GLAND, TYPE 4	LIN. FT.	420 (P)
2433.609	SEAL OVERLAY CRACKS	GALLON	8
2476.603	LEAD SUBSTANCES COLLECTION AND DISPOSAL	LUMP SUM	1
2478.602	EPOXY ZINC-RICH PAINT SYSTEM (OLD)	SQ. FT.	4165 (P)
2545.509	CONDUIT SYSTEM (RWIS)	LUMP SUM	1
2554.602	GUARDRAIL TRANSITION SECTION, TYPE B	EACH	7
2478.602	EPOXY ZINC-RICH PAINT SYSTEM	SQ. FT.	193 (P)
2102.501	PAYEMENT MARKING REMOVAL	SQ. FT.	5545
2533.603	INSTALL CONCRETE MEDIAN BARRIER	LIN. FT.	4320
2533.603	RELOCATE CONCRETE MEDIAN BARRIER	LIN. FT.	4570
2554.602	IMPACT ATTENUATOR BARREL	EACH	41
2554.602	RELOCATE IMPACT ATTENUATOR BARREL	EACH	13
2554.602	CONNECTING PIN	EACH	250
2557.603	TEMPORARY GLARE SCREEN	LIN. FT.	4000
2563.601	TRAFFIC CONTROL	LUMP SUM	1
2563.603	RAISED PAVEMENT MARKER TEMP.	EACH	80
2563.603	MEDIAN BARRIER DELINEATOR	EACH	360
2564.603	4" SOLID LINE WHITE-PAINT	LIN. FT.	11720
2564.603	4" SOLID LINE YELLOW-PAINT	LIN. FT.	12500
2564.603	4" BROKEN LINE WHITE-PAINT	LIN. FT.	3080
2564.603	8" BROKEN LINE WHITE-PAINT	LIN. FT.	800
2564.603	8" SOLID LINE WHITE-PAINT	LIN. FT.	150
2581.603	REMOVABLE PREFORMED PLASTIC MASK (BLACK)	LIN. FT.	105
2581.501	REMOVABLE PREFORMED PLASTIC MARKING	LIN. FT.	270

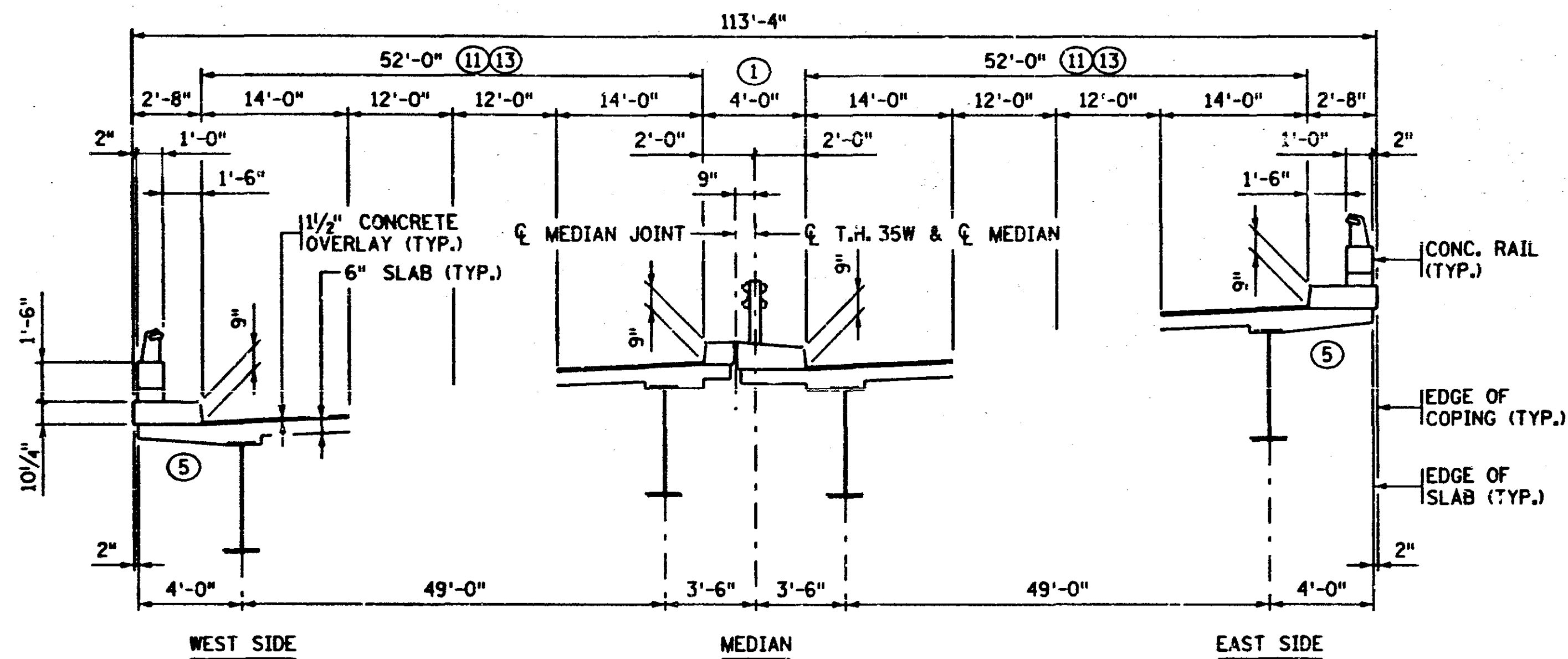
REVISION		
DATE	DESCRIPTION	APPROVED BY
2-3-98	PAY ITEM NOS	<i>Ado</i>

CERTIFIED BY *Robert Ottman*
 REG. NO. 7578 2-3 19 98
 PROFESSIONAL ENGINEER

QUANTITIES AND NOTES

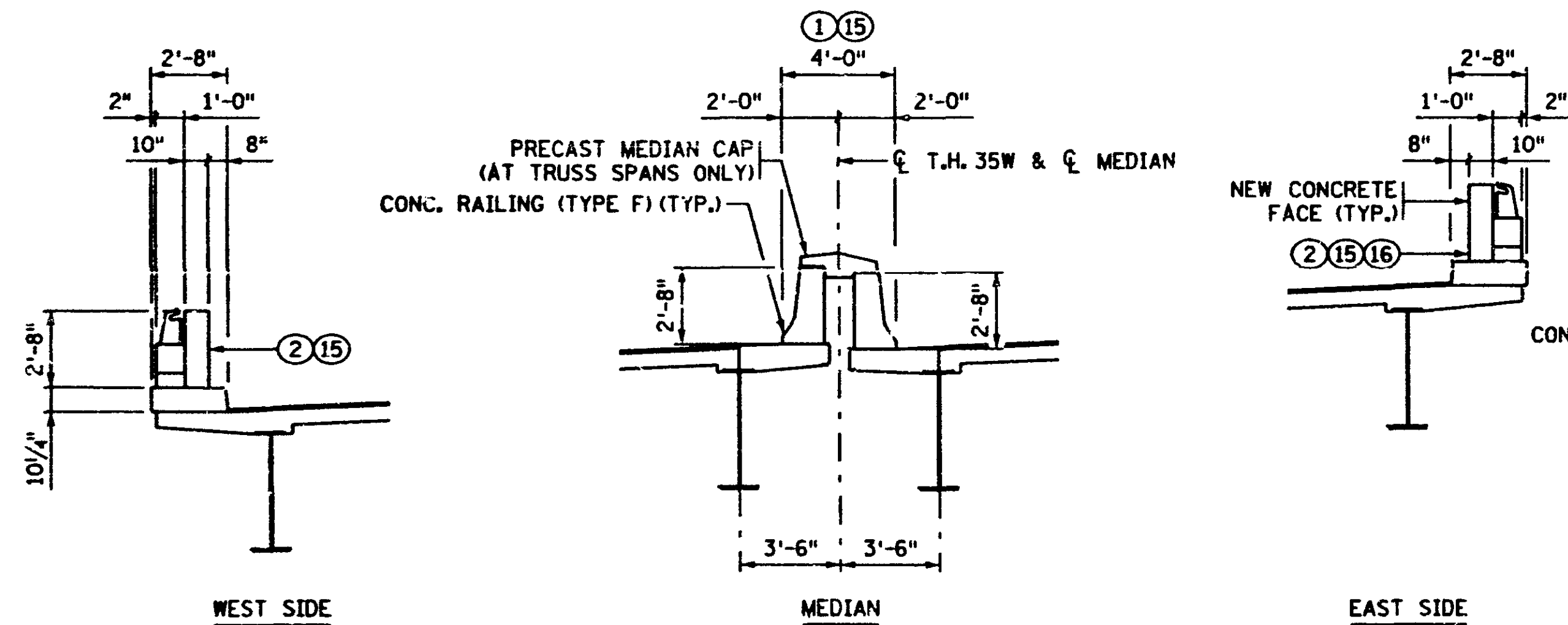
DES: DR: ELR: APPROVED: 1-30-98
 CHK: CHK: ADO: SHEET NO. 2R OF 61 SHEETS

BRIDGE NO. 9340



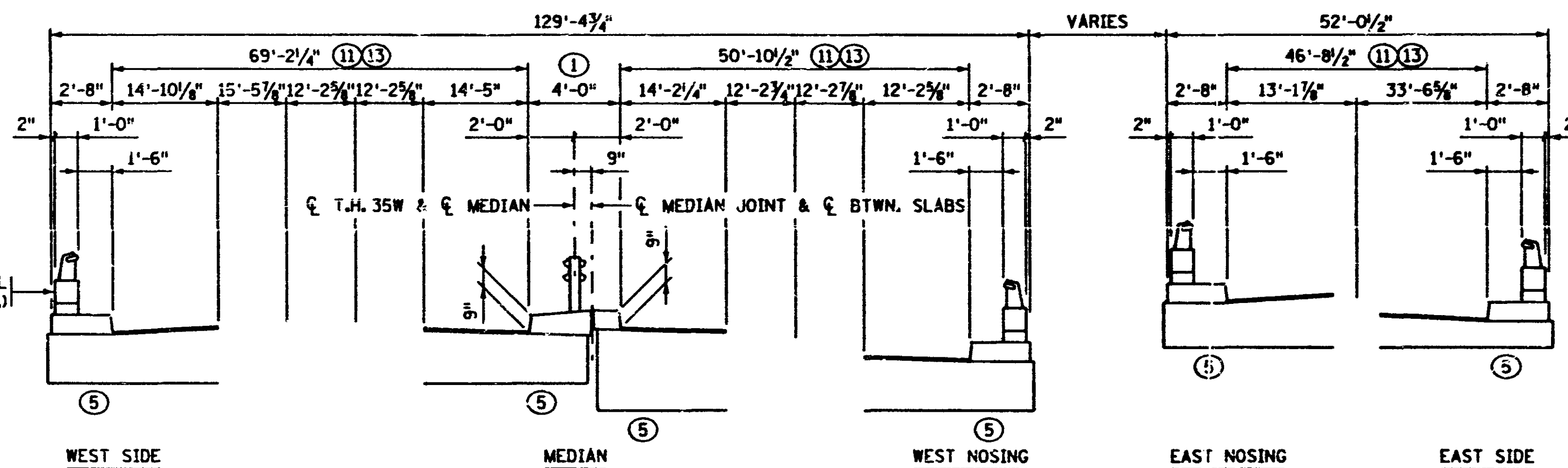
INPLACE TRANSVERSE SECTION

TRANSVERSE SECTION AT SOUTH APPROACH SHOWN.
TRANSVERSE SECTIONS AT TRUSS SPANS AND NORTH APPROACH SPANS SIMILAR.



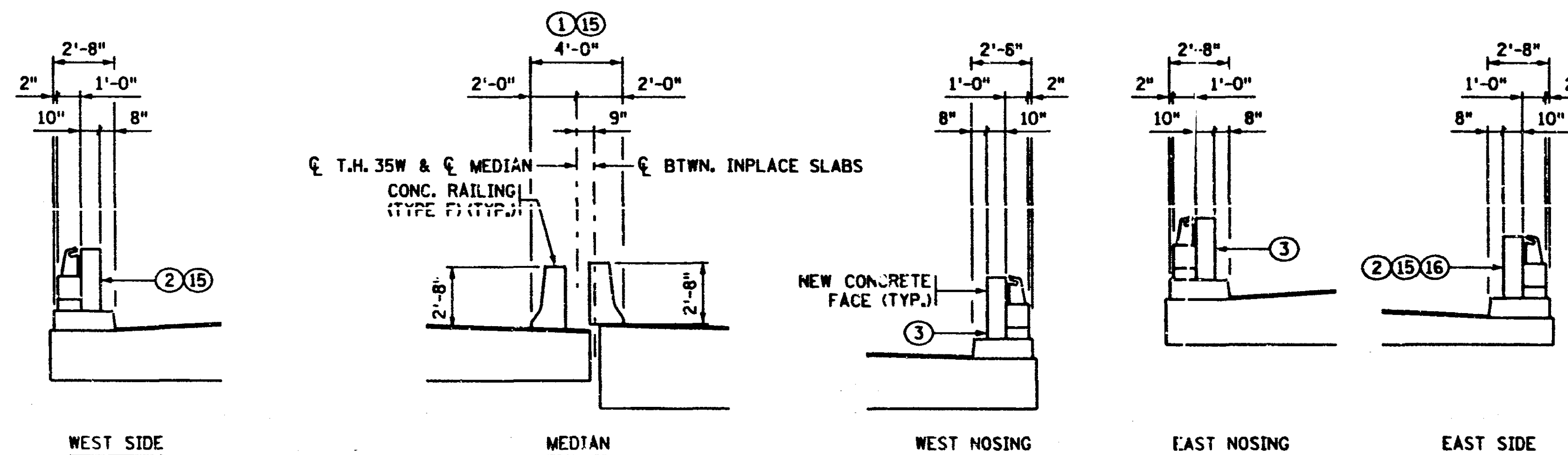
PROPOSED TRANSVERSE SECTION

TRANSVERSE SECTION AT SOUTH APPROACH SHOWN.
TRANSVERSE SECTIONS AT TRUSS SPANS AND NORTH APPROACH SPANS SIMILAR.



INPLACE TRANSVERSE SECTION

TRANSVERSE SECTION AT NORTH APPROACH VOIDED SLAB.



PROPOSED TRANSVERSE SECTION

TRANSVERSE SECTION AT NORTH APPROACH VOIDED SLAB.

NOTES:

DIMENSIONS GIVEN TO INPLACE BRIDGE WERE TAKEN FROM THE ORIGINAL PLANS FOR BR. 9340.

SEE SHEET NO. 2 FOR REPAIR NOTES CORRESPONDING TO (N)

CERTIFIED BY <i>Calvin Ottman</i> REG. NO. 7578 1-29 19 98	TITLE: TRANSVERSE SECTIONS	DES: E.O.W. CHK: A.D.O.	DR: L.J.H. CHK: A.D.O.	APPROVED: 1-30-98	BRIDGE NO. 9340
		SHEET NO. 3 OF 61 SHEETS			

NOTES:

DIMENSIONS GIVEN TO INPLACE BRIDGE WERE TAKEN FROM THE ORIGINAL PLANS FOR BR. 9340.

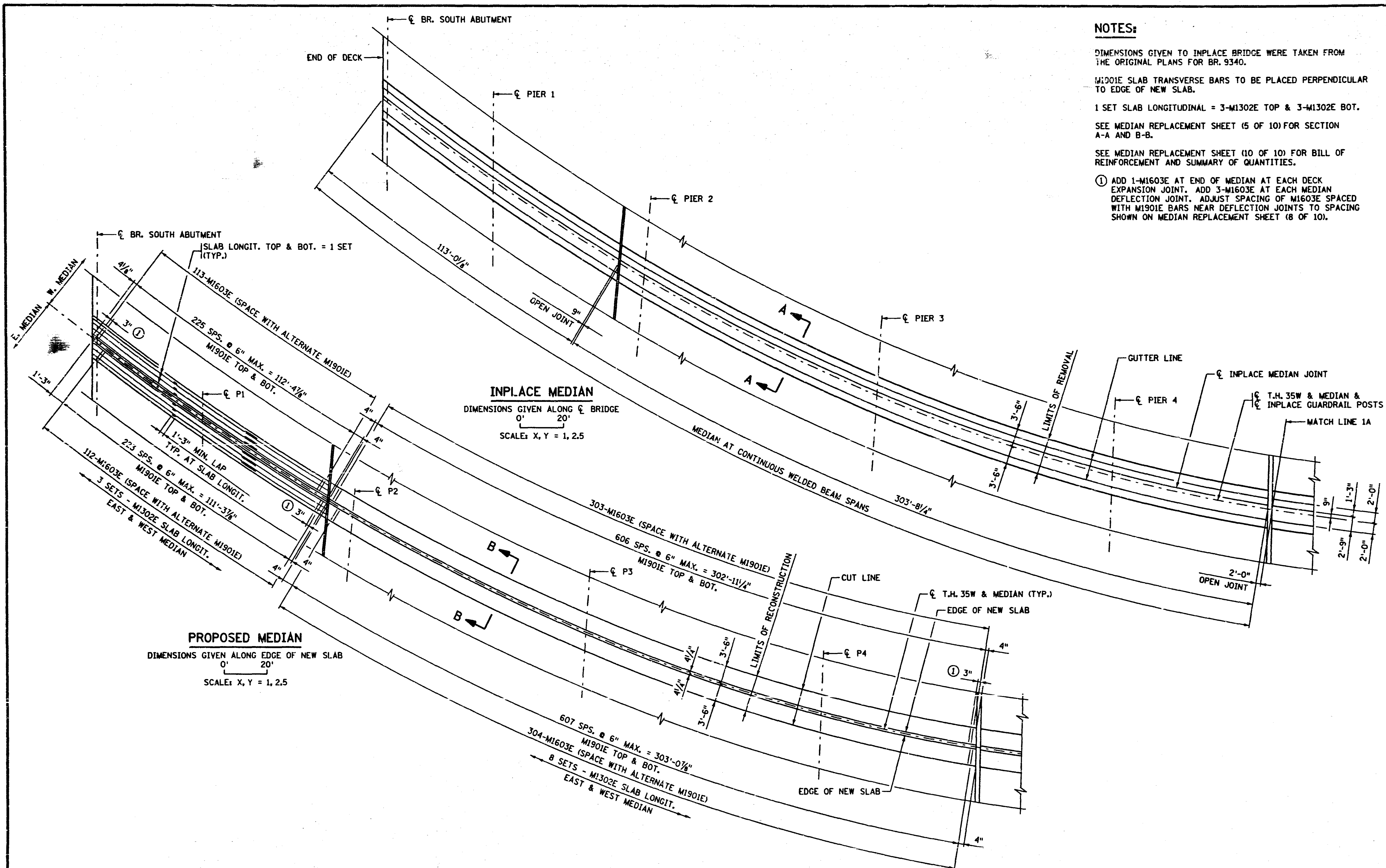
MIDDLE SLAB TRANSVERSE BARS TO BE PLACED PERPENDICULAR TO EDGE OF NEW SLAB.

1 SET SLAB LONGITUDINAL = 3-M1302E TOP & 3-M1302E BOT.

SEE MEDIAN REPLACEMENT SHEET (5 OF 10) FOR SECTION A-A AND B-B.

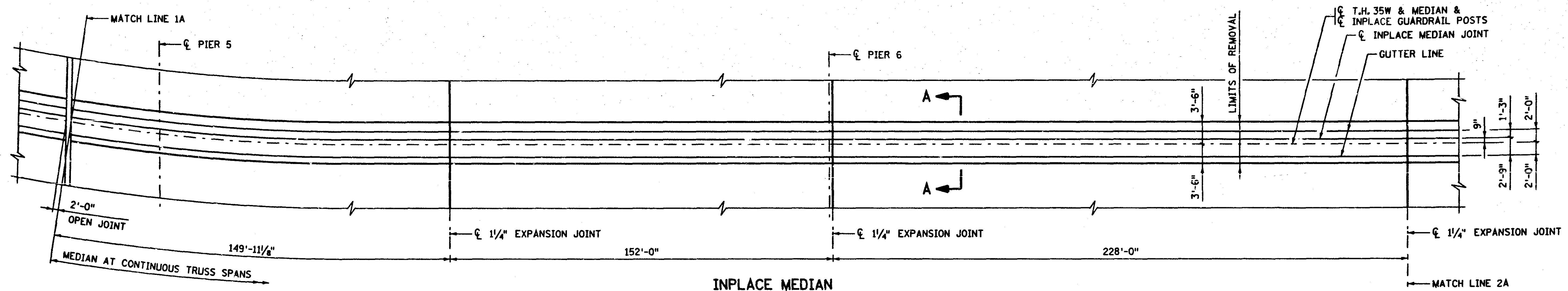
SEE MEDIAN REPLACEMENT SHEET (10 OF 10) FOR BILL OF REINFORCEMENT AND SUMMARY OF QUANTITIES.

① ADD 1-M1603E AT END OF MEDIAN AT EACH DECK EXPANSION JOINT. ADD 3-M1603E AT EACH MEDIAN DEFLECTION JOINT. ADJUST SPACING OF M1603E SPACED WITH M1901E BARS NEAR DEFLECTION JOINTS TO SPACING SHOWN ON MEDIAN REPLACEMENT SHEET (8 OF 10).



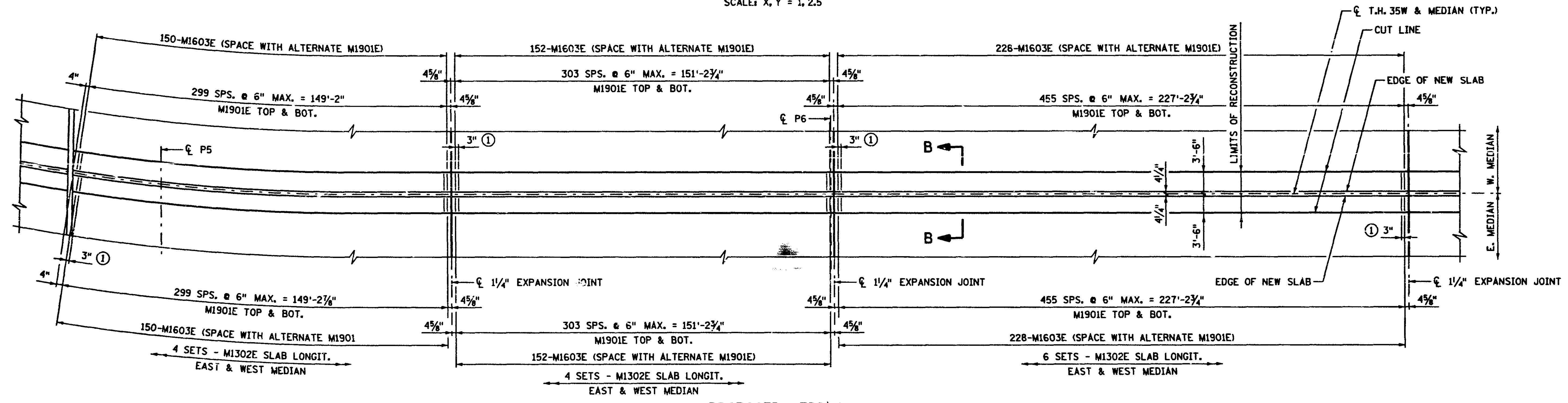
CERTIFIED BY <i>Alan Ottum</i> PROFESSIONAL ENGINEER REG. NO. 7578	TITLE MEDIAN REPLACEMENT (1 OF 10)	DES: E.O.W.	DR: L.J.H.	APPROVED: 1-30-98	BRIDGE NO. 9340
		CHK: A.D.O.	CHK: A.D.O.	SHEET NO. 4 OF 61 SHEETS	

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INPLACE MEDIAN

DIMENSIONS GIVEN ALONG ϕ BRIDGE
 0' 20'
 SCALE: X, Y = 1, 2.5



PROPOSED MEDIAN

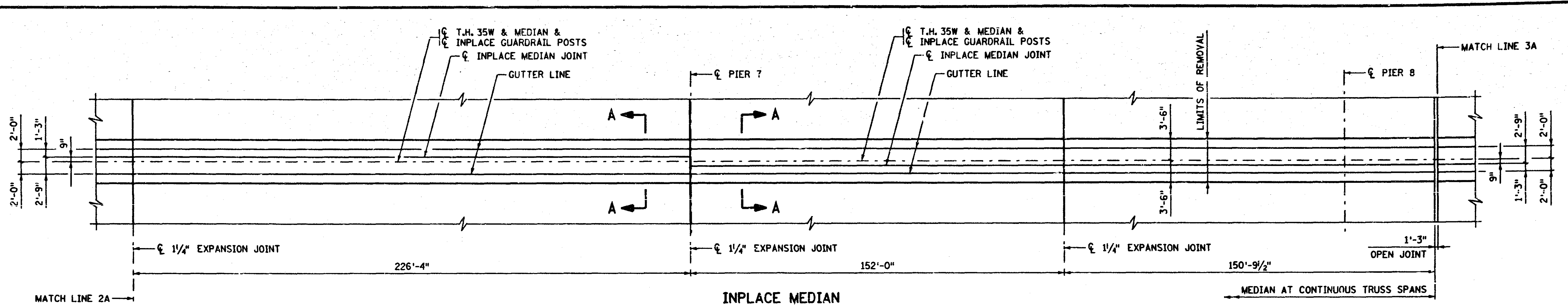
DIMENSIONS GIVEN ALONG EDGE OF NEW SLAB
 0' 20'
 SCALE: X, Y = 1, 2.5

NOTES:

- DIMENSIONS GIVEN TO INPLACE BRIDGE WERE TAKEN FROM THE ORIGINAL PLANS FOR BR. 9340.
- M1901E SLAB TRANSVERSE BARS TO BE PLACED PERPENDICULAR TO EDGE OF NEW SLAB.
- 1 SET SLAB LONGITUDINAL = 3-M1302E TOP & 3-M1302E BOT.
- SEE MEDIAN REPLACEMENT SHEET (5 OF 10) FOR SECTION A-A, B-B, C-C AND D-D.
- SEE MEDIAN REPLACEMENT SHEET (10 OF 10) FOR BILL OF REINFORCEMENT AND SUMMARY OF QUANTITIES.
- ① ADD 1-M1603E AT END OF MEDIAN AT EACH DECK EXPANSION JOINT. ADD 3-M1603E AT EACH MEDIAN DEFLECTION JOINT. ADJUST SPACING OF M1603E SPACED WITH M1901E BARS NEAR DEFLECTION JOINTS TO SPACING SHOWN ON MEDIAN REPLACEMENT SHEET (8 OF 10).

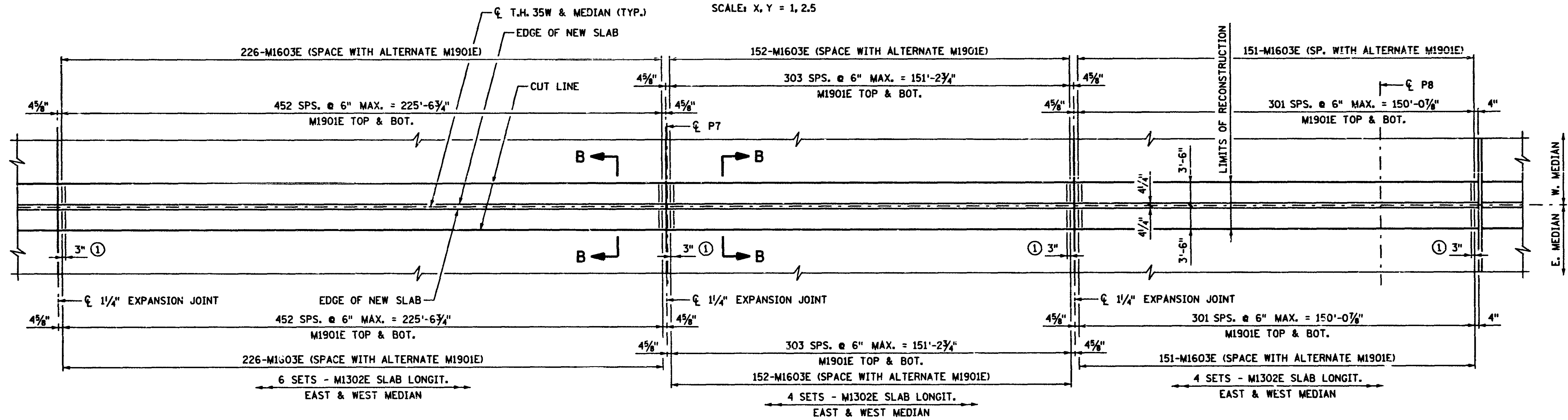
CERTIFIED BY REG. NO. 7578	<i>Robert Ottaviano</i> PROFESSIONAL ENGINEER 1-29 19 98	TITLE: MEDIAN REPLACEMENT (2 OF 10)	DES: E.O.W.	DR: L.J.H.	APPROVED: 1-30-98	BRIDGE NO. 9340
			CHK: A.D.O.	CHK: A.D.O.	SHEET NO. 5 OF 61 SHEETS	

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INPLACE MEDIAN

DIMENSIONS GIVEN ALONG ϕ BRIDGE
 0' 20'
 SCALE: X, Y = 1, 2.5



PROPOSED MEDIAN

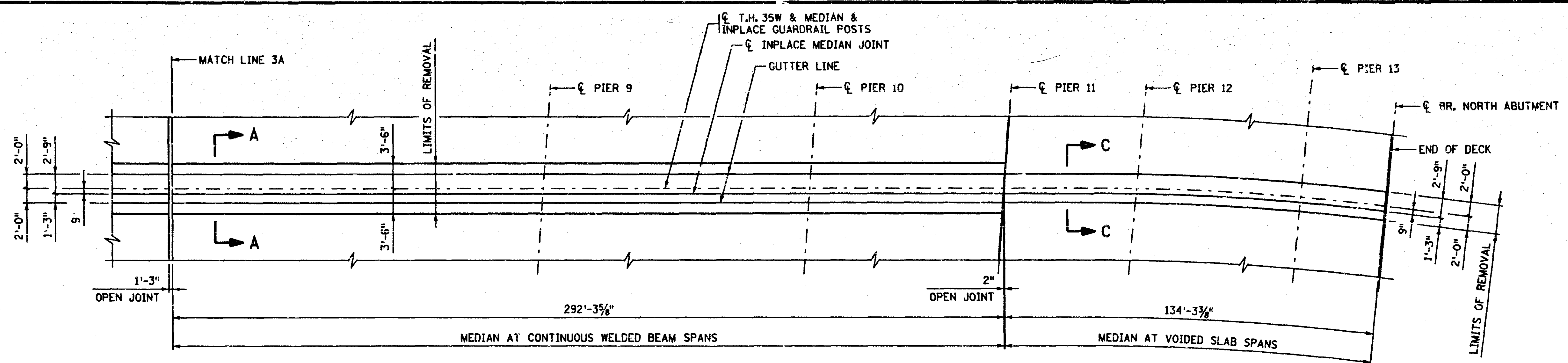
DIMENSIONS GIVEN ALONG EDGE OF NEW SLAB
 0' 20'
 SCALE: X, Y = 1, 2.5

NOTES:

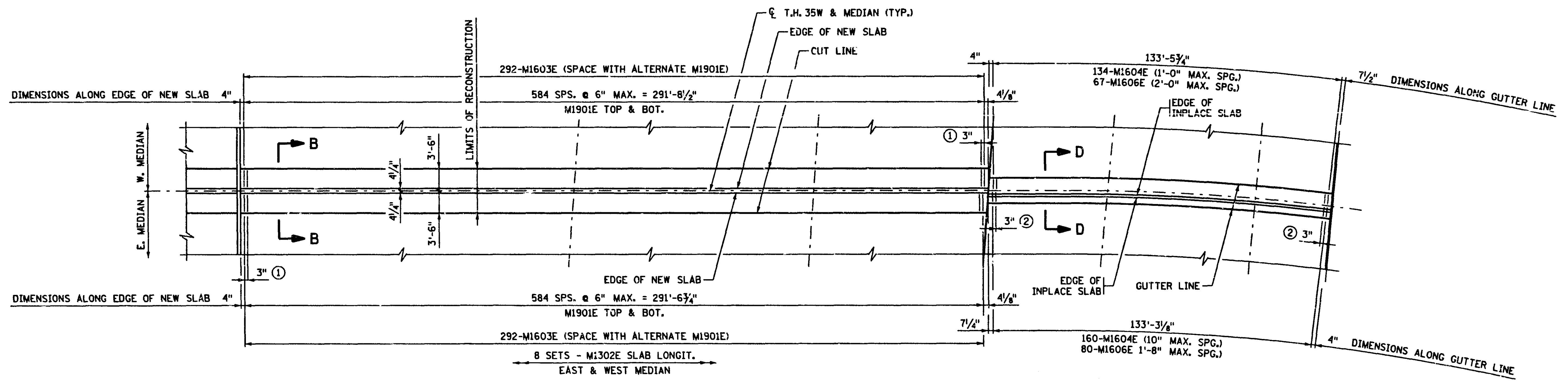
- DIMENSIONS GIVEN TO INPLACE BRIDGE WERE TAKEN FROM THE ORIGINAL PLANS FOR BR. 9340.
- M1901E SLAB TRANSVERSE BARS TO BE PLACED PERPENDICULAR TO EDGE OF NEW SLAB.
- 1 SET SLAB LONGITUDINAL = 3-M1302E TOP & 3-M1302E BOT.
- SEE MEDIAN REPLACEMENT SHEET (5 OF 10) FOR SECTION A-A, B-B, C-C AND D-D.
- SEE MEDIAN REPLACEMENT SHEET (10 OF 10) FOR BILL OF REINFORCEMENT AND SUMMARY OF QUANTITIES.
- ① ADD 1-M1603E AT END OF MEDIAN AT EACH DECK EXPANSION JOINT. ADD 3-M1603E AT EACH MEDIAN DEFLECTION JOINT. ADJUST SPACING OF M1603E SPACED WITH M1901E BARS NEAR DEFLECTION JOINTS TO SPACING SHOWN ON MEDIAN REPLACEMENT SHEET (8 OF 10).

CERTIFIED BY <i>Robert Ottum</i> PROFESSIONAL ENGINEER REG. NO. 7578 1-29 19 98	TITLE MEDIAN REPLACEMENT (3 OF 10)	DES: E.O.W. DR: L.J.H. CHK: A.D.O. CHK: A.D.O.	APPROVED 1-30-98	BRIDGE NO. 9340
		SHEET NO. 6 OF 61 SHEETS		

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INPLACE MEDIAN
 DIMENSIONS GIVEN ALONG ϕ BRIDGE
 0' 20'
 SCALE: X, Y = 1, 2.5



PROPOSED MEDIAN

0' 20'
 SCALE: X, Y = 1, 2.5

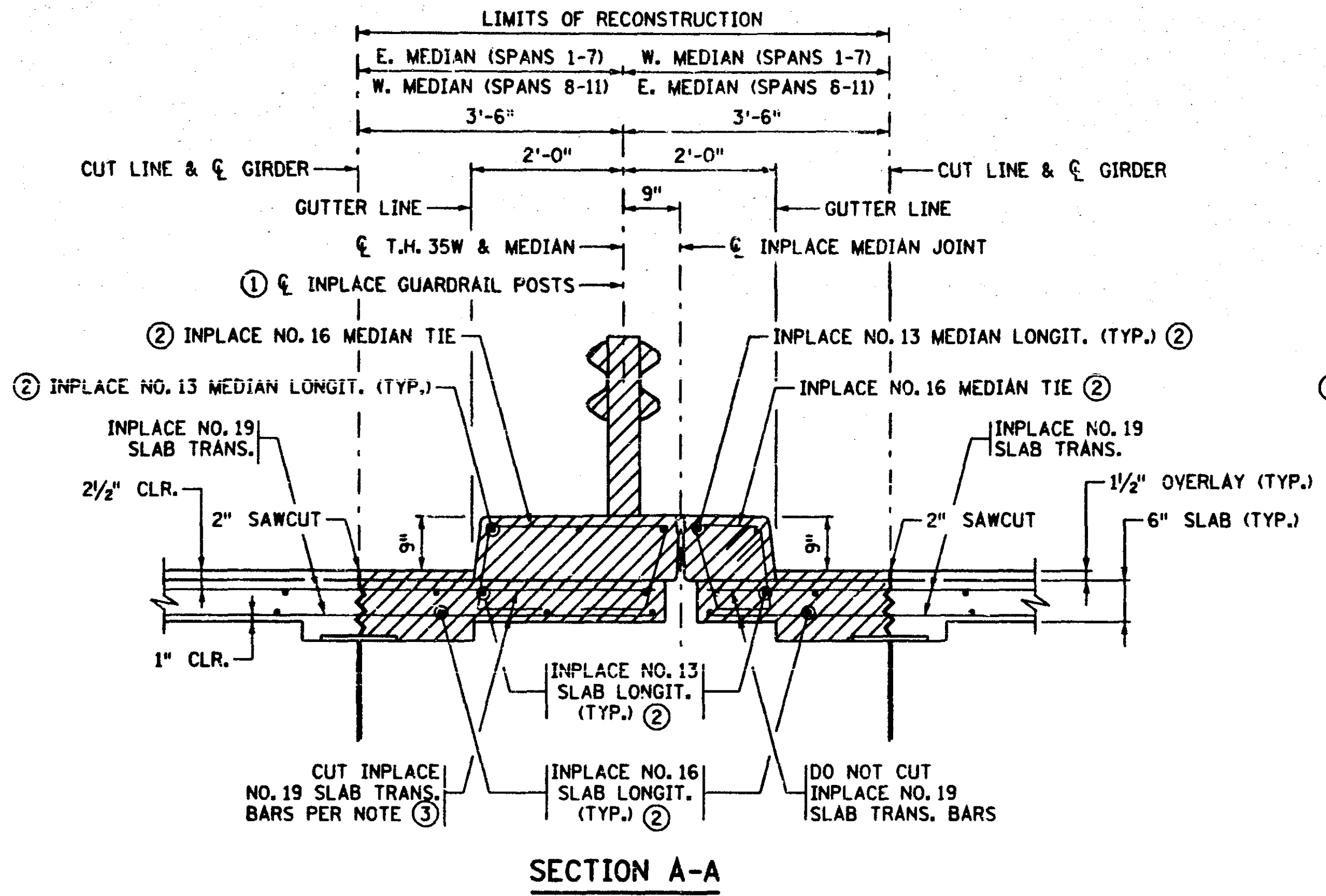
NOTES:

- DIMENSIONS GIVEN TO INPLACE BRIDGE WERE TAKEN FROM THE ORIGINAL PLANS FOR BR. 9340.
- M1901E SLAB TRANSVERSE BARS TO BE PLACED PERPENDICULAR TO EDGE OF NEW SLAB.
- 1 SET SLAB LONGITUDINAL = 3-M1302E TOP & 3-M1302E BOT.
- M1604E AND M1606E TO BE PLACED PERPENDICULAR TO GUTTER LINE.
- SEE MEDIAN REPLACEMENT SHEET (5 OF 10) FOR SECTION A-A, B-B, C-C AND D-D.

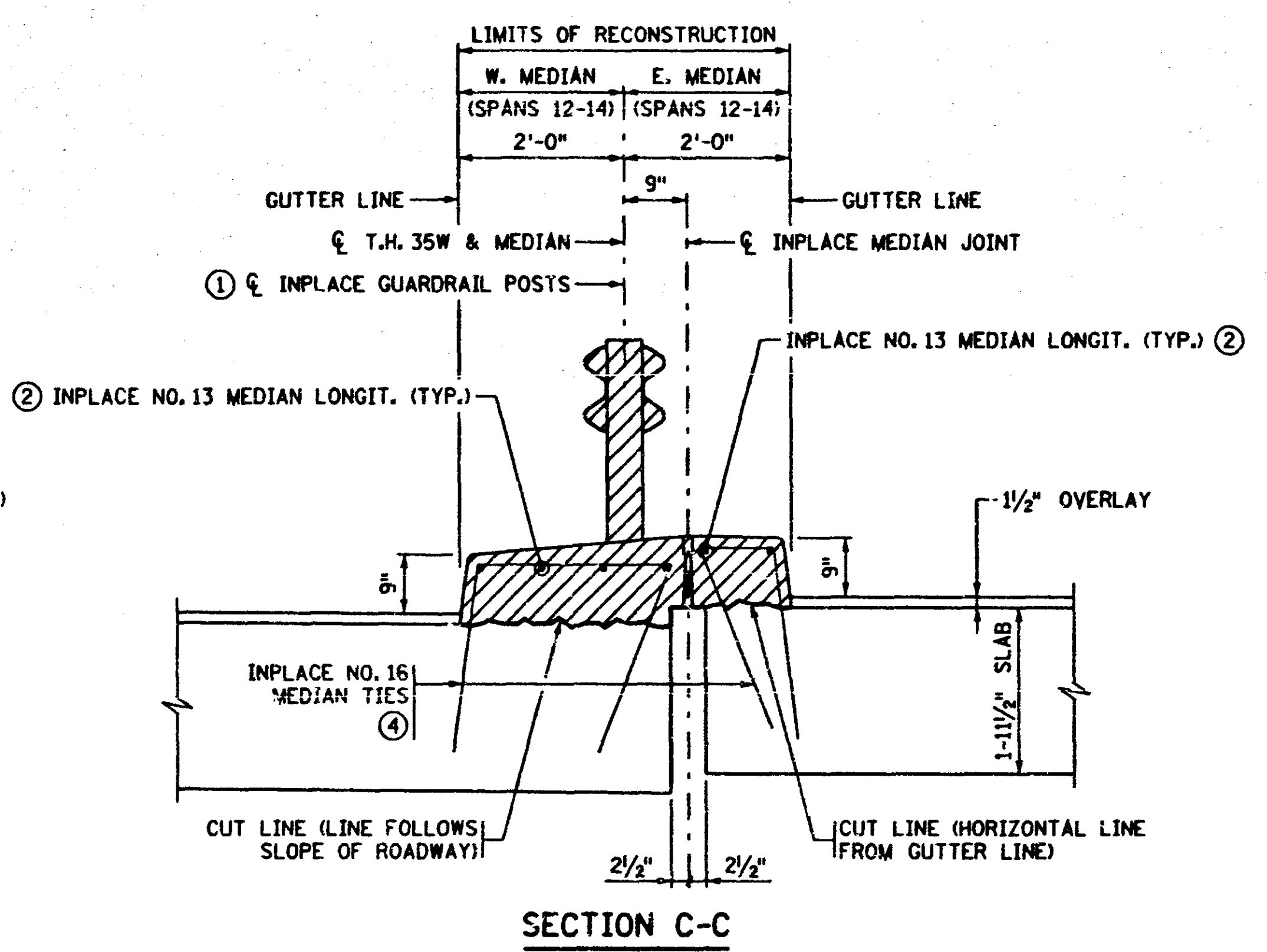
- SEE MEDIAN REPLACEMENT SHEET (10 OF 10) FOR BILL OF REINFORCEMENT AND SUMMARY OF QUANTITIES.
- ① ADD 1-M1603E AT END OF MEDIAN AT EACH DECK EXPANSION JOINT. ADD 3-M1603E AT EACH MEDIAN DEFLECTION JOINT. ADJUST SPACING OF M1603E SPACED WITH M1901E BARS NEAR DEFLECTION JOINTS TO SPACING SHOWN ON MEDIAN REPLACEMENT SHEET (8 OF 10).
- ② ADD 1-M1604E AT END OF MEDIAN AT EACH DECK EXPANSION JOINT. ADD 3-M1604E AT EACH MEDIAN DEFLECTION JOINT. ADJUST SPACING OF M1604E SPACED WITH M1901E BARS NEAR DEFLECTION JOINTS TO SPACING SHOWN ON MEDIAN REPLACEMENT SHEET (8 OF 10).

CERTIFIED BY <i>Robert Ottman</i> PROFESSIONAL ENGINEER REG. NO. 7578 1-29 19 98	TITLE MEDIAN REPLACEMENT (4 OF 10)	DES: E.O.W.	DR: L.J.H.	APPROVED:	BRIDGE NO. 9340
		CHK: A.D.O.	CHK: A.D.O.	1-30-98	
SHEET NO. 7 OF 61 SHEETS					

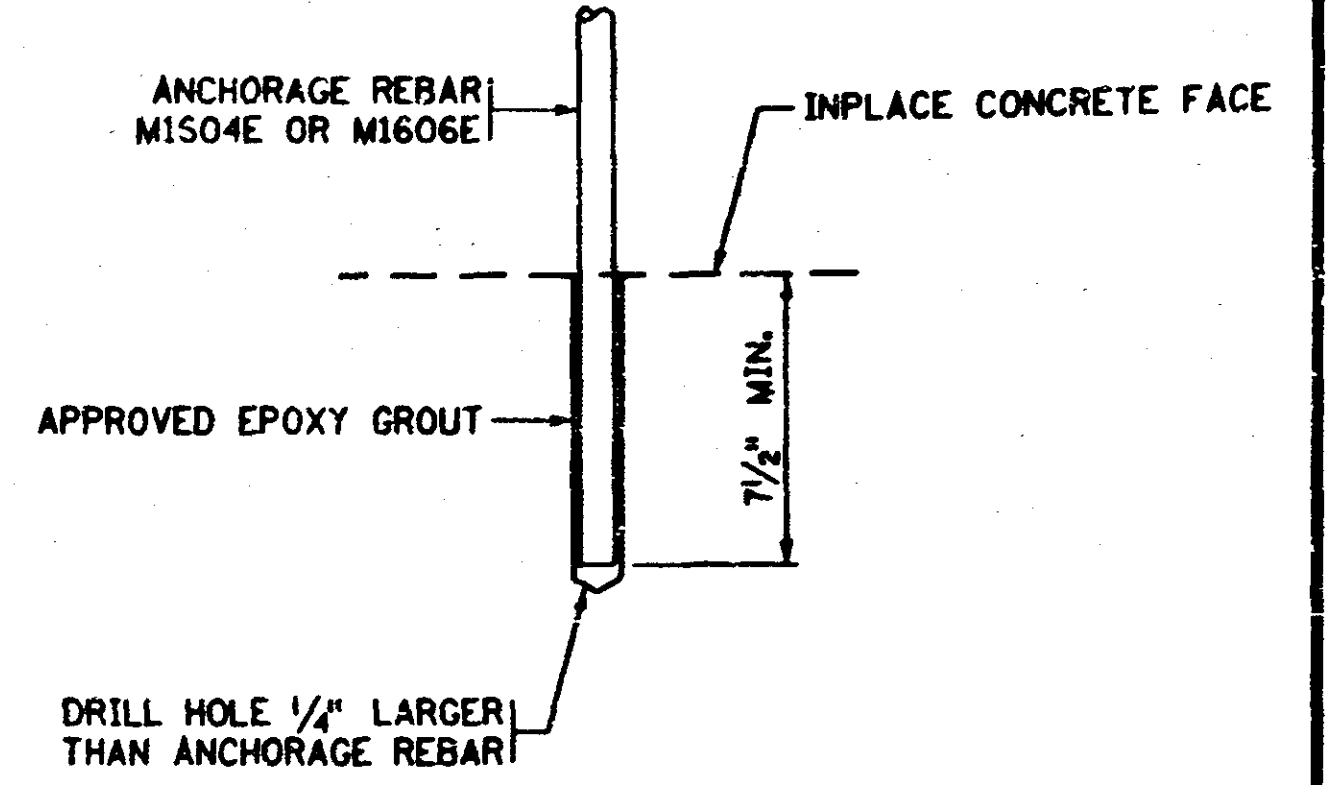
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SECTION A-A

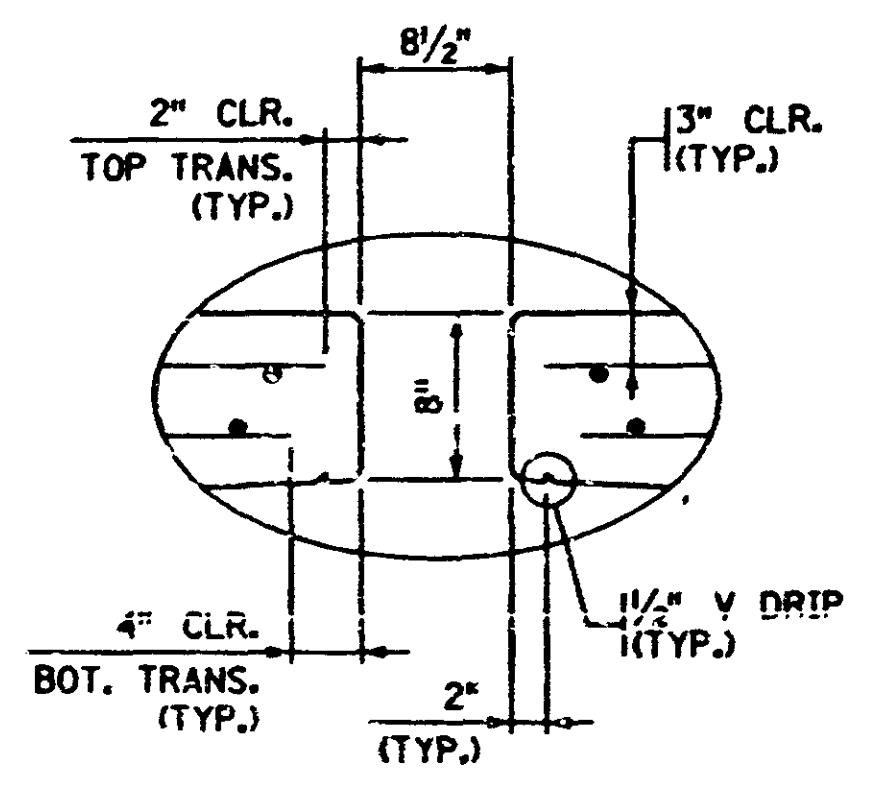


SECTION C-C

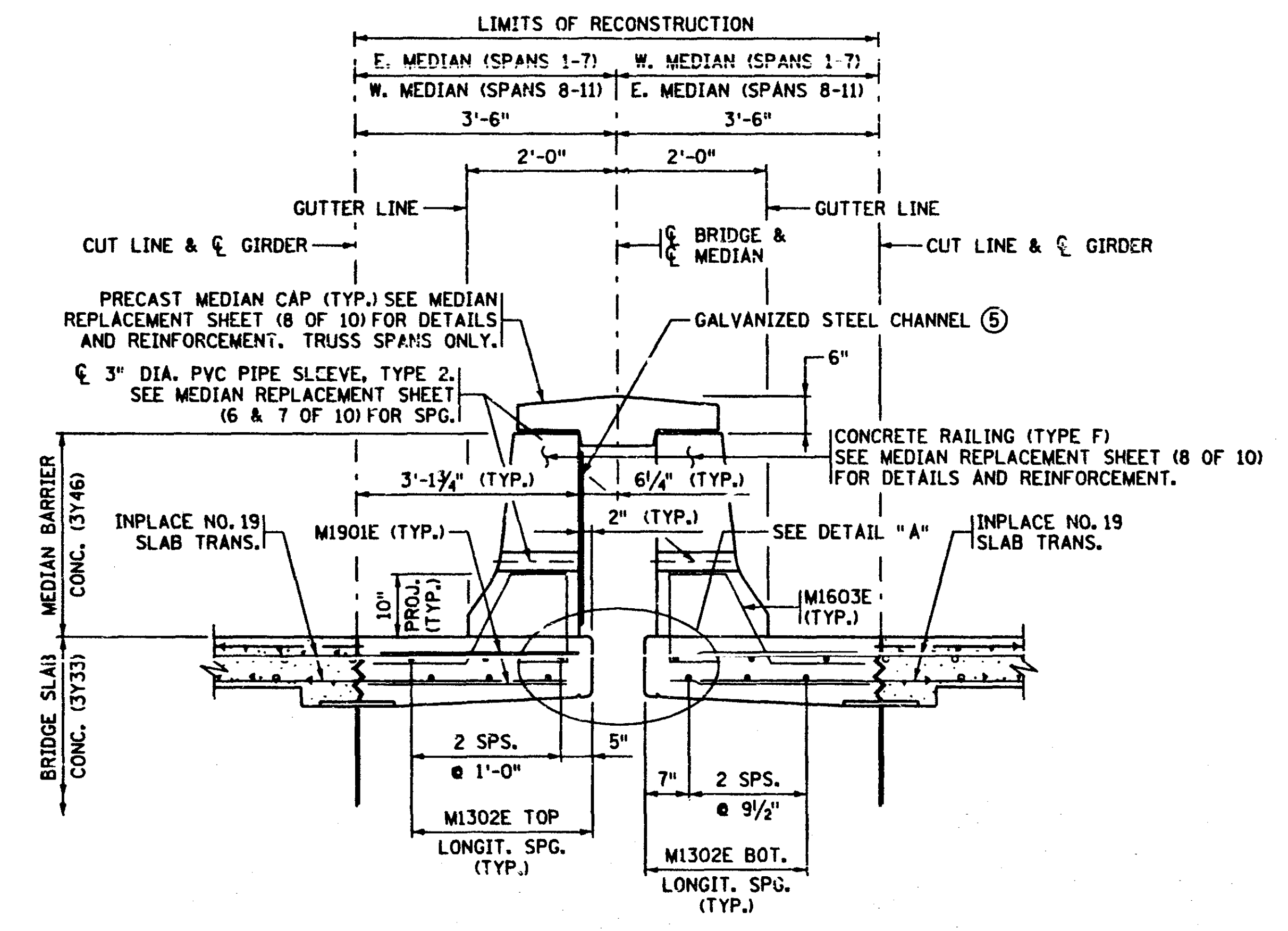


ANCHORAGE DETAIL

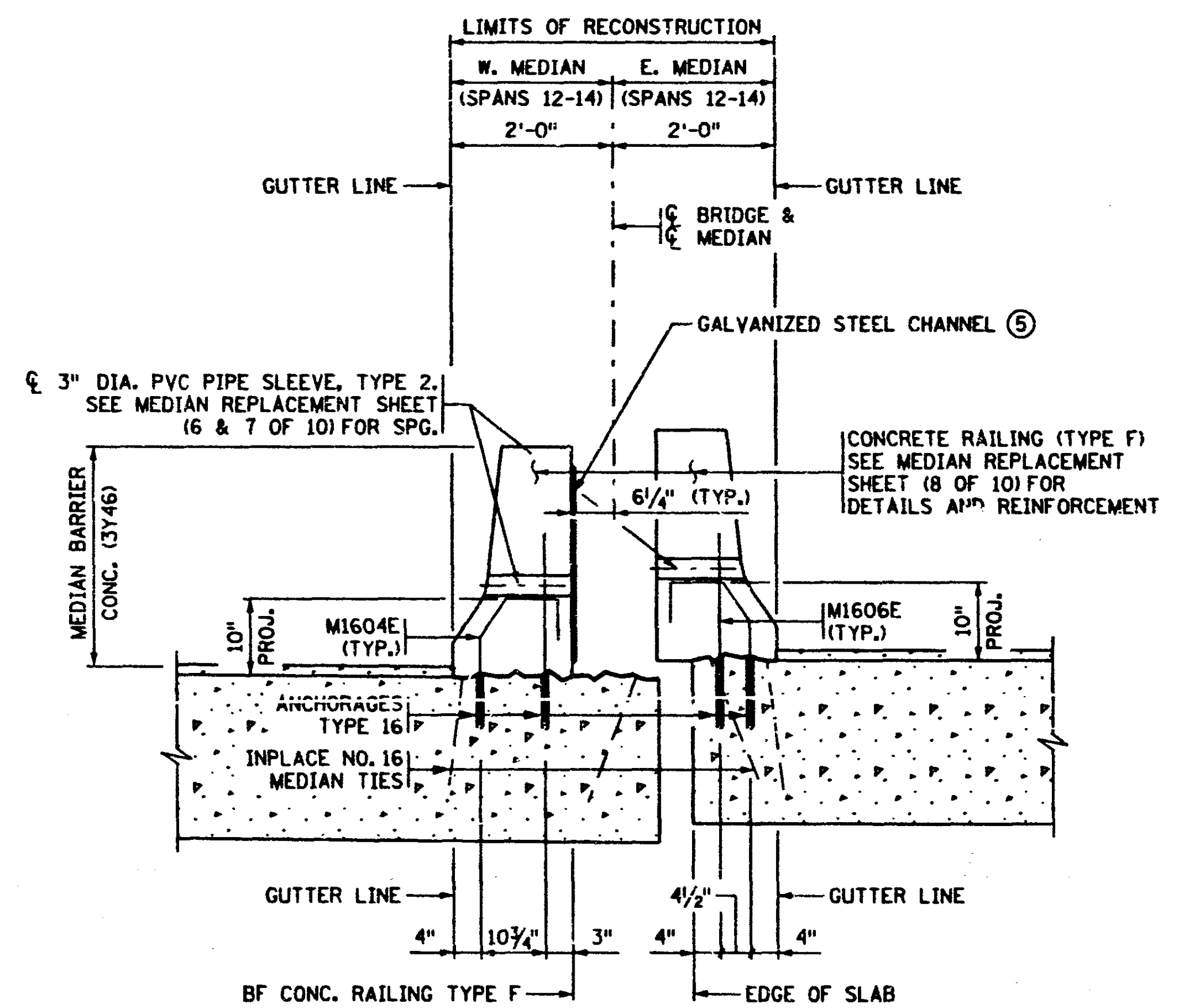
ANCHORAGE TYPE 16
INCLUDED IN PRICE BID FOR "ANCHORAGES TYPE REINF. BARS"



DETAIL "A"



SECTION B-B



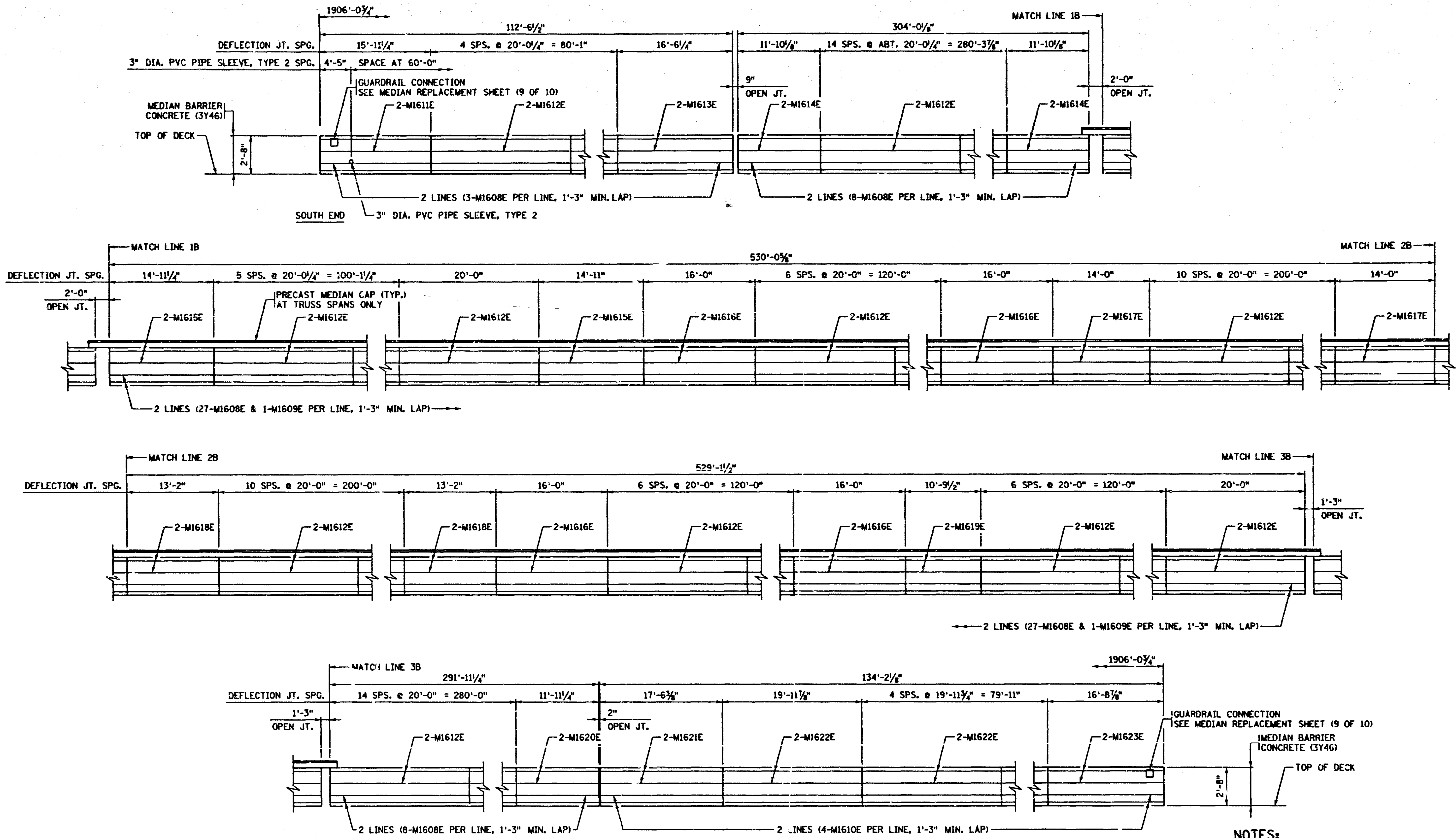
SECTION D-D

NOTES:

- DIMENSIONS GIVEN TO INPLACE BRIDGE WERE TAKEN FROM THE ORIGINAL PLANS FOR BR. 9340.
- INPLACE BARS LABELED WITH METRIC DESIGNATION.
- SEE MEDIAN REPLACEMENT SHEET (1-4 OF 10) FOR LOCATIONS OF SECTION A-A AND B-B.
- SEE MEDIAN REPLACEMENT SHEET (4 OF 10) FOR LOCATION OF SECTION C-C AND D-D.
- SEE MEDIAN REPLACEMENT SHEET (4 OF 10) FOR SPACING OF M1604E & M1606E.
- SEE MEDIAN REPLACEMENT SHEET (10 OF 10) FOR BILL OF REINFORCEMENT AND SUMMARY OF QUANTITIES.
- BF DENOTES BACK FACE.
- DENOTES REMOVAL
- ① REMOVE AND DISPOSE OF INPLACE GUARDRAIL AND POSTS.
- ② REMOVE AND DISPOSE OF COMPLETELY EXPOSED BARS.
- ③ CUT BARS TO PROVIDE 2" CLR. (BOT.) OR 4" CLR. (TOP) TO EDGE OF SLAB. CLEAN AND STRAIGHTEN.
- ④ CUT BARS FLUSH WITH CUT LINE.
- ⑤ INCLUDED IN ANIT-ICING SYSTEM PROVISIONS.

CERTIFIED BY	<i>Robert J. Altman</i> PROFESSIONAL ENGINEER	TITLES	MEDIAN REPLACEMENT (5 OF 10)	DES: E.O.W. CHK: A.D.O.	DR: L.J.H. CHK: A.D.O.	APPROVED 1-30-98	BRIDGE NO. 9340
REG. NO. 7578	1-29 19 98			SHEET NO. 8 OF 61 SHEETS			

ADJACENT DOCUMENT WAS SUPPLIED BY AGENCY NAMED BELOW. DURING THE REGULAR COURSE OF BUSINESS, TO BE FILMED BY STATE OF MINNESOTA MICROGRAPHIC SERVICES UNIT ACCORDING TO NATIONAL BUREAU OF STANDARDS REQUIREMENTS FOR PERMANENT MICROFILM AND ACCORDING TO PROCEDURES FOR THE DOCUMENT SERIES.

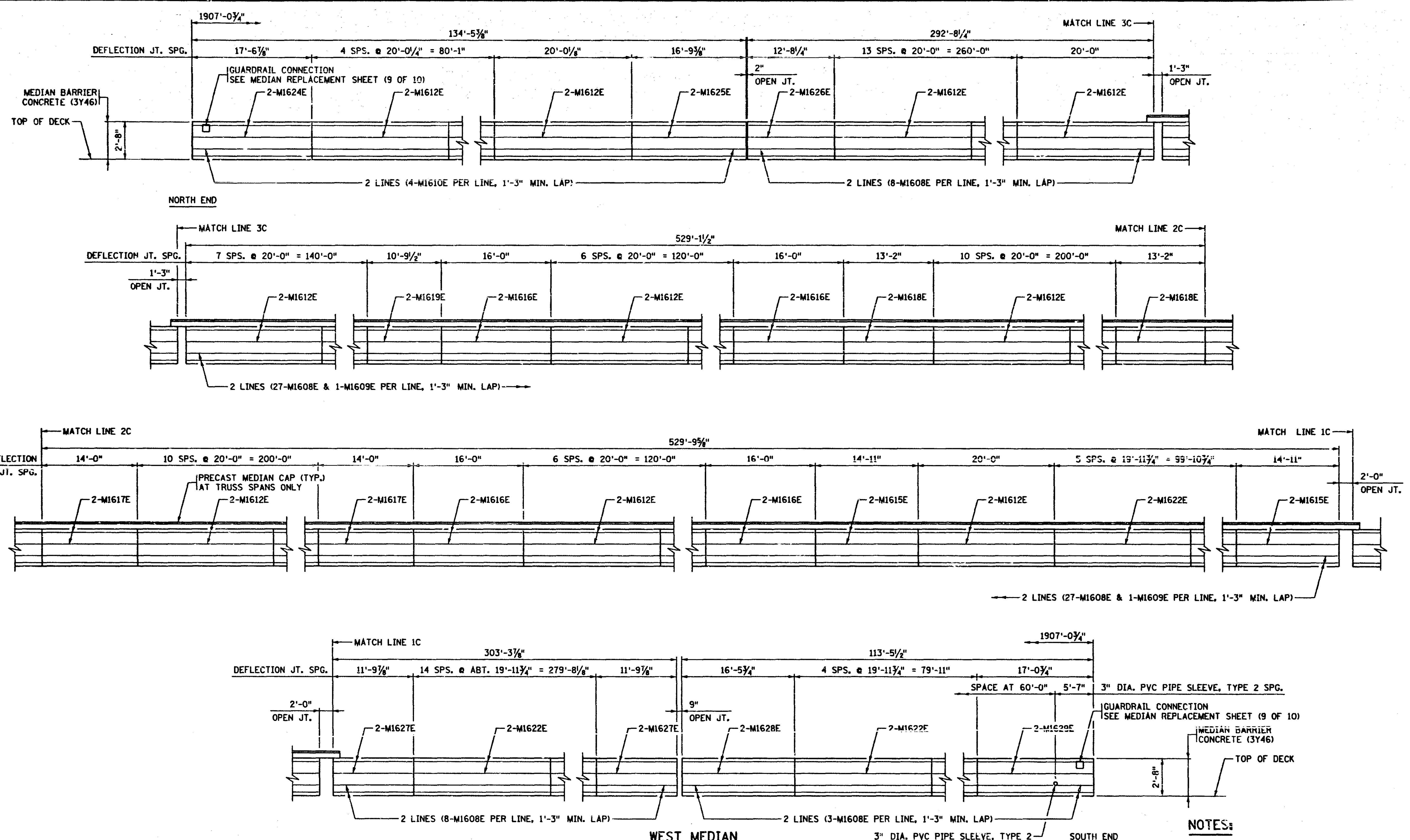


EAST MEDIAN
INSIDE ELEVATION VIEW.
DIMENSIONS GIVEN ALONG GUTTER LINE.

NOTES:
DIMENSIONS GIVEN TO INPLACE BRIDGE WERE TAKEN FROM THE ORIGINAL PLANS FOR BR. 9340.
SEE MEDIAN REPLACEMENT SHEET (10 OF 10) FOR BILL OF REINFORCEMENT AND SUMMARY OF QUANTITIES.

CERTIFIED BY <i>Andrew Ottawa</i> PROFESSIONAL ENGINEER REG. NO. 7578	1-29 19 98	TITLE MEDIAN REPLACEMENT (6 OF 10)	DES: E.O.W.	DR: L.J.M.	APPROVED: 1-30-98	BRIDGE NO. 9340
			CHK: A.D.O.	CHK: A.D.O.	SHEET NO. 9 OF 61 SHEETS	

ADJACENT DOCUMENT WAS SUPPLIED BY AGENCY NAMED BELOW. DURING THE REGULAR COURSE OF BUSINESS, TO BE FILMED BY STATE OF MINNESOTA MICROGRAPHIC SERVICES UNIT ACCORDING TO NATIONAL BUREAU OF STANDARDS REQUIREMENTS FOR PERMANENT MICROFILM AND ACCORDING TO PROCEDURES FOR THE DOCUMENT SERIES.

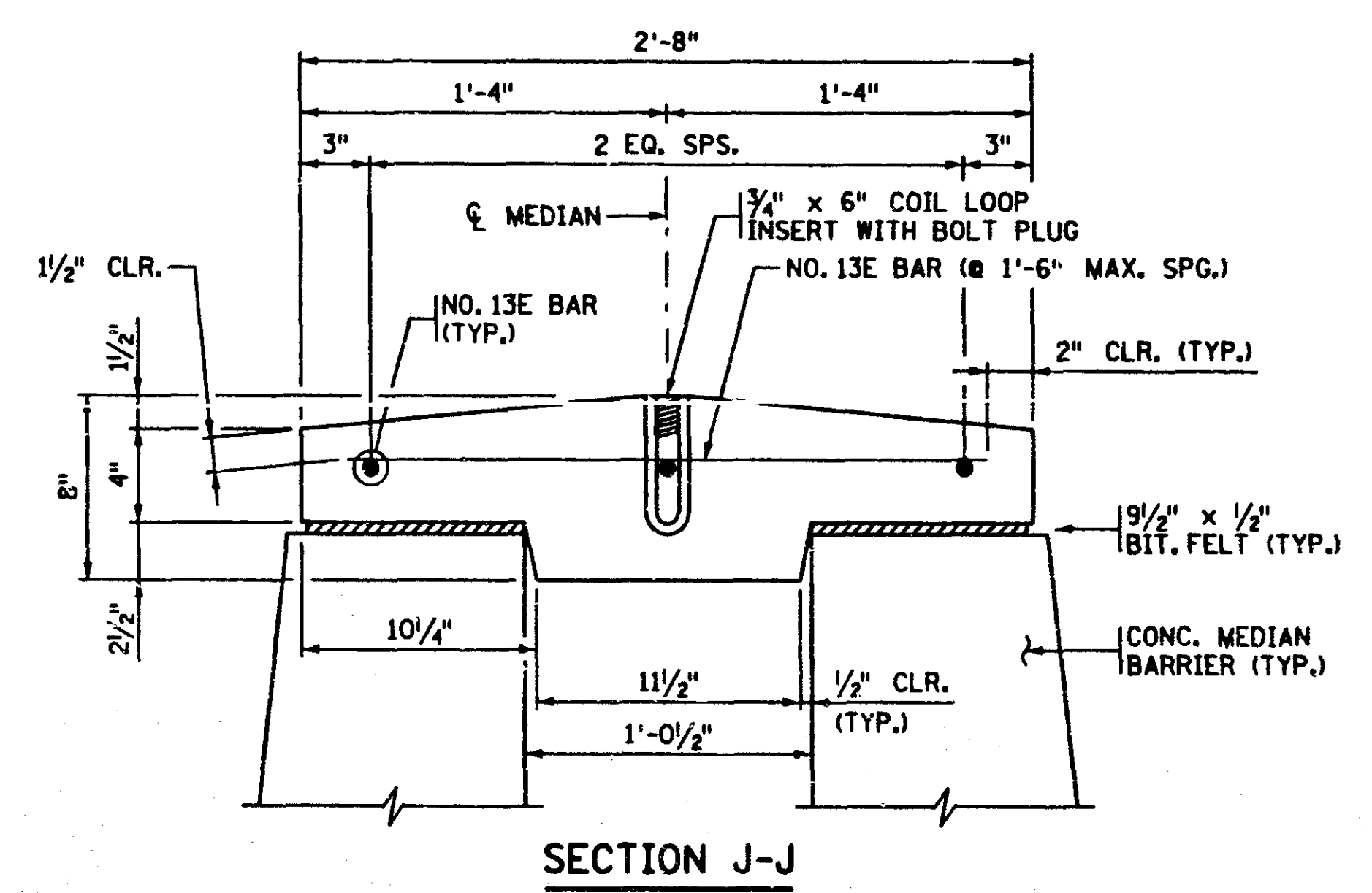
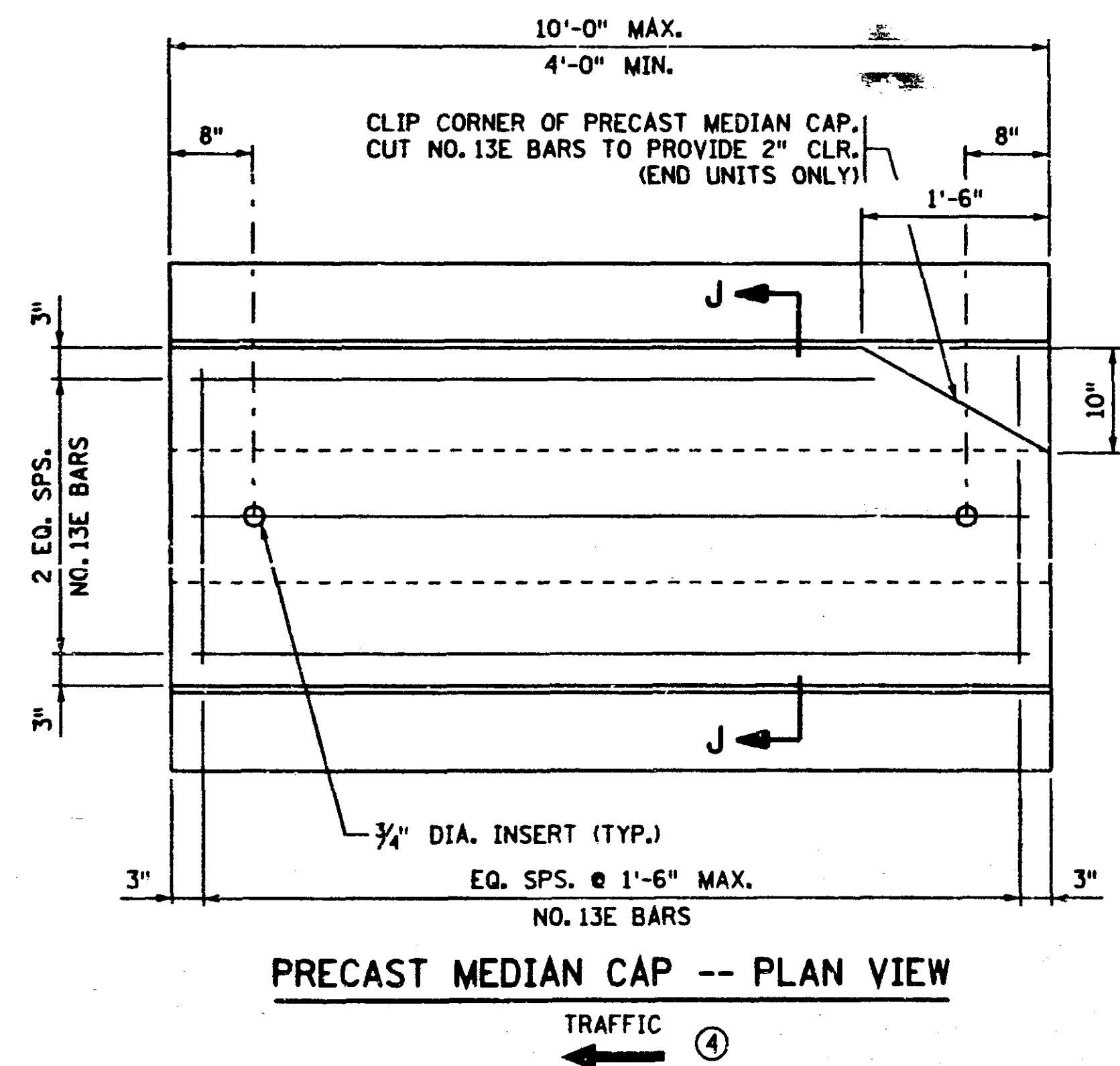
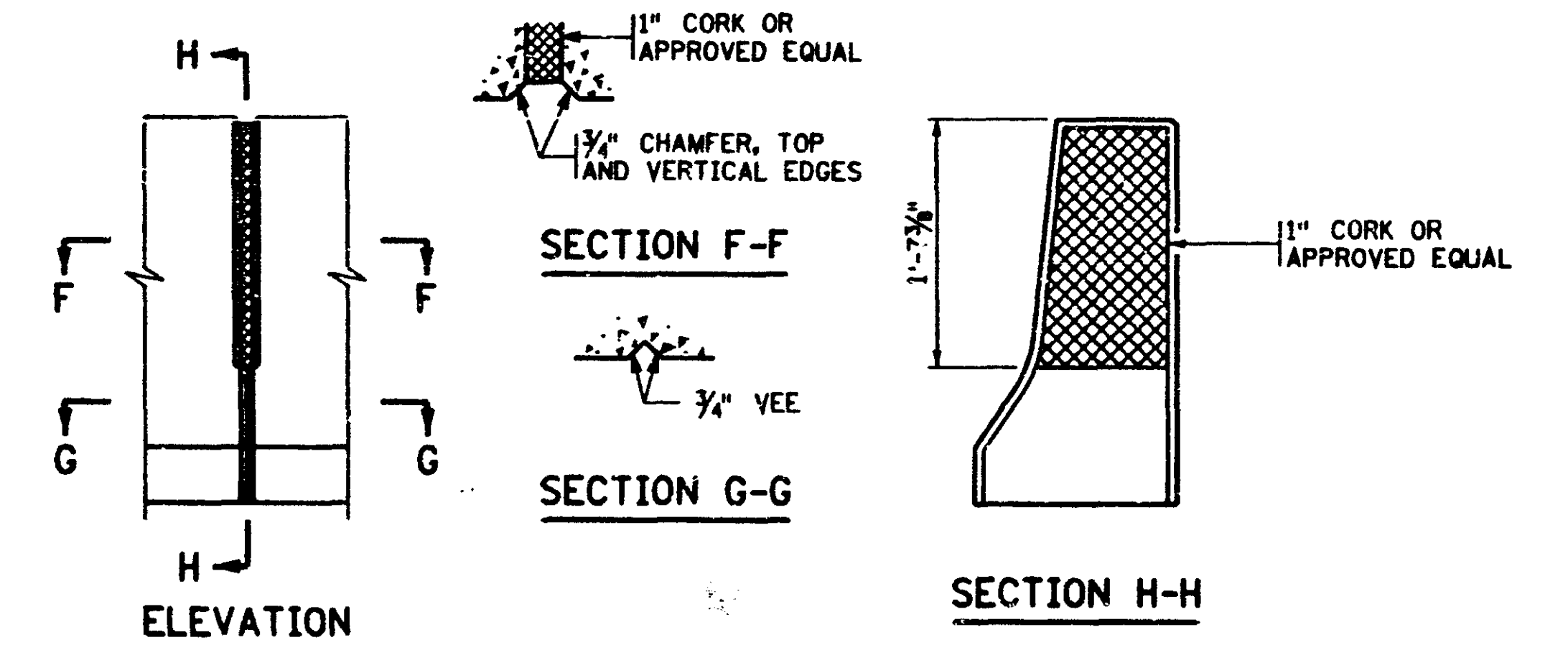
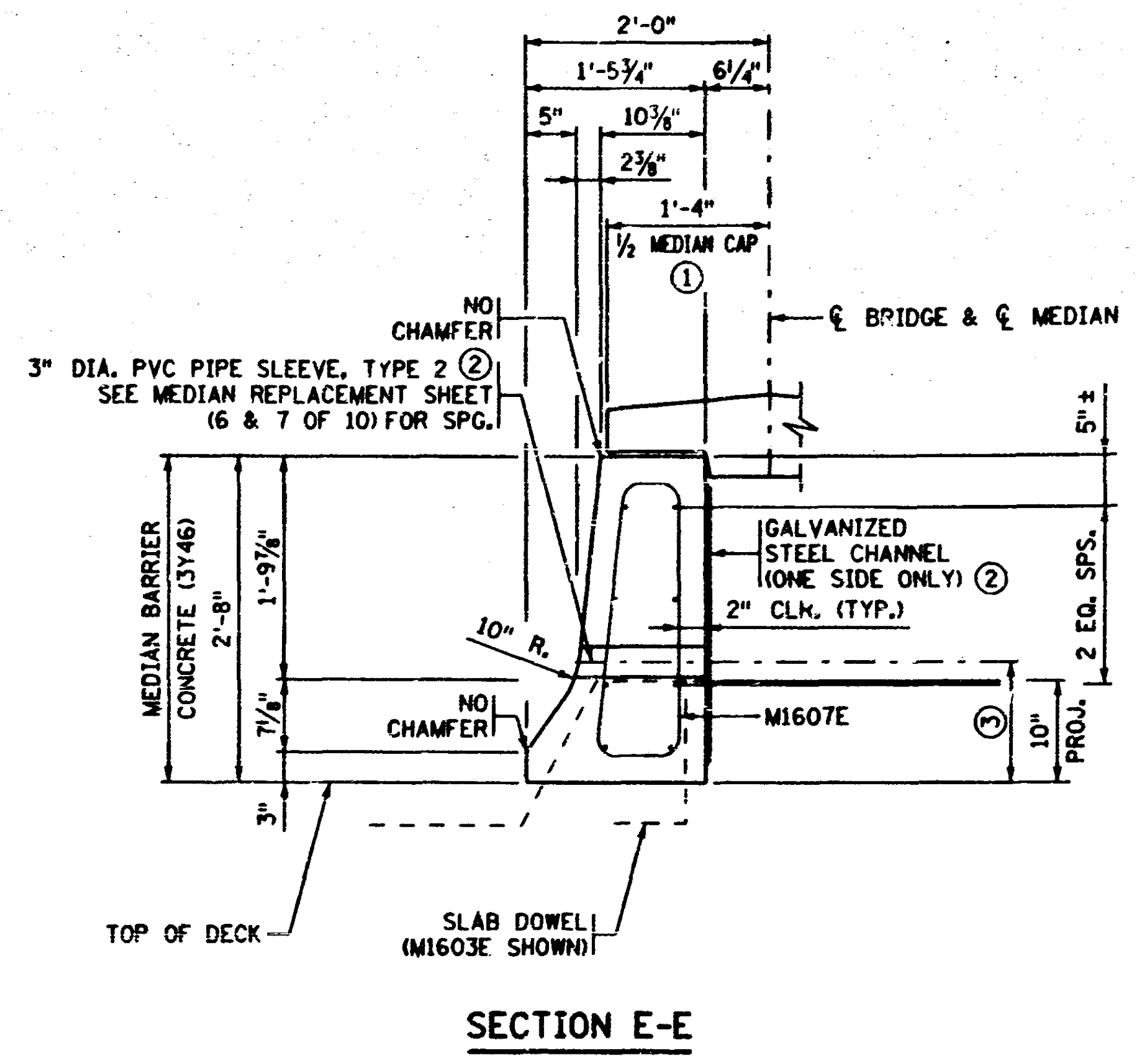
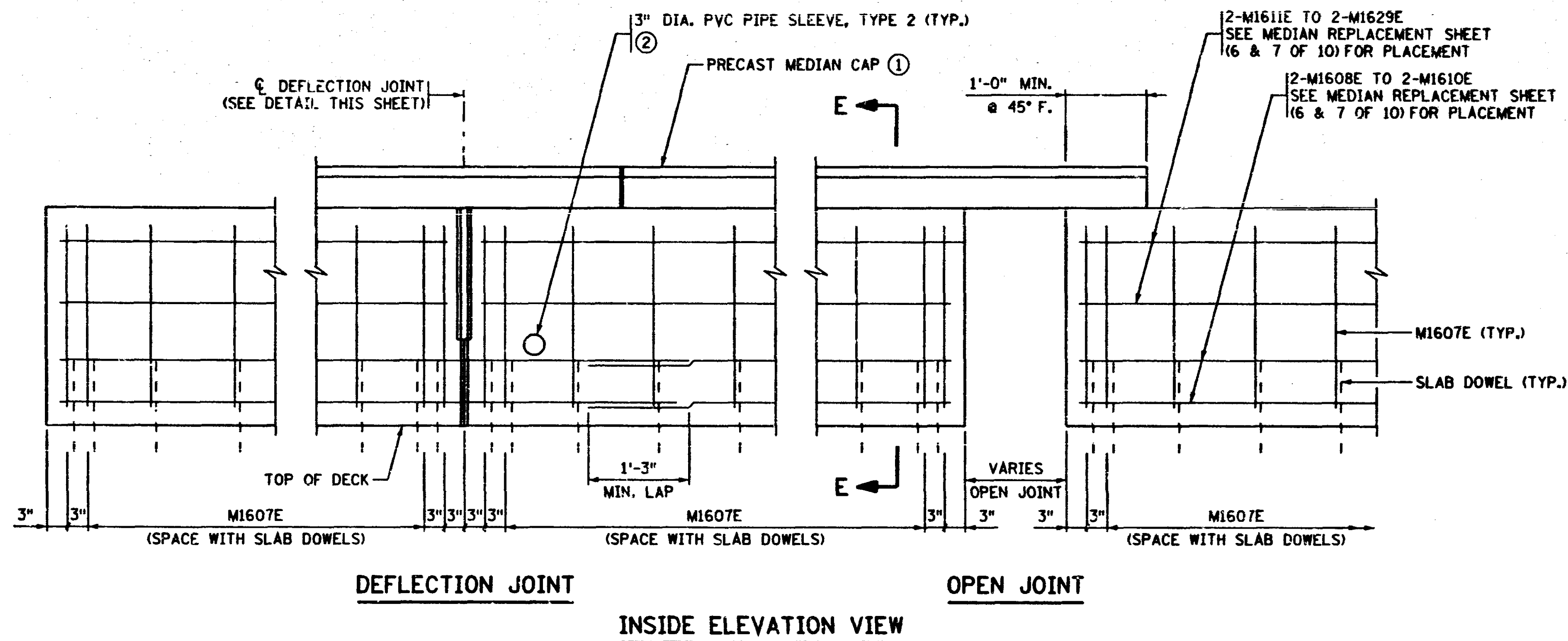


WEST MEDIAN
INSIDE ELEVATION VIEW.
DIMENSIONS GIVEN ALONG GUTTER LINE.

NOTES:
DIMENSIONS GIVEN TO INPLACE BRIDGE WERE TAKEN FROM THE ORIGINAL PLANS FOR BR. 9340.
SEE MEDIAN REPLACEMENT SHEET (10 OF 10) FOR BILL OF REINFORCEMENT AND SUMMARY OF QUANTITIES.

CERTIFIED BY REG. NO. 7578	<i>Robert Ottaviano</i> PROFESSIONAL ENGINEER 1-29 19 98	TITLE MEDIAN REPLACEMENT (7 OF 10)	DES. E.O.W. CHKD. A.D.O.	DRS. L.J.H. CHKD. A.D.O.	APPROVED 1-30-98	BRIDGE NO. 9340
SHEET NO. 10 OF 61 SHEETS						

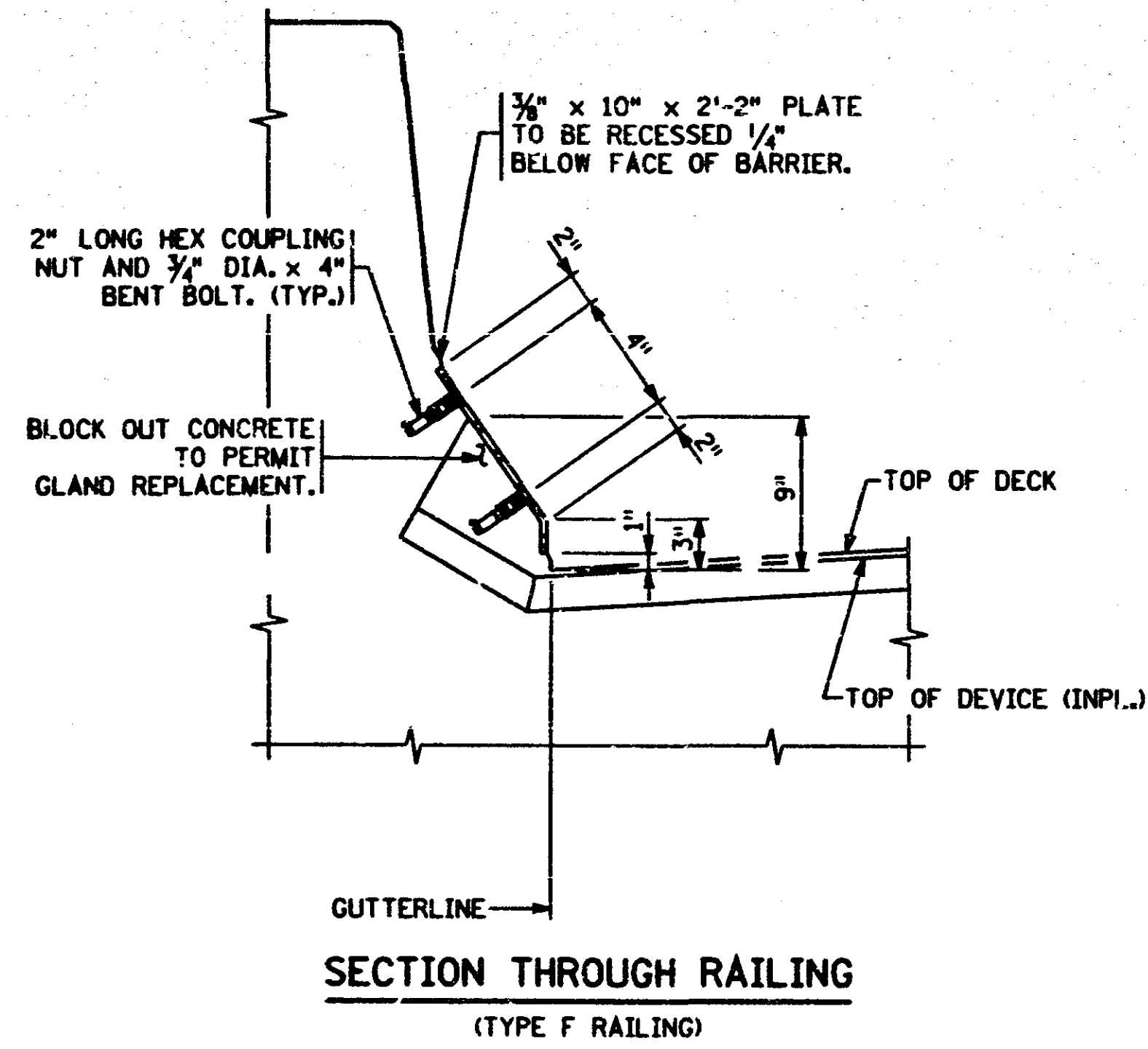
ADJACENT DOCUMENT WAS SUPPLIED BY AGENCY NAMED BELOW. DURING THE REGULAR COURSE OF BUSINESS, TO BE FILMED BY STATE OF MINNESOTA MICROGRAPHIC SERVICES UNIT ACCORDING TO NATIONAL BUREAU OF STANDARDS REQUIREMENTS FOR PERMANENT MICROFILM AND ACCORDING TO PROCEDURES FOR THE DOCUMENT SERIES.



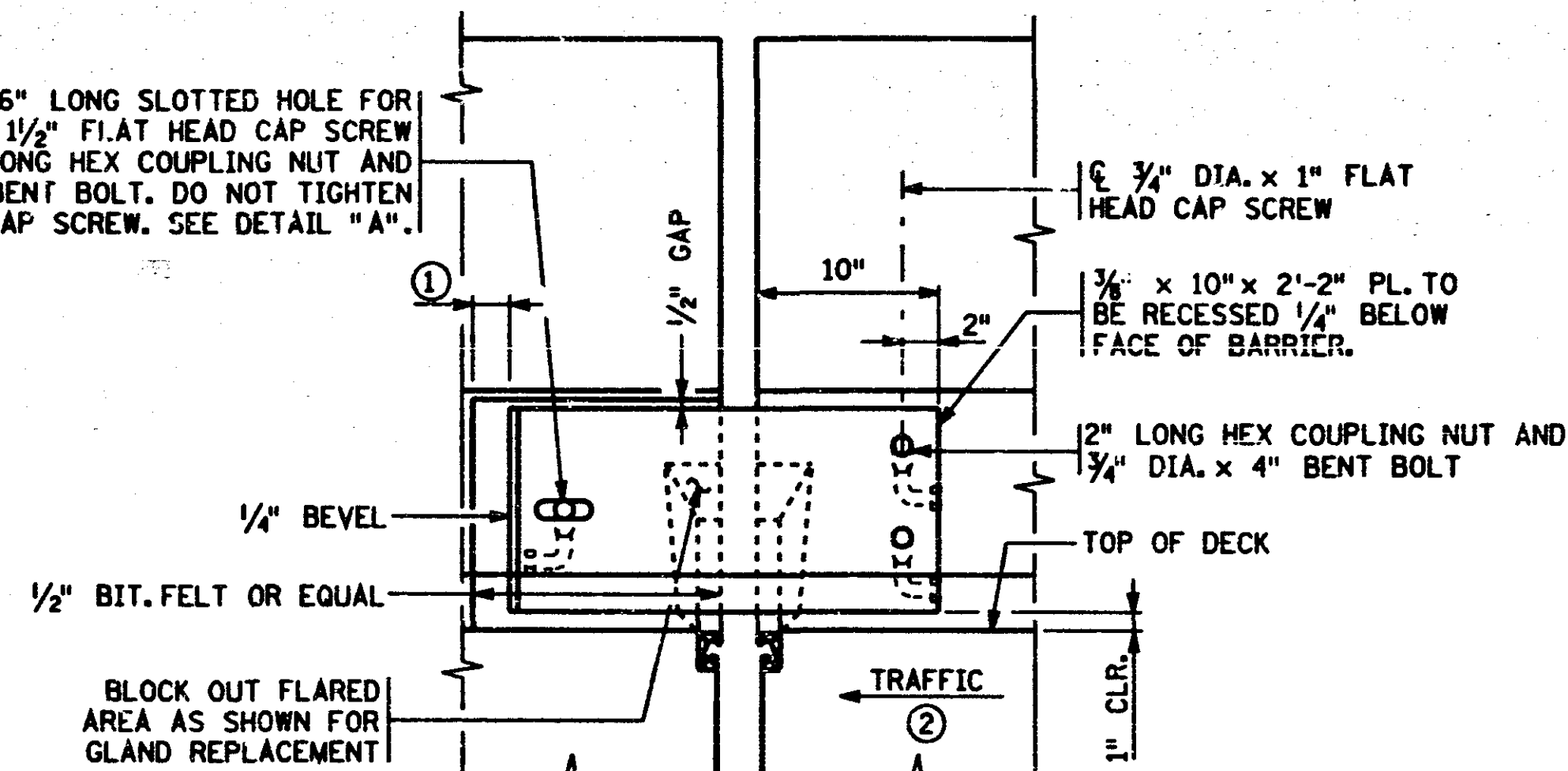
- NOTES:**
- DIMENSIONS GIVEN TO INPLACE BRIDGE WERE TAKEN FROM THE ORIGINAL PLANS FOR BR. 9340.
 - FINISH ALL EDGES OF RAIL WITH 1/2" VEE, EXCEPT WHERE OTHERWISE NOTED.
 - SEE MEDIAN REPLACEMENT SHEET (6 & 7 OF 10) FOR JOINT SPACING.
 - SEE MEDIAN REPLACEMENT SHEET (10 OF 10) FOR BILL OF REINFORCEMENT AND SUMMARY OF QUANTITIES.
 - ① TRUSS SPANS ONLY.
 - ② INCLUDED IN "ANTI-ICING SYSTEM PROVISIONS".
 - ③ C SLEEVE IS APPROXIMATELY 11 1/8" ABOVE TOP OF DECK. SLEEVE CAN REST ON HORIZONTAL BARS.
 - ④ SEE SHEET NO. 1 FOR DIRECTION OF TRAFFIC.

CERTIFIED BY <i>A. S. Ott</i> PROFESSIONAL ENGINEER REG. NO. 7578	TITLE MEDIAN REPLACEMENT (8 OF 10)	DES. E.O.W. CHK. A.D.O.	DR. L.J.H. CHK. A.D.O.	APPROVED 1-30-98	BRIDGE NO. 9340
SHEET NO. 11 OF 61 SHEETS					

ADJACENT DOCUMENT WAS SUPPLIED BY AGENCY NAMED BELOW. DURING THE REGULAR COURSE OF BUSINESS, TO BE FILMED BY STATE OF MINNESOTA MICROGRAPHIC SERVICES UNIT ACCORDING TO NATIONAL BUREAU OF STANDARDS REQUIREMENTS FOR PERMANENT MICROFILM AND ACCORDING TO PROCEDURES FOR THE DOCUMENT SERIES.



1" DIA. x 6" LONG SLOTTED HOLE FOR 3/4" DIA. x 1/2" FLAT HEAD CAP SCREW WITH 2" LONG HEX COUPLING NUT AND 3/4" DIA. x 4" BENT BOLT. DO NOT TIGHTEN DOWN CAP SCREW. SEE DETAIL "A".



RAILING ELEVATION

16 COVER PLATES REQUIRED ③

NOTES:

GALVANIZE STRUCTURAL STEEL AFTER FABRICATION AS PER SPEC. 3394. GALVANIZE FASTENERS AS PER SPEC. 3392.

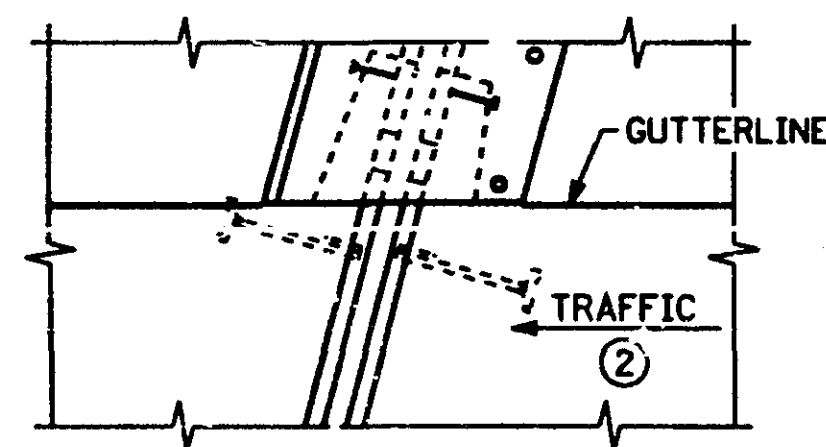
STRUCTURAL STEEL SHALL COMPLY WITH SPEC. 3306 OR SPEC. 3309.

CAP SCREWS SHALL BE COUNTERSUNK 1/16" BELOW TOP OF PLATE

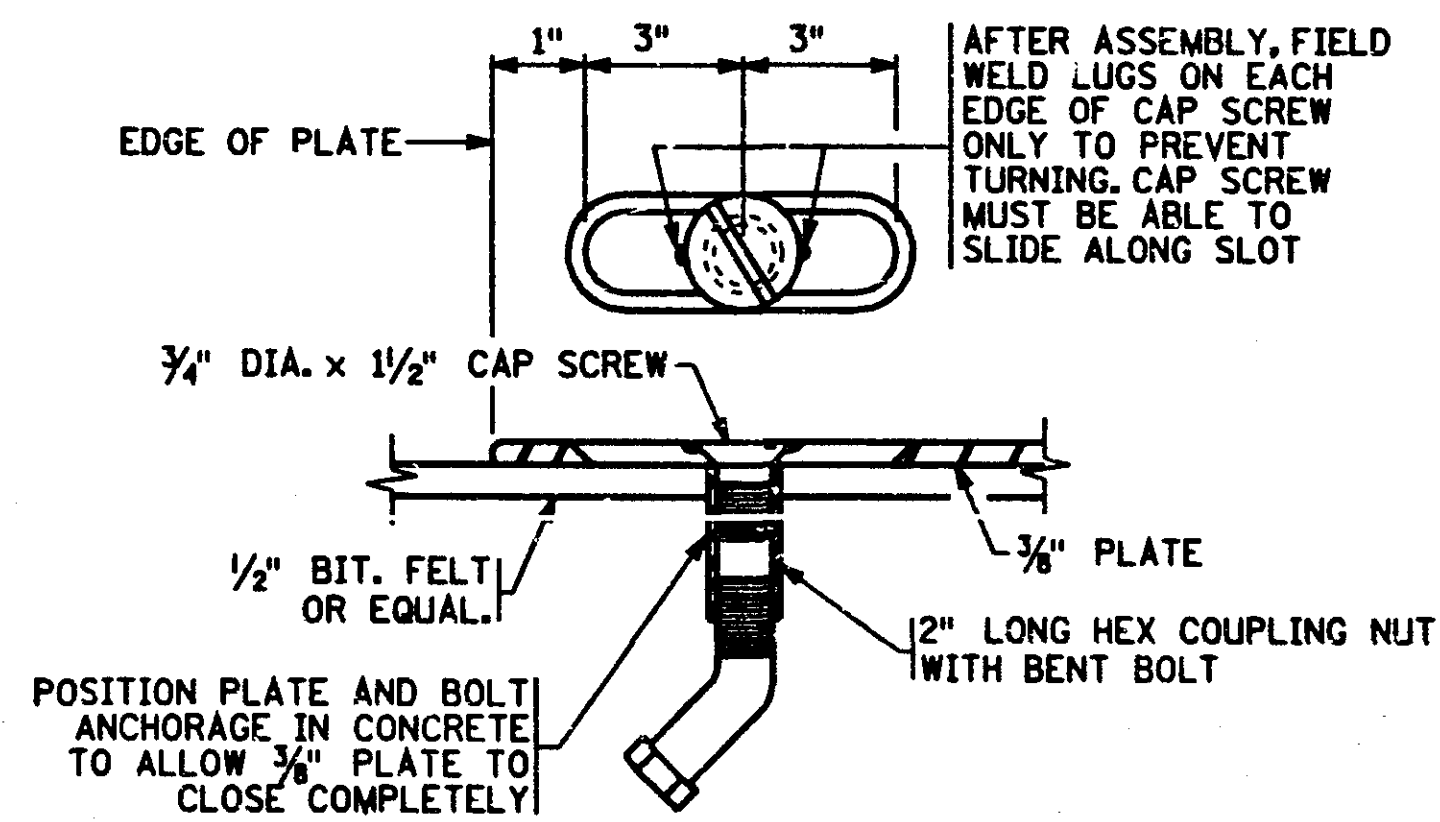
① 2" @ ALL TEMPERATURES

② SEE SHEET 1 FOR DIRECTION OF TRAFFIC

③ PLACE EACH SIDE OF MEDIAN AT ENDS OF BRIDGE AND AT SIX 2-INCH EXPANSION JOINTS ON DECK.



PLAN VIEW OF EXPANSION DEVICE COVER PLATE



DETAIL "A"

REVISION		
DATE	DESCRIPTION	APPROVED BY
7-23-98	ADDITIONAL SHEET	ADO

CERTIFIED BY *Robert Peterson*
 REG. NO. 7578 7-23, 19 98
 PROFESSIONAL ENGINEER

TITLE: **EXPANSION DEVICE COVER PLATE AT MEDIAN**

DES: _____ DR: E.L.R. APPROVED: 7-23-98
 CHK: _____ CHK: A.D.O.

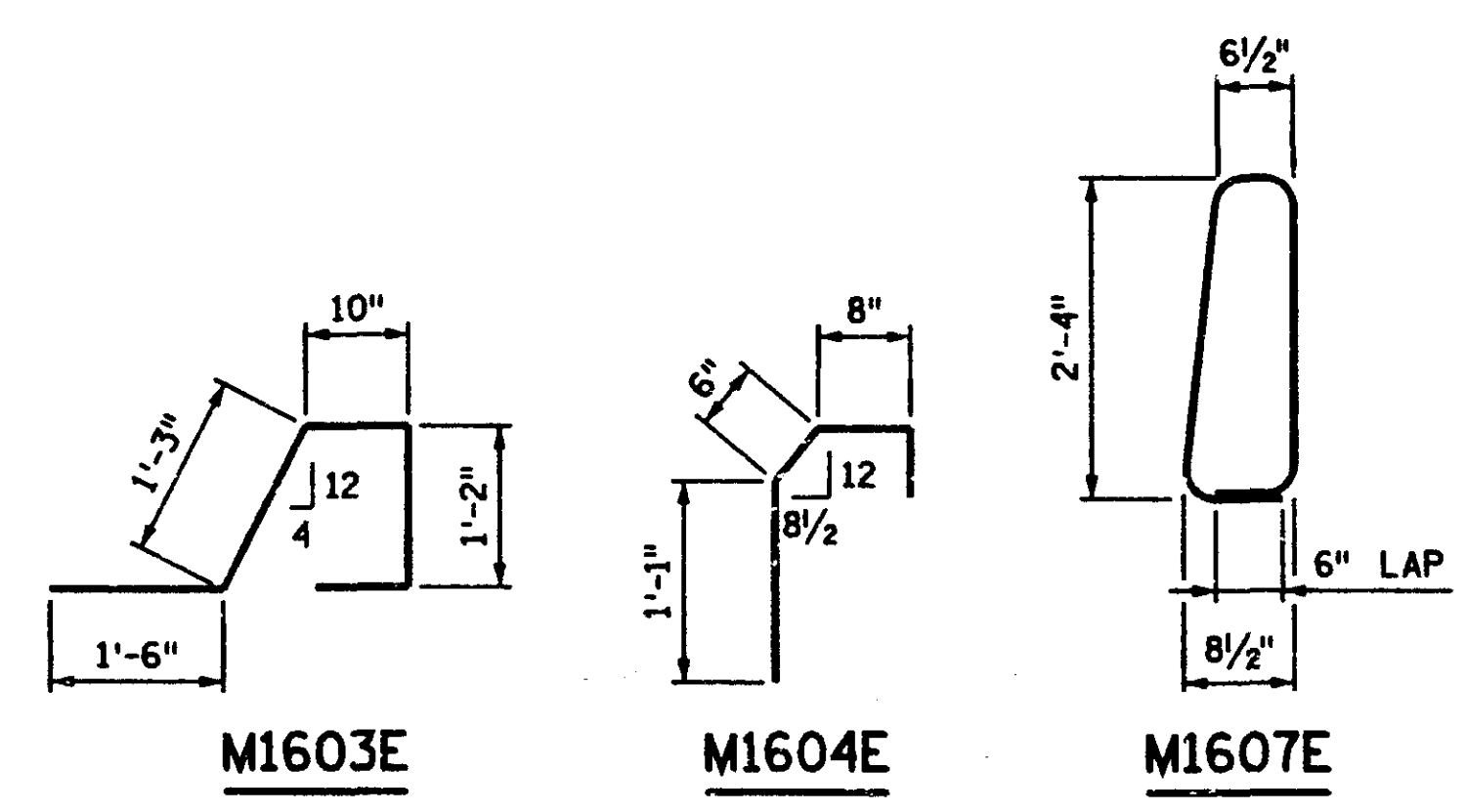
BRIDGE NO. 9340
 SHEET NO. 12A OF 61 SHEETS

**SUMMARY OF QUANTITIES
FOR MEDIAN REPLACEMENT**

①	BRIDGE SLAB CONCRETE (3Y33)	11715 SQ. FT.
②	MEDIAN BARRIER CONC. (3Y46)	3813 LIN. FT.
	REINFORCEMENT BARS (EPOXY COATED)	156040 POUND
③	ANCHORAGES TYPE 16	481 EACH
④	MEDIAN BARRIER COVER PLATE	6 EACH
⑤	PRECAST MEDIAN CAP	1065 LIN. FT.
⑥	REMOVE CONCRETE BRIDGE DECK	12376 SQ. FT.
⑦	REMOVE CONCRETE	18 CU. YD.
	REMOVE MEDIAN RAIL	1907 LIN. FT.
⑧	1" THICK CORK	291 SQ. FT.
⑧	BIT. FELT	1680 SQ. FT.

BILL OF REINFORCEMENT FOR MEDIAN REPLACEMENT				
BAR	NO.	LENGTH	SHAPE	LOCATION
M1901E	14146	2'-8"	—	SLAB TRANSVERSE
M1302E	564	39'-0"	—	SLAB LONGITUDINAL
M1603E	4084	5'-5"	BENT	SLAB TRANS. DOWEL
⑨ M1604E	334	2'-9"	BENT	SLAB TRANS. DOWEL
⑨ M1606E	147	2'-1"	—	SLAB TRANS. DOWEL
M1607E	4418	6'-5"	BENT	BARRIER VERTICAL
M1608E	368	39'-1"	—	BARRIER HORIZ.
M1609E	8	37'-4"	—	BARRIER HORIZ.
M1610E	32	34'-7"	—	BARRIER HORIZ.
M1611E	4	15'-8"	—	BARRIER HORIZ.
M1612E	544	19'-8"	—	BARRIER HORIZ.
M1613E	4	16'-2"	—	BARRIER HORIZ.
M1614E	8	11'-6"	—	BARRIER HORIZ.
M1615E	16	14'-7"	—	BARRIER HORIZ.
M1616E	32	15'-8"	—	BARRIER HORIZ.
M1617E	16	13'-8"	—	BARRIER HORIZ.
M1618E	16	12'-10"	—	BARRIER HORIZ.
M1619E	8	10'-5"	—	BARRIER HORIZ.
M1620E	4	11'-7"	—	BARRIER HORIZ.
M1621E	4	17'-2"	—	BARRIER HORIZ.
M1622E	112	19'-7"	—	BARRIER HORIZ.
M1623E	4	16'-4"	—	BARRIER HORIZ.
M1624E	4	17'-3"	—	BARRIER HORIZ.
M1625E	4	16'-5"	—	BARRIER HORIZ.
M1626E	4	12'-4"	—	BARRIER HORIZ.
M1627E	8	11'-5"	—	BARRIER HORIZ.
M1628E	4	16'-1"	—	BARRIER HORIZ.
M1629E	4	16'-9"	—	BARRIER HORIZ.

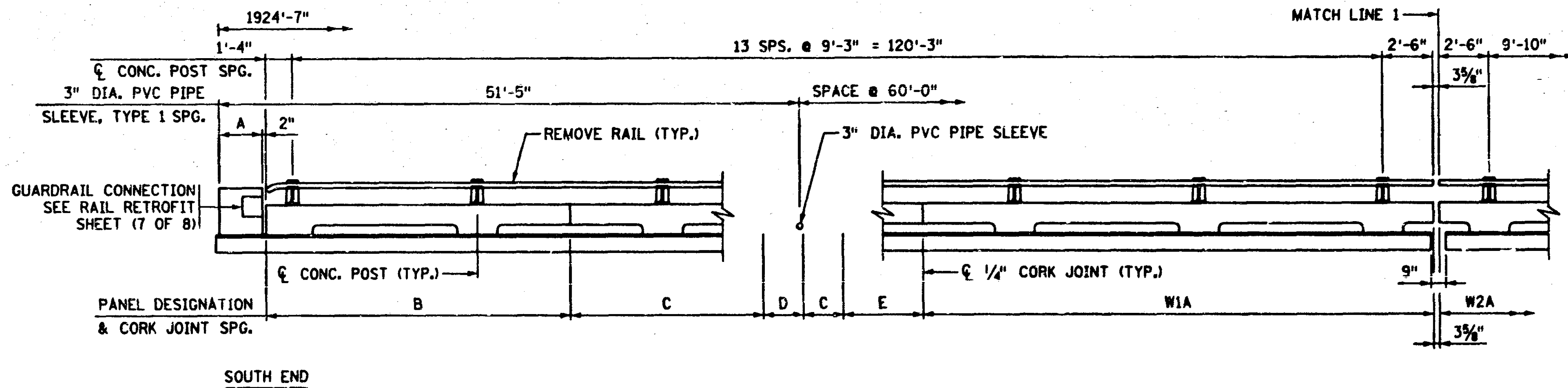
- ① "BRIDGE SLAB CONCRETE (3Y33)" VOLUME IS APPROXIMATELY 310 CU. YD.
- ② "MEDIAN BARRIER CONC. (3Y46)" VOLUME IS APPROXIMATELY 407 CU. YDS.
- ③ PAYMENT FOR ANCHORAGES INCLUDED IN ITEM NO. 2433.516 "ANCHORAGES TYPE REINF. BARS" PER EACH.
- ④ "MEDIAN BARRIER COVER PLATE" IS APPROXIMATELY 2210 POUNDS FOR ALL PLATES.
- ⑤ "PRECAST MEDIAN CAP" VOLUME IS APPROXIMATELY 50 CU. YDS. REINFORCEMENT FOR PRECAST MEDIAN CAP IS APPROXIMATELY 3390 POUNDS.
- ⑥ INCLUDES REMOVAL OF DECK SLAB AND MEDIAN CURB FROM SOUTH ABUTMENT TO PIER 11.
- ⑦ INCLUDES REMOVAL OF MEDIAN CURB FROM PIER 11 TO NORTH ABUTMENT.
- ⑧ INCLUDED IN PRICE BID FOR OTHER ITEMS.



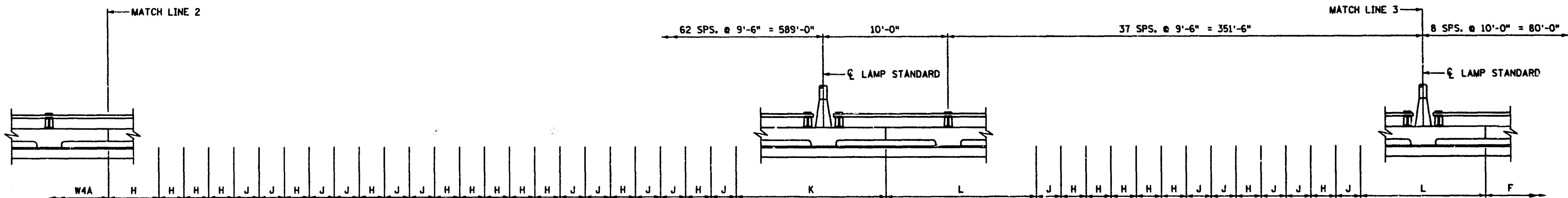
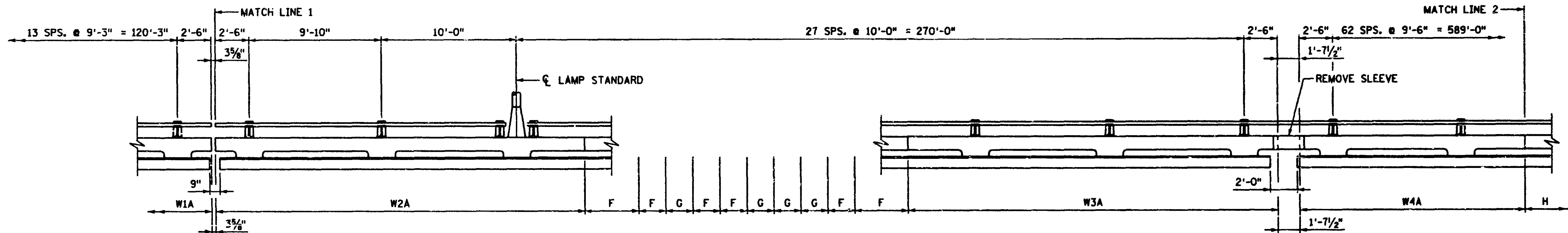
NOTE:

⑨ NOT INCLUDED IN WEIGHT OF REINFORCEMENT. INCLUDED IN PRICE BID FOR TEM NO. 2433.516 "ANCHORAGES TYPE REINF. BARS".

CERTIFIED BY _____ PROFESSIONAL ENGINEER	TITLE: MEDIAN REPLACEMENT (10 OF 10)	DES: E.O.W. CHK: A.D.O.	DR: L.J.H. CHK: A.D.O.	APPROVED: <i>1-30-98</i>	BRIDGE NO. 9340
REG. NO. 7578	19 98	SHEET NO. 13 OF 61 SHEETS			



SOUTH END



INPLACE WEST RAIL - INSIDE ELEVATION

DIMENSIONS GIVEN ALONG EDGE OF SLAB AT TOP OF CURB



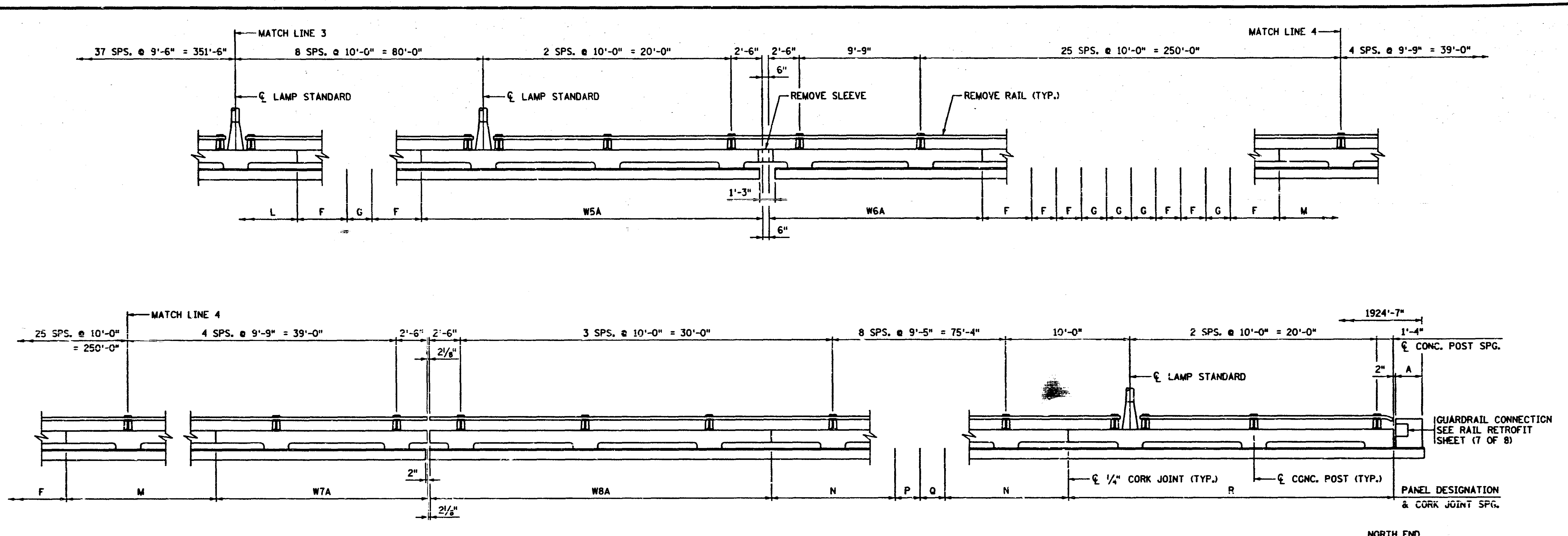
NOTES:

DIMENSIONS GIVEN TO INPLACE BRIDGE WERE TAKEN FROM THE ORIGINAL PLANS FOR BR. 9340.

SEE RAIL RETROFIT SHEET (6 OF 8) FOR RAIL SECTIONS.

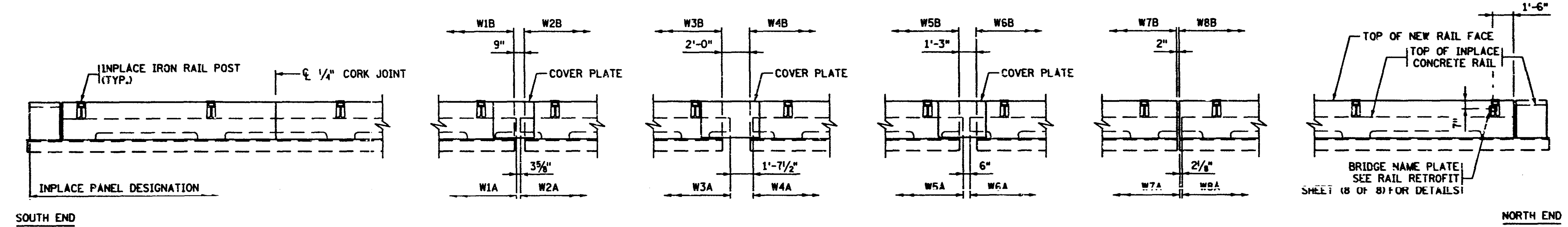
SEE RAIL RETROFIT SHEET (8 OF 8) FOR PANEL LENGTHS, BILL OF REINFORCEMENT AND SUMMARY OF QUANTITIES.

CERTIFIED BY <i>Calvin Ottaviano</i> PROFESSIONAL ENGINEER	TITLE RAIL RETROFIT (1 OF 8)	DES: E.O.W. CHK: A.D.O.	DR: L.J.H. CHK: A.D.O.	APPROVED <i>1-30-98</i>	BRIDGE NO. 9340
REG. NO. 7578	1-29 19 98	SHEET NO. 14 OF 61 SHEETS			



INPLACE WEST RAIL - INSIDE ELEVATION
 DIMENSIONS GIVEN ALONG EDGE OF SLAB AT TOP OF CURB

TRAFFIC
 ←



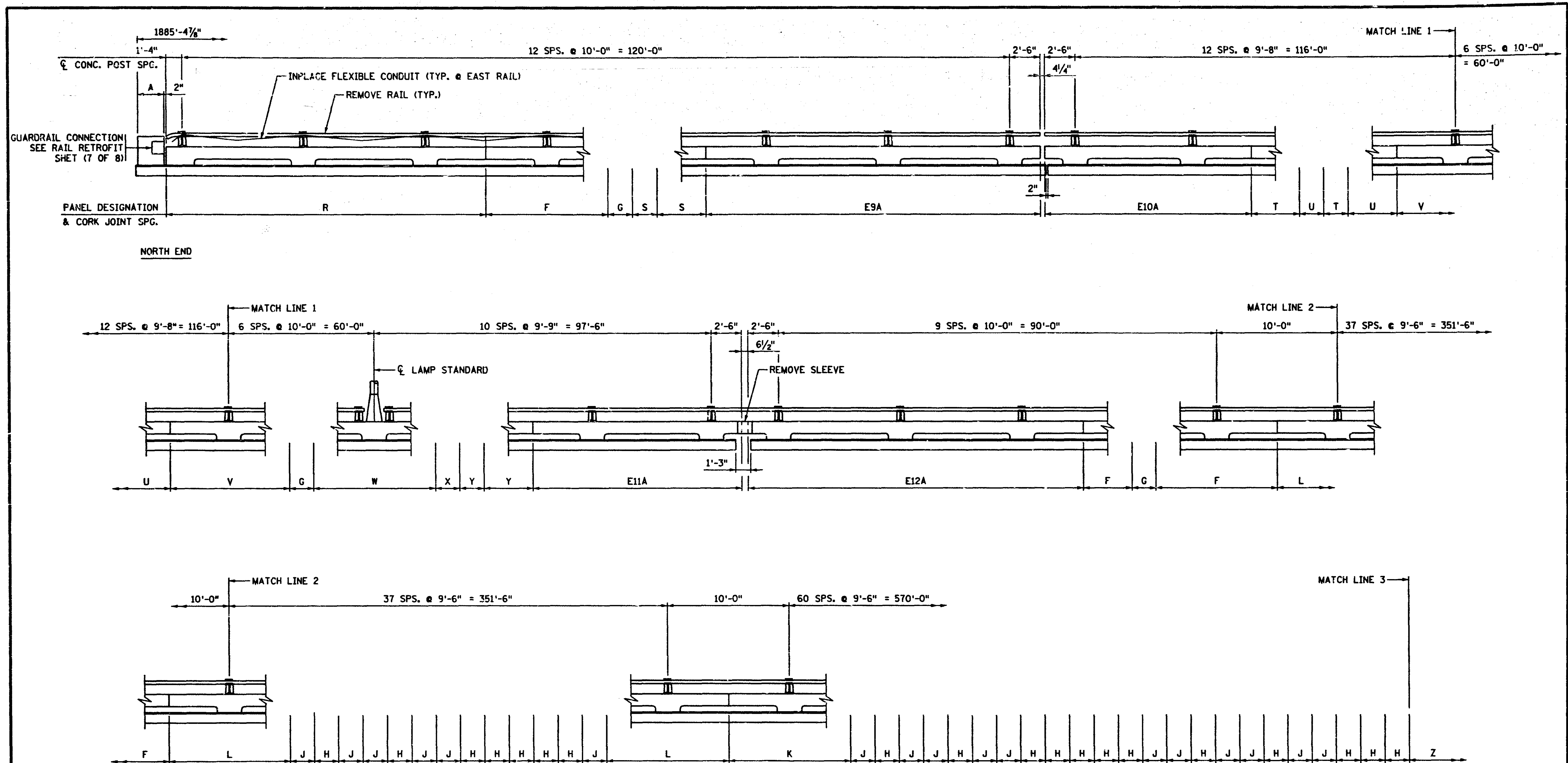
PROPOSED WEST RAIL - INSIDE ELEVATION
 CONCRETE POST SPG. SAME AS INPLACE.
 PANEL DESIGNATION SAME AS INPLACE EXCEPT AS NOTED AT EXPANSION JOINTS.

TRAFFIC
 ←

- NOTES:**
- DIMENSIONS GIVEN TO INPLACE BRIDGE WERE TAKEN FROM THE ORIGINAL PLANS FOR BR. 9340.
 - FINISH ALL EDGES OF PROPOSED RAIL WITH 1/2" VEE.
 - SEE RAIL RETROFIT SHEET (6 OF 8) FOR RAIL SECTIONS.
 - SEE RAIL RETROFIT SHEET (7 OF 8) FOR COVER PLATE DETAILS.
 - SEE RAIL RETROFIT SHEET (8 OF 8) FOR PANEL LENGTHS, BILL OF REINFORCEMENT AND SUMMARY OF QUANTITIES.

CERTIFIED BY <i>Robert A. Ottomano</i> PROFESSIONAL ENGINEER	TITLE RAIL RETROFIT (2 OF 8)	DES: E.O.W. CHK: A.D.O.	DR: L.J.H. CHK: A.D.O.	APPROVED 1-30-98	BRIDGE NO. 9340
REG. NO. 7578	1-29 19 98	SHEET NO. 15 OF 61 SHEETS			

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INPLACE EAST RAIL - INSIDE ELEVATION

DIMENSIONS GIVEN ALONG EDGE OF SLAB AT TOP OF CURB

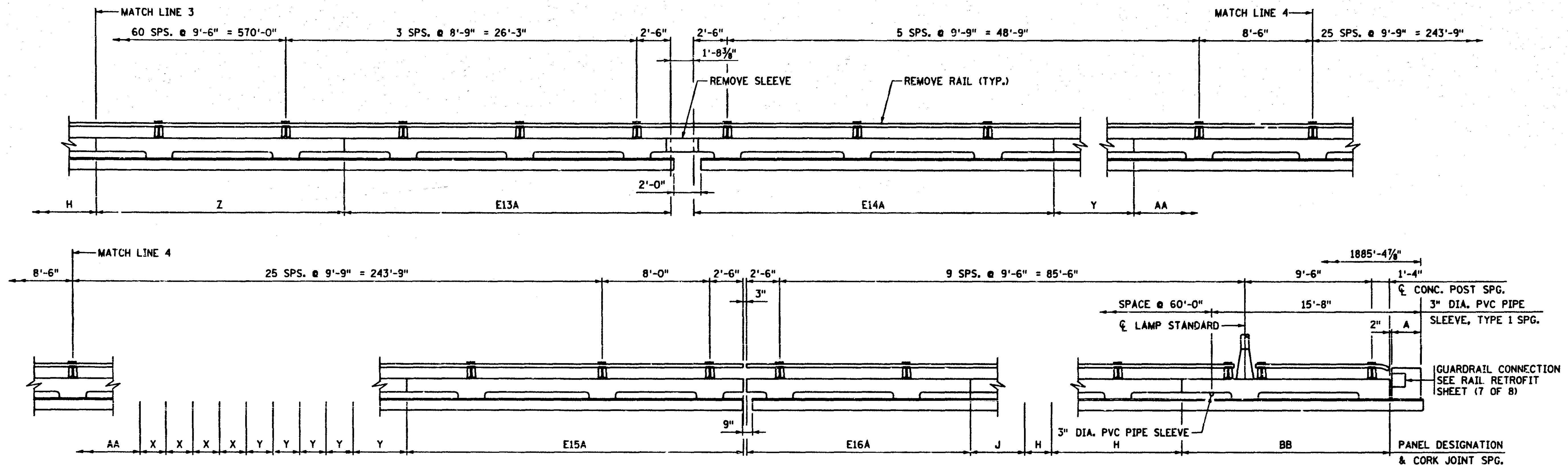


NOTES:

DIMENSIONS GIV'N TO INPLACE BRIDGE WERE TAKEN FROM THE ORIGINAL PLANS FOR BR. 9340.
 SEE RAIL RETROFIT SHEET (6 OF 8) FOR RAIL SECTIONS.
 SEE RAIL RETROFIT SHEET (8 OF 8) FOR PANEL LENGTHS, BILL OF REINFORCEMENT AND SUMMARY OF QUANTITIES.

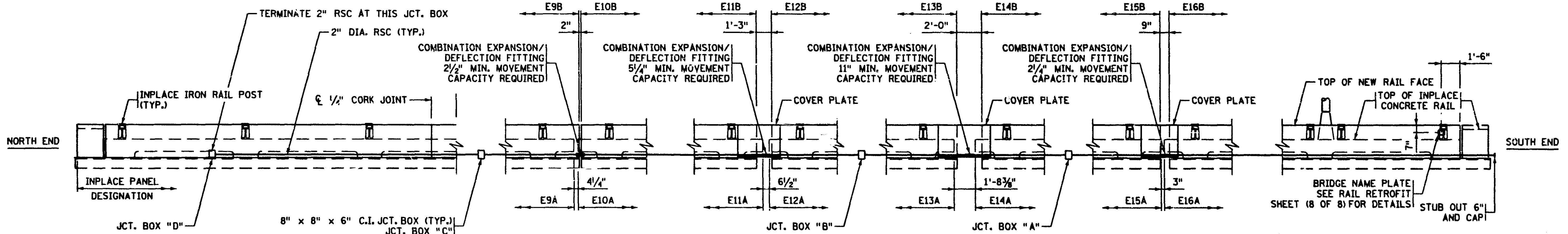
CERTIFIED BY <i>Robert Ottum</i> PROFESSIONAL ENGINEER REG. NO. 7578	TITLE RAIL RETROFIT (3 OF 8)	DES: E.O.W. DR: L.J.H. APPROVED: 1-30-98	BRIDGE NO. 9340
		CHK: A.D.O. CHK: A.D.O. SHEET NO. 16 OF 61 SHEETS	

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INPLACE EAST RAIL - INSIDE ELEVATION
DIMENSIONS GIVEN ALONG EDGE OF SLAB AT TOP OF CURB

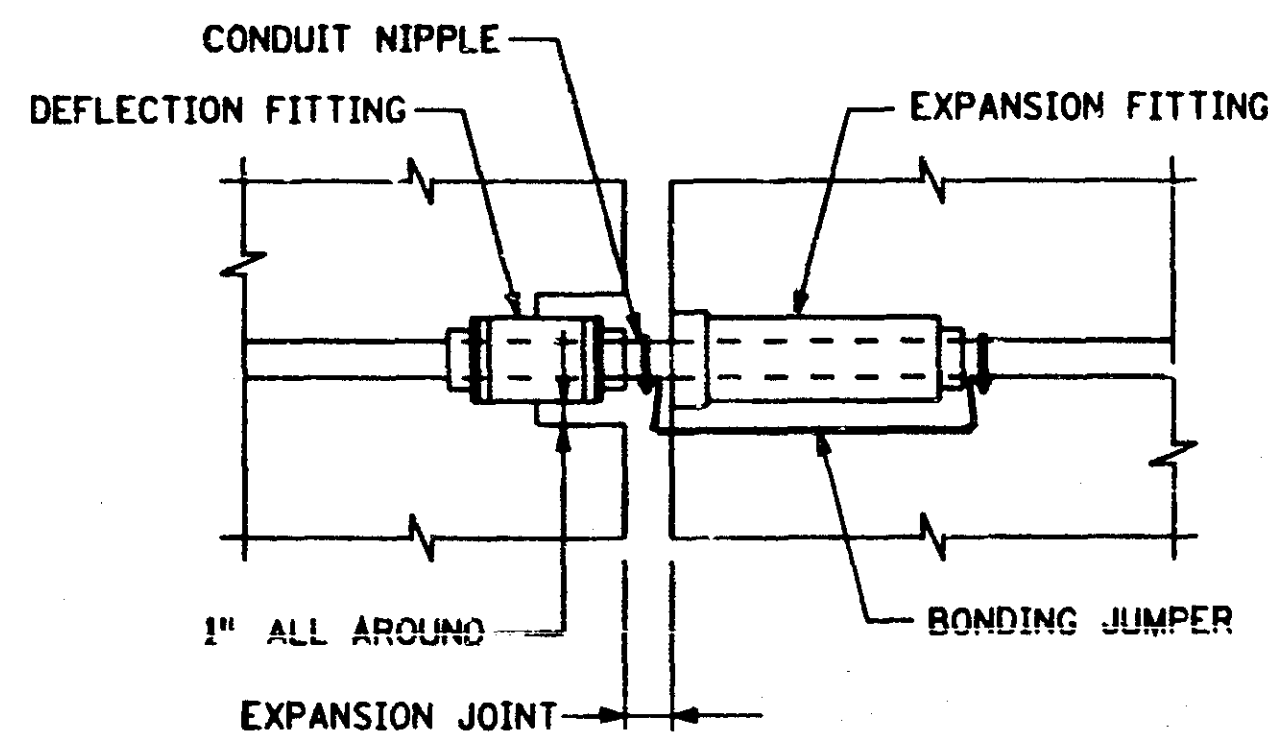
TRAFFIC ←



PROPOSED EAST RAIL - INSIDE ELEVATION

☉ CONCRETE POST SPG. SAME AS INPLACE.
PANEL DESIGNATION SAME AS INPLACE EXCEPT AS NOTED AT EXPANSION JOINTS.

TRAFFIC ←



COMBINATION EXPANSION/DEFLECTION FITTING

SUMMARY OF QUANTITIES FOR CONDUIT SYSTEM (RWIS)	
2" DIA. R.S.C.	1885 LIN. FT.
2" DIA. END CAPS	3 EACH
COMBINATION EXPANSION/DEFLECTION FITTINGS	4 EACH
8" x 8" x 6" CAST IRON JUNCTION BOX	4 EACH

ALL MATERIAL LISTED ABOVE IS INCLUDED IN PRICE BID FOR "CONDUIT SYSTEM (RWIS)".
SEE SPECIAL PROVISIONS.

NOTES:

DIMENSIONS GIVEN TO INPLACE BRIDGE WERE TAKEN FROM THE ORIGINAL PLANS FOR BR. 9340.

FINISH ALL EDGES OF PROPOSED RAIL WITH 1/2" VEE.

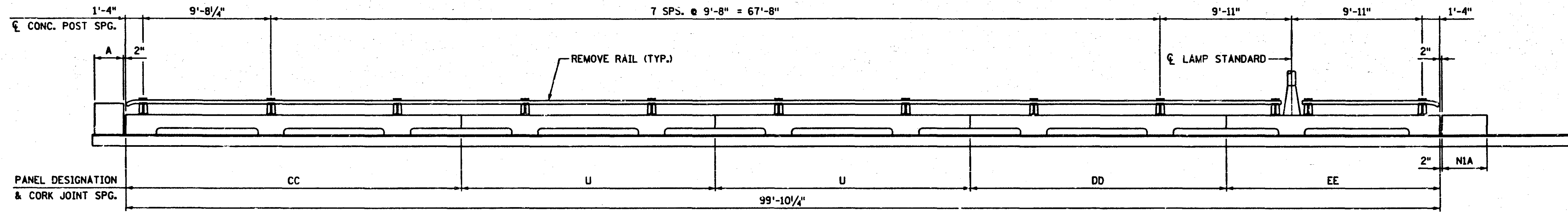
SEE RAIL RETROFIT SHEET (6 OF 8) FOR RAIL SECTIONS.

SEE RAIL RETROFIT SHEET (7 OF 8) FOR COVER PLATE DETAILS.

SEE RAIL RETROFIT SHEET (8 OF 8) FOR PANEL LENGTHS, BILL OF REINFORCEMENT AND SUMMARY OF QUANTITIES.

2" RSC, COMBINATION EXPANSION/DEFLECTION FITTINGS AND JUNCTION BOXES ARE INCLUDED IN "CONDUIT SYSTEM (RWIS)". SEE THIS SHEET FOR SUMMARY OF QUANTITIES.

CERTIFIED BY <i>Antoine Ottomano</i> PROFESSIONAL ENGINEER	TITLE RAIL RETROFIT (4 OF 8)	DESIGNED BY E.O.W. CHECKED BY A.D.O.	DRAWN BY L.J.H. CHECKED BY A.D.O.	APPROVED BY <i>1-30-98</i>	BRIDGE NO. 9340
REG. NO. 7578	1-29 19 98	SHEET NO. 17 OF 61 SHEETS			



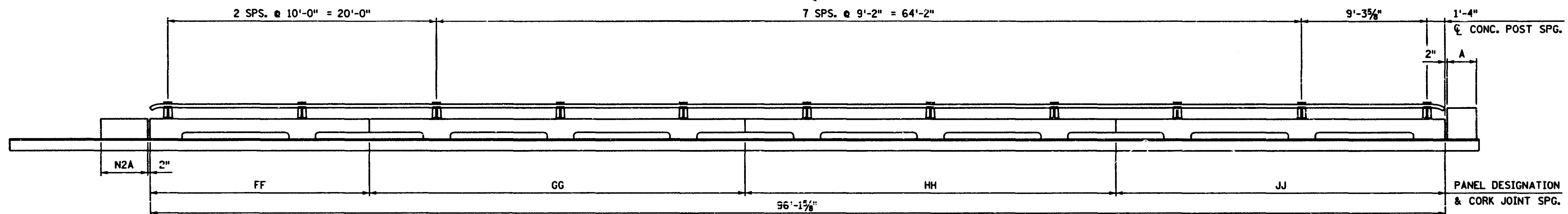
NORTH END

INPLACE EAST RAIL AT N.B. ROADWAY - INSIDE ELEVATION

NOSE

DIMENSIONS GIVEN ALONG EDGE OF SLAB AT TOP OF CURB. (NOSE PANEL IS MEASURED ALONG FRONT FACE OF INPLACE RAIL.)

TRAFFIC



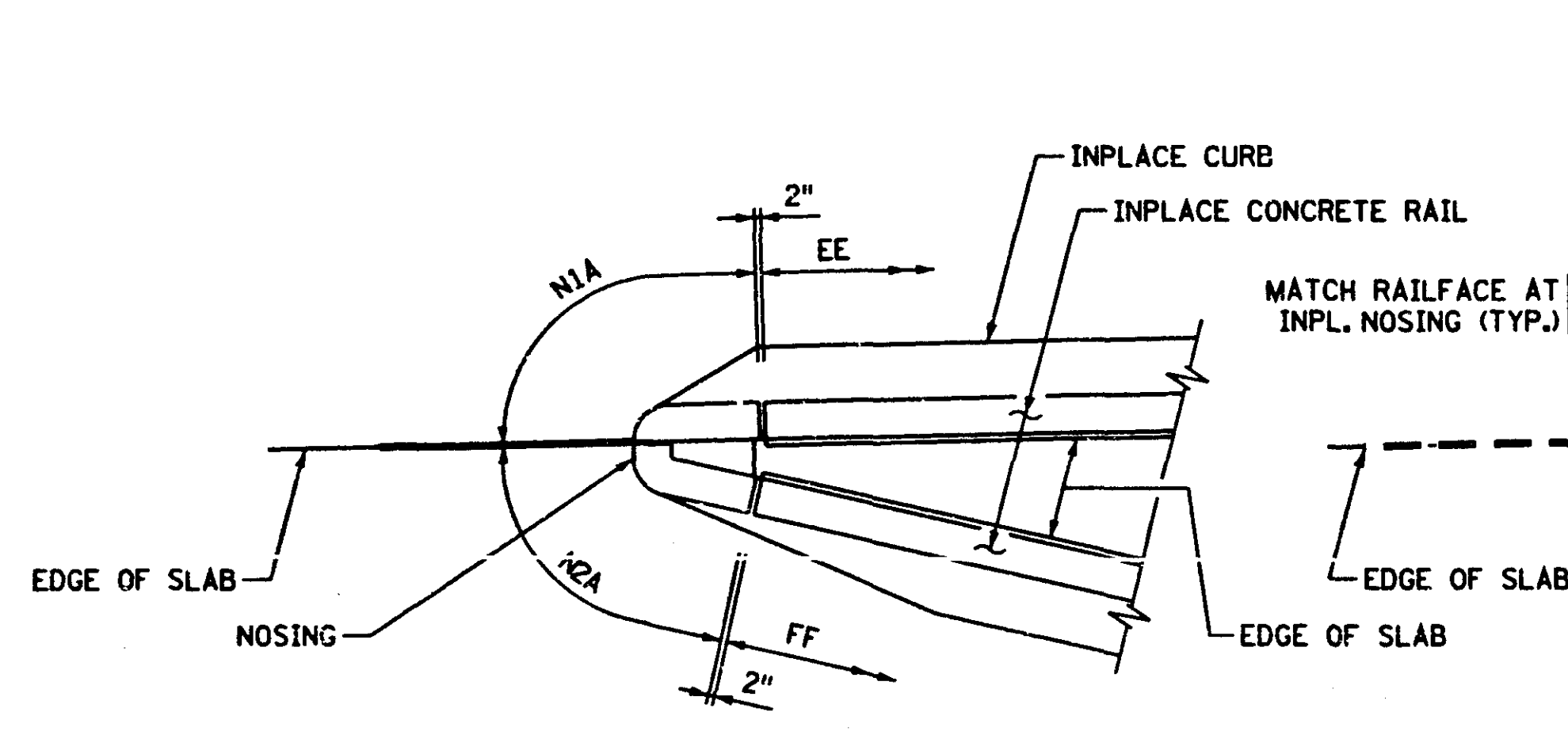
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INPLACE WEST RAIL AT RAMP 2 - INSIDE ELEVATION

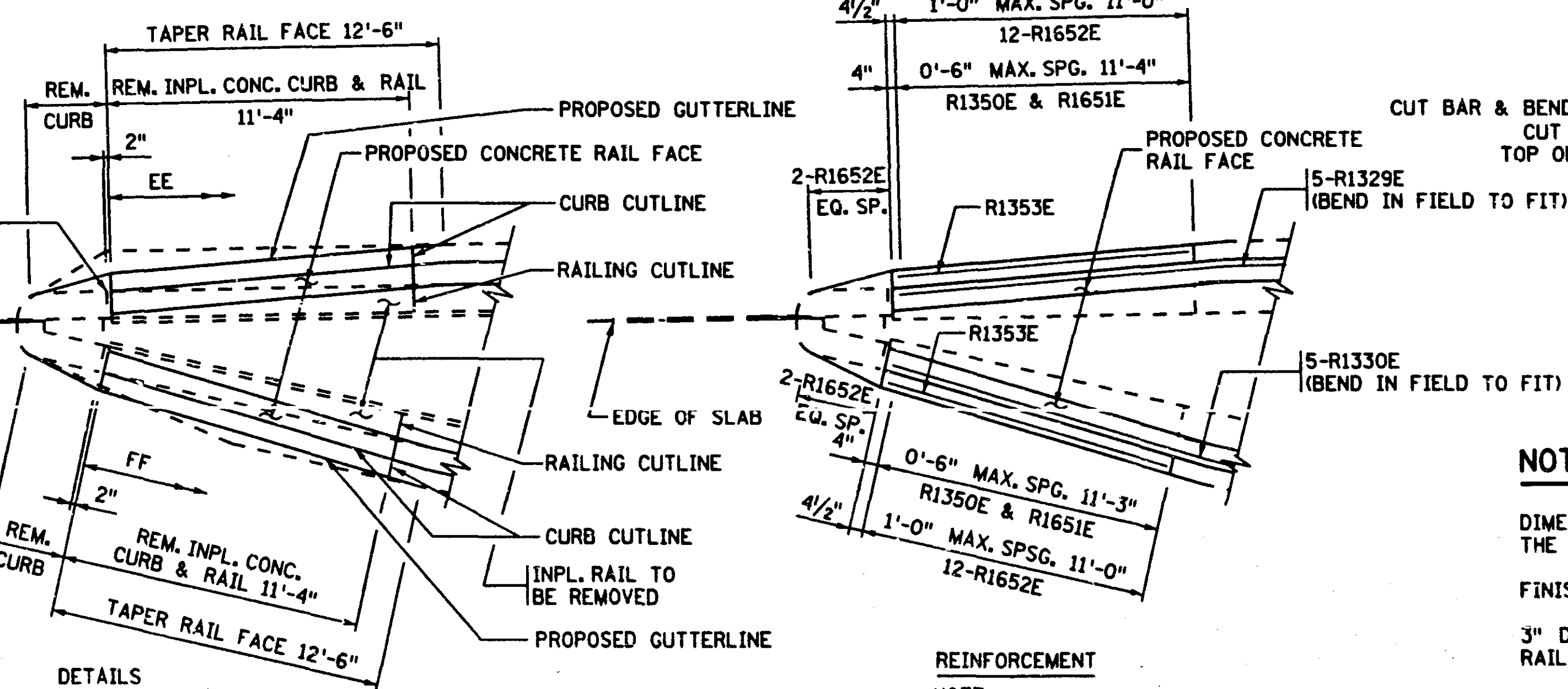
NORTH END

DIMENSIONS GIVEN ALONG EDGE OF SLAB AT TOP OF CURB. (NOSE PANEL IS MEASURED ALONG FRONT FACE OF INPLACE RAIL.)

TRAFFIC

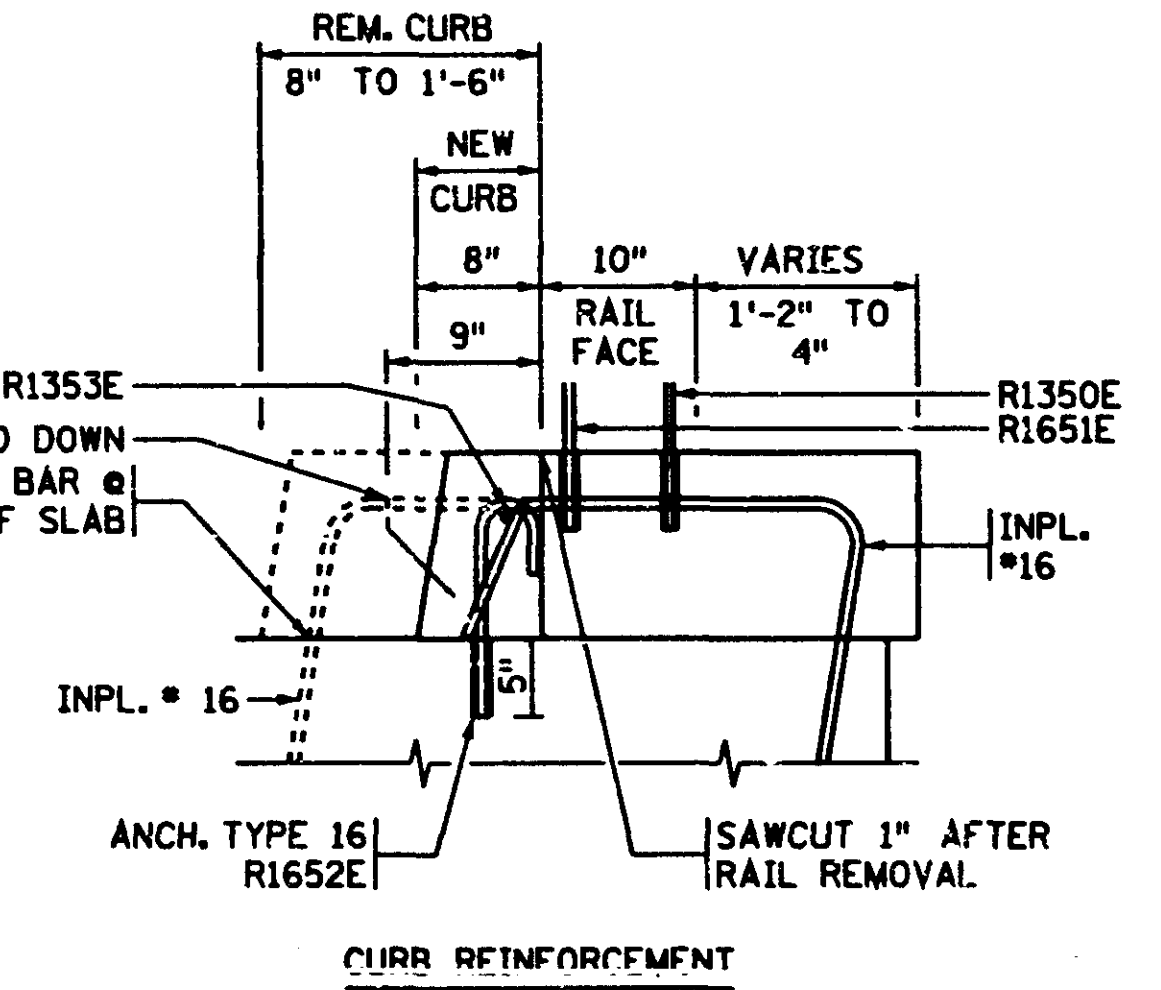


INPLACE NOSING PLAN



PROPOSED NOSING PLAN

REMOVE INPL. CONC. RAILBASE AND 2 IRON RAILPOSTS EACH SIDE AND PARTIAL CURB



CURB REINFORCEMENT

NOTES:

- DIMENSIONS GIVEN TO INPLACE BRIDGE WERE TAKEN FROM THE ORIGINAL PLANS FOR BR. 9340.
- FINISH ALL EDGES OF PROPOSED RAIL WITH 1/2" VEE.
- 3" DIA. PVC PIPE SLEEVES ARE NOT REQUIRED FOR THESE RAILINGS.
- SEE RAIL RETROFIT SHEET (6 OF 8) FOR RAIL SECTIONS.
- SEE RAIL RETROFIT SHEET (8 OF 8) FOR PANEL LENGTHS, BILL OF REINFORCEMENT AND SUMMARY OF QUANTITIES.

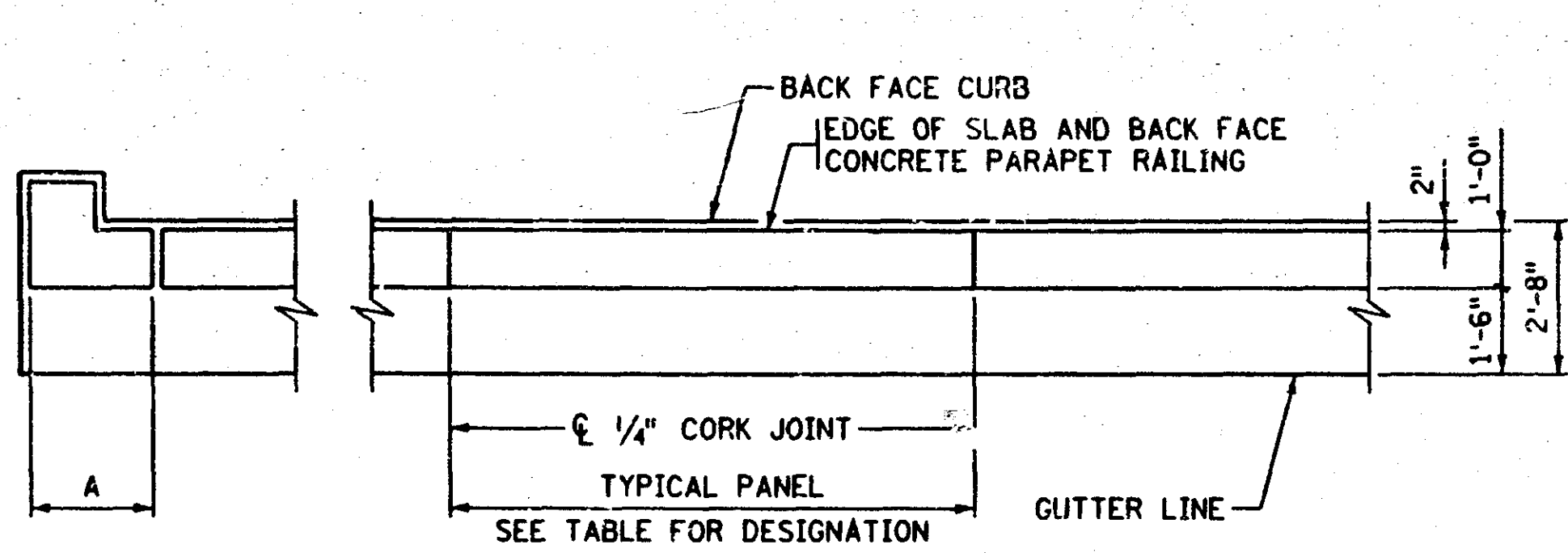
REVISION		
DATE	DESCRIPTION	APPROVED BY
7-17-98	REVISED NOSING DETAILS	ADO

CERTIFIED BY *Ches Ostman*
 REG. NO. 7578
 PROFESSIONAL ENGINEER
 1-22, 19 98

TITLE
RAIL RETROFIT
 (5 OF 8)

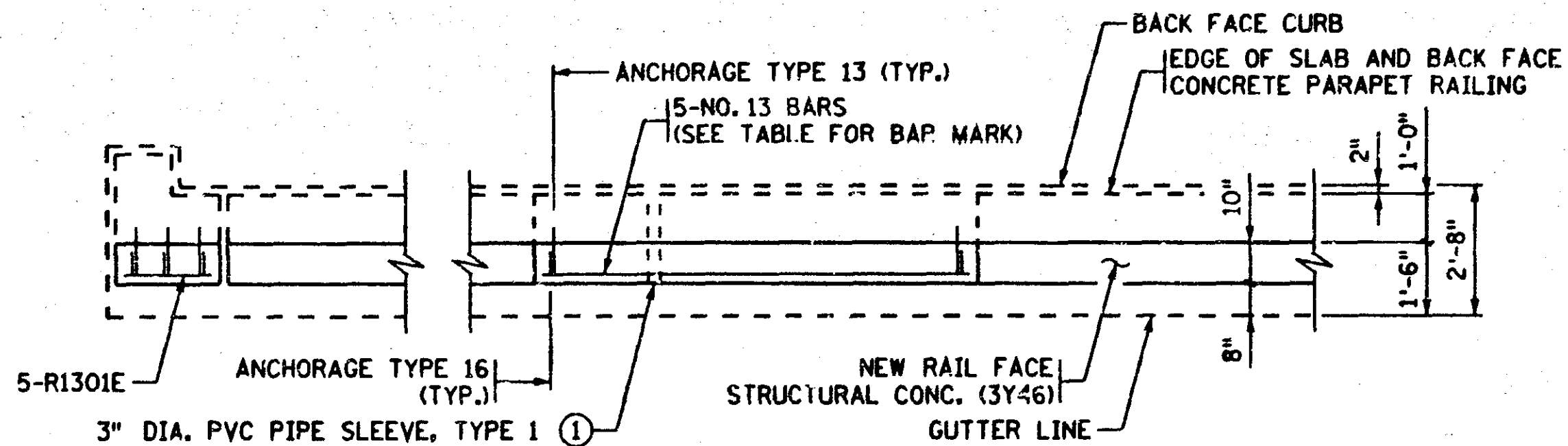
DES: E.O.W. DR: L.J.H./E.L.R. APPROVED: 7-23-98
 CHK: A.D.O. CHK: A.D.O.

BRIDGE NO. 9340
 SHEET NO. 18R OF 61 SHEETS



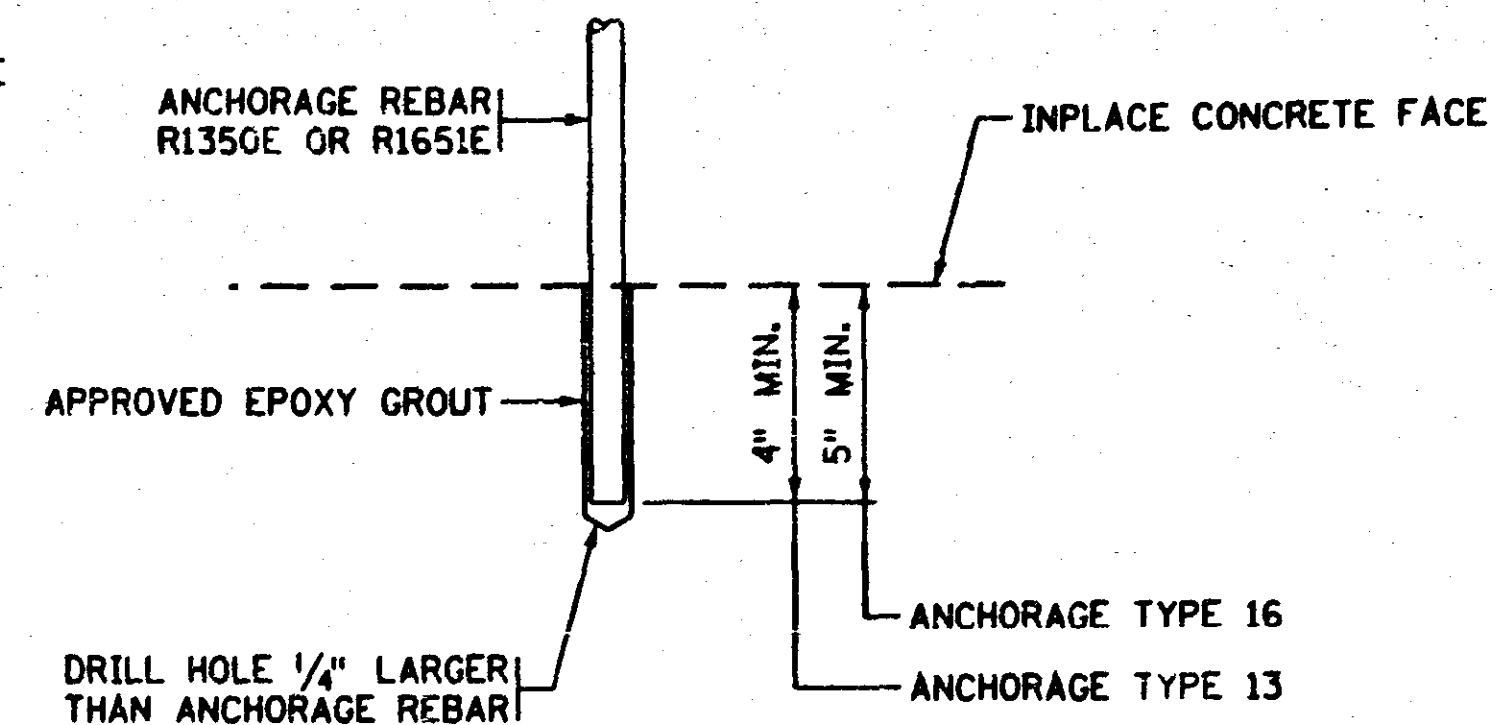
INPLACE RAIL PLAN

IRON RAIL POSTS AND TUBULAR RAILING NOT SHOWN.



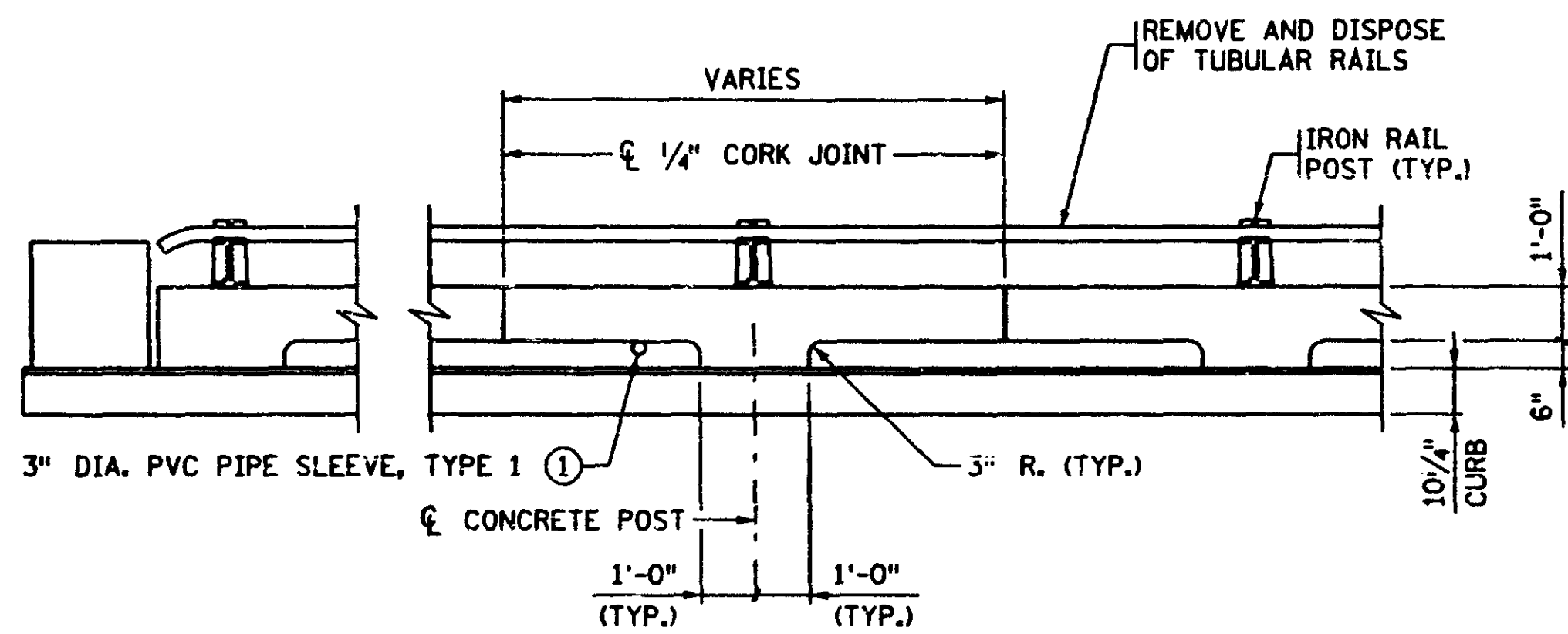
PROPOSED RAIL PLAN

IRON RAIL POSTS NOT SHOWN.
PANEL "A" AND TYPICAL PANEL REINFORCEMENT SHOWN.

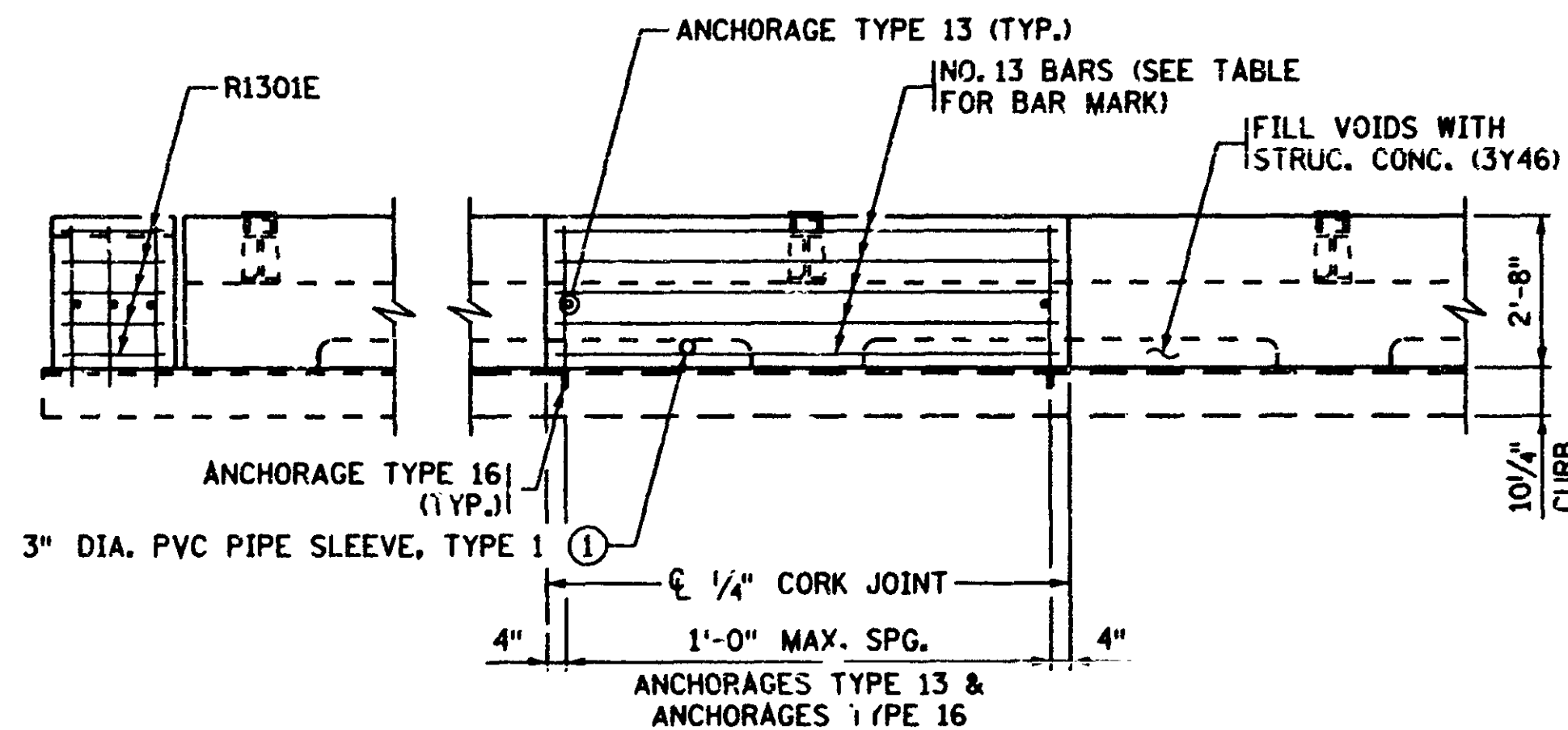


ANCHORAGE DETAIL

ANCHORAGE TYPE 13 & ANCHORAGE TYPE 16
INCLUDED IN PRICE BID FOR "ANCHORAGES TYPE REINF. BARS"

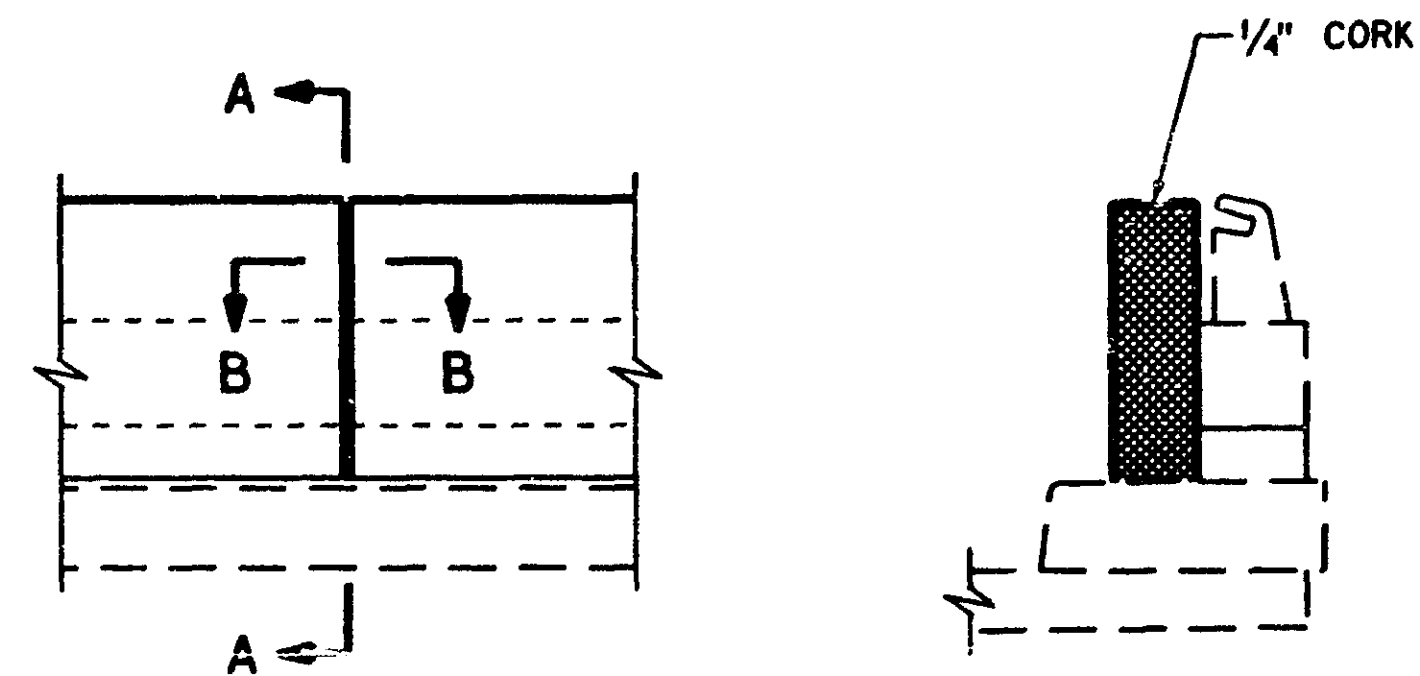


INPLACE RAIL ELEVATION - INSIDE VIEW



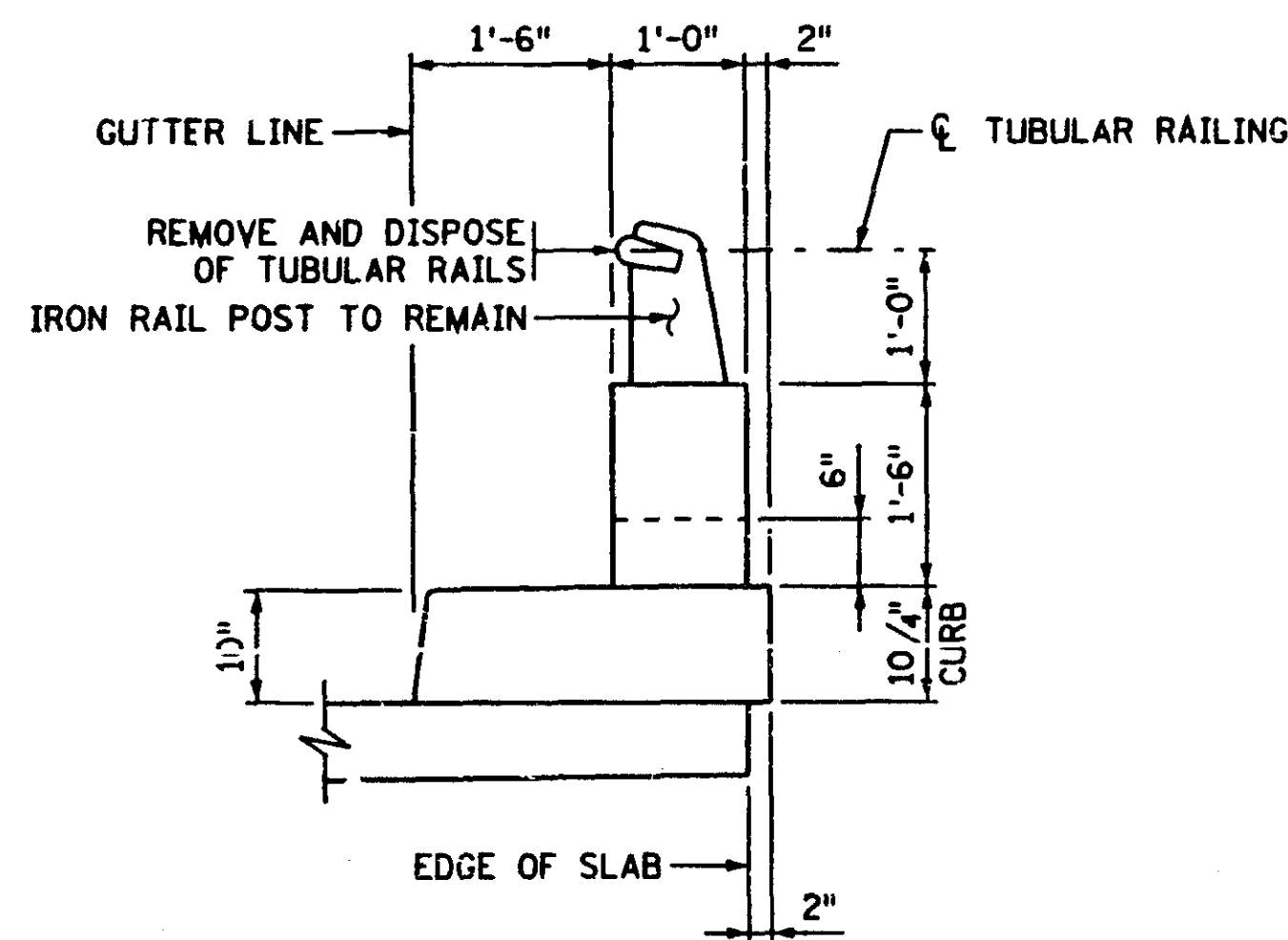
PROPOSED RAIL ELEVATION - INSIDE VIEW

PANEL "A" AND TYPICAL PANEL REINFORCEMENT SHOWN.

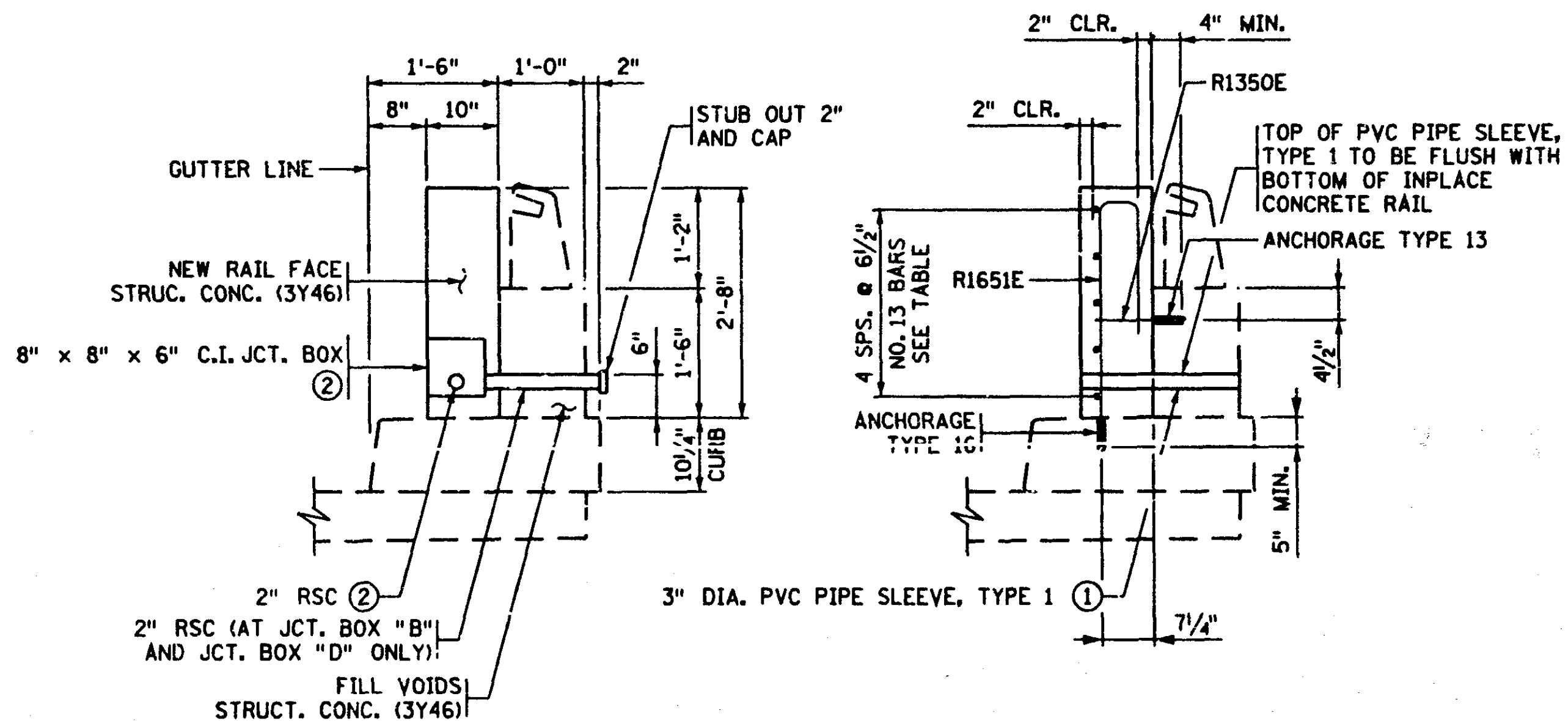


PROPOSED RAIL AT CORK JOINT

SECTION A-A



SECTION THROUGH INPLACE RAIL



SECTION THROUGH PROPOSED RAIL

NOTES:

DIMENSIONS GIVEN TO INPLACE BRIDGE WERE TAKEN FROM THE ORIGINAL PLANS FOR BR. 9340.

FINISH ALL EDGES OF PROPOSED RAIL WITH 1/2\"/>

SEE RAIL RETROFIT SHEET (1 OF 8) & (4 OF 8) FOR 3\"/>

① INCLUDED IN "ANTI-ICING SYSTEM PROVISIONS".

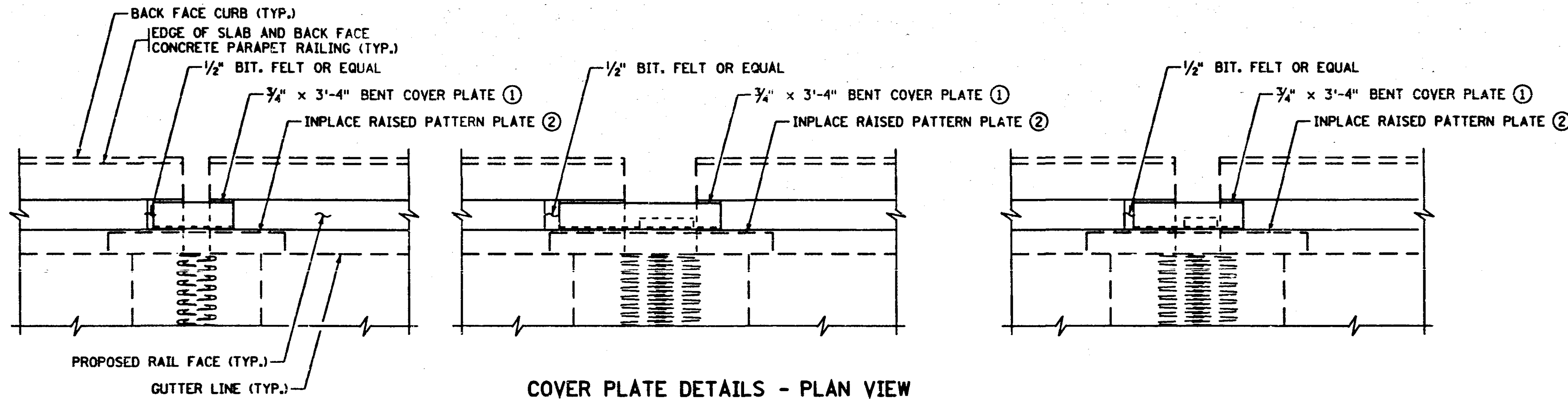
② INCLUDED IN "CONDUIT SYSTEM (RWIS)". SEE RAIL RETROFIT SHEET (4 OF 8) FOR LOCATION. SEE RAIL RETROFIT SHEET (8 OF 8) FOR SUMMARY OF QUANTITIES.

CERTIFIED BY *Robert Ottaviano*
PROFESSIONAL ENGINEER
REG. NO. 7578 1-29 19 98

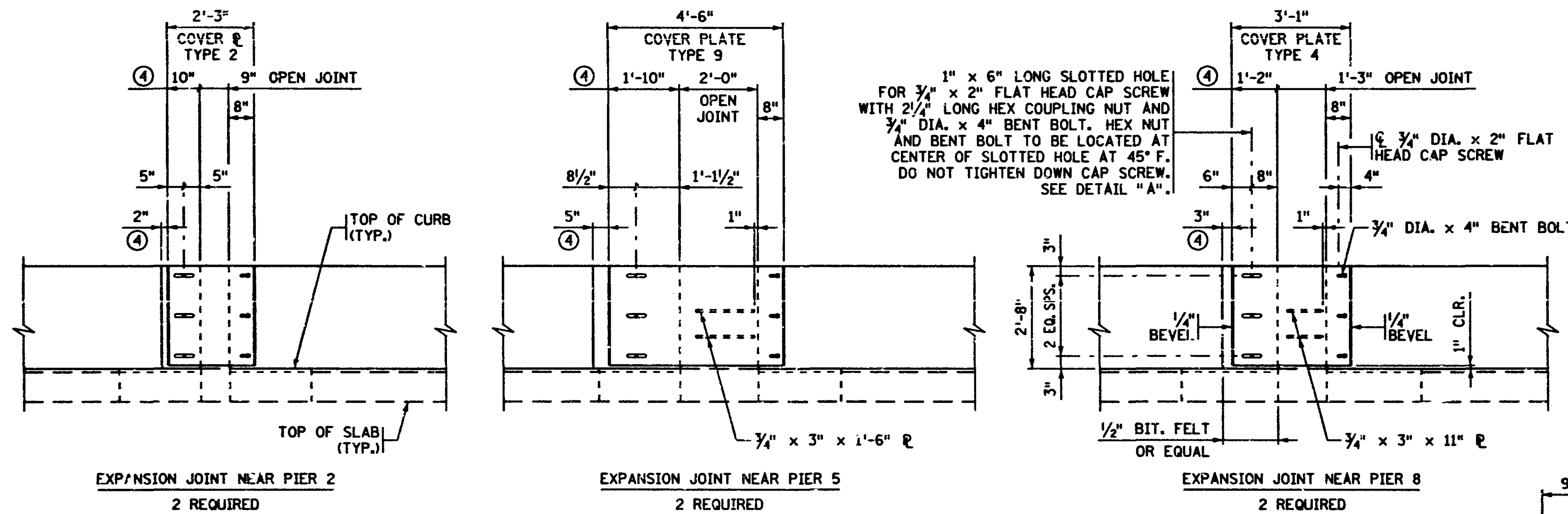
TITLE: **RAIL RETROFIT**
(6 OF 8)

DES: E.O.W. DR: L.J.H. APPROVED: 1-30-98
CHK: A.D.O. CHK: A.D.O.
SHEET NO. 19 OF 61 SHEETS

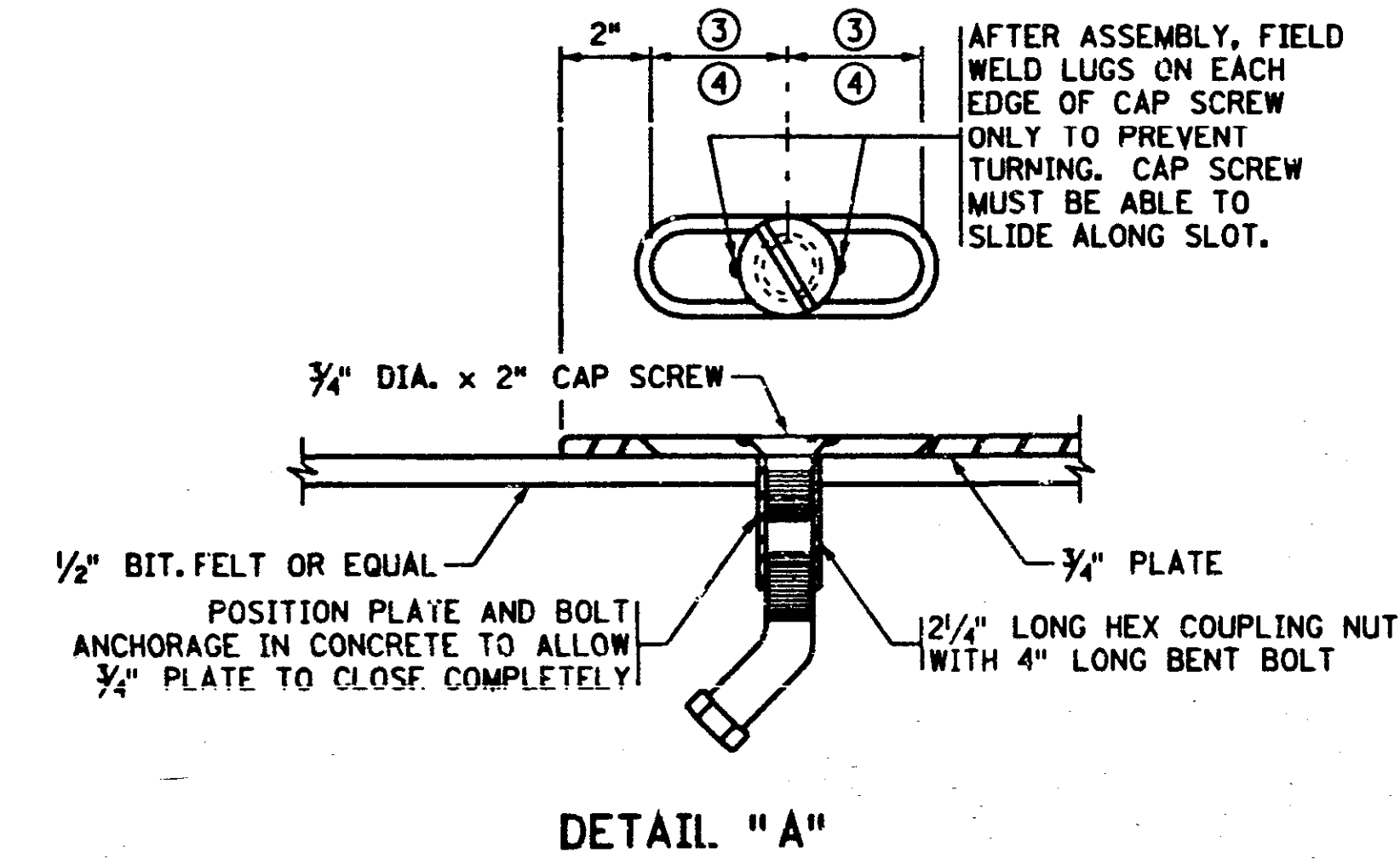
BRIDGE NO. 9340



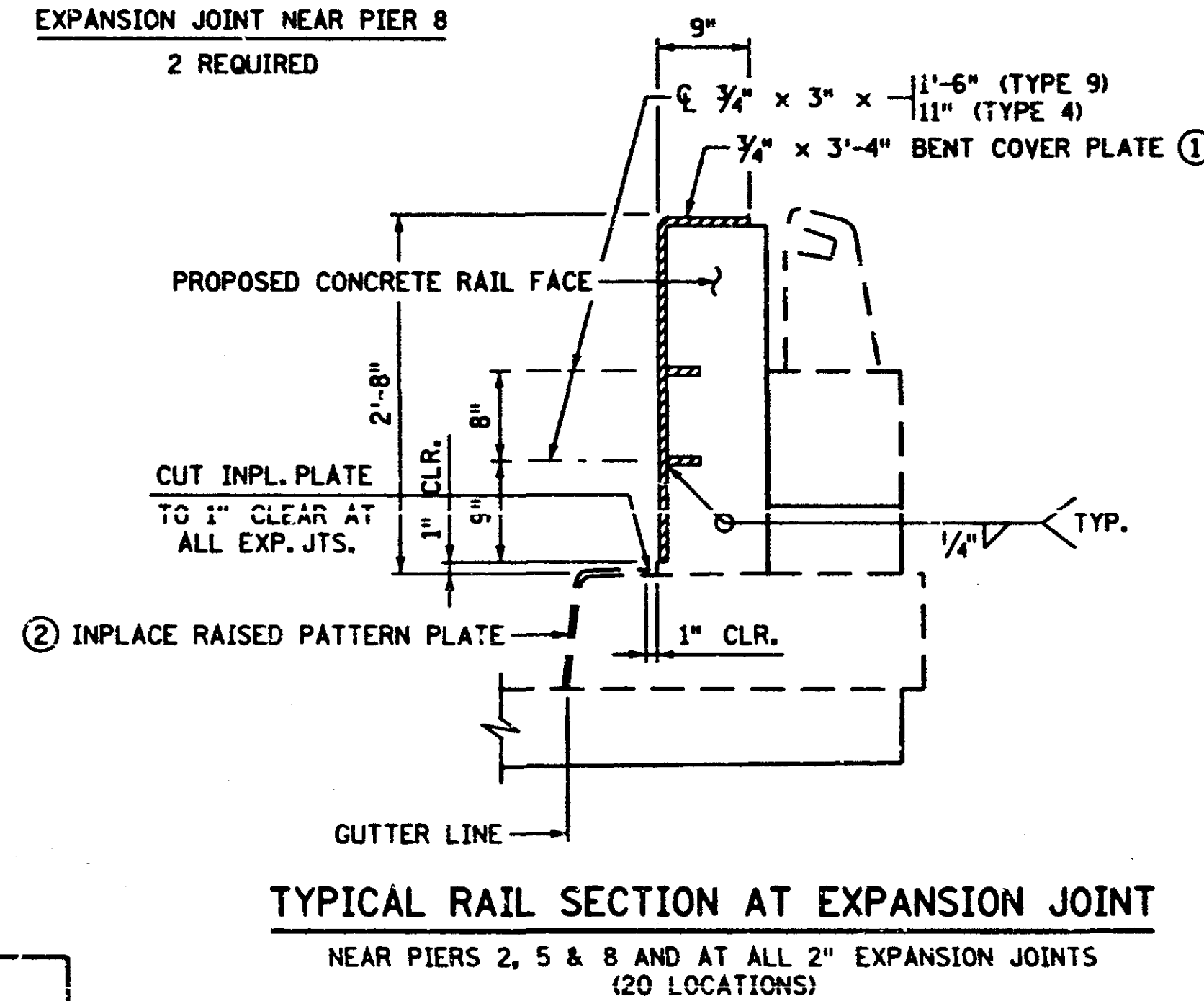
COVER PLATE DETAILS - PLAN VIEW
WEST RAIL SHOWN, EAST RAIL SIMILAR.



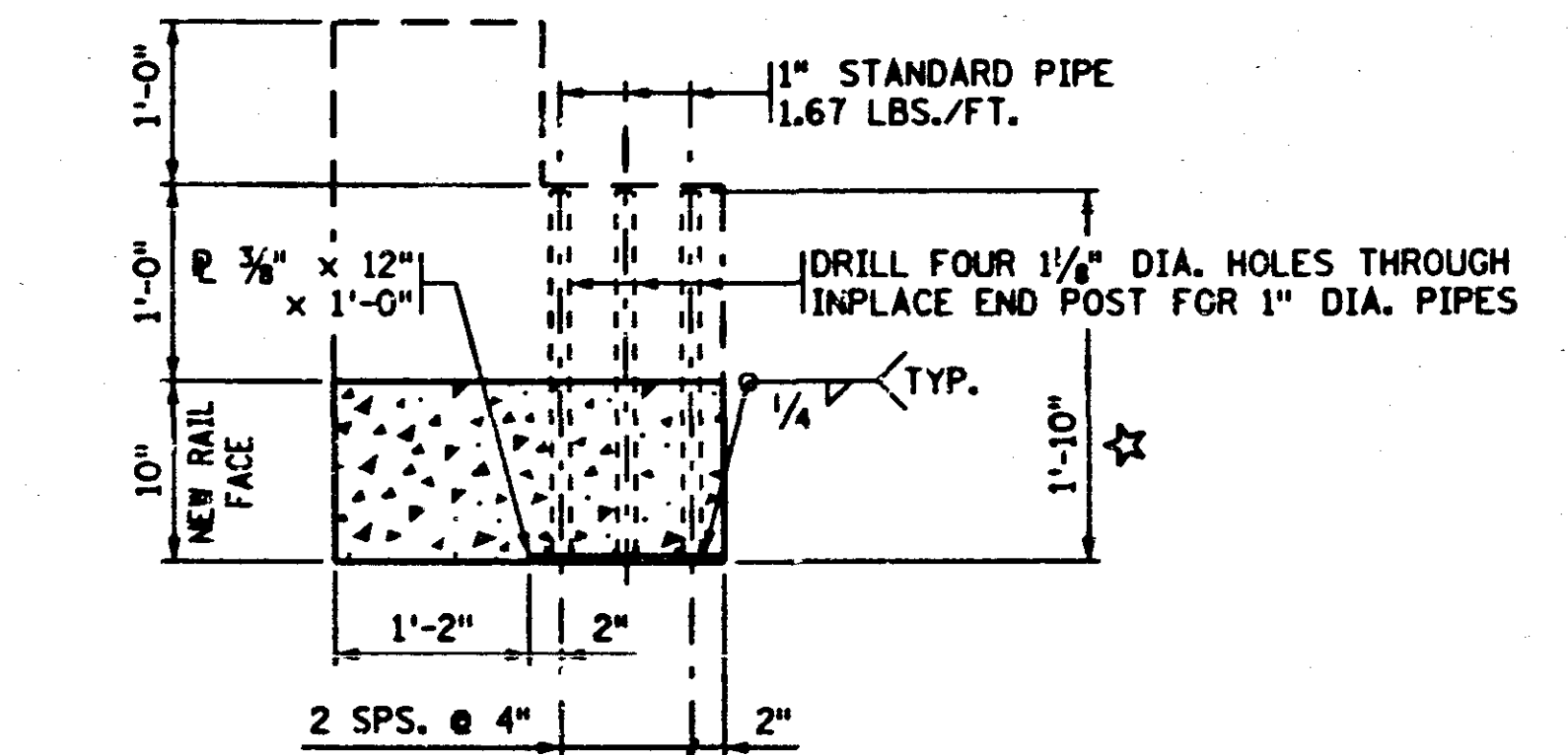
COVER PLATE DETAILS - INSIDE ELEVATION VIEW
WEST RAIL SHOWN, EAST RAIL SIMILAR.
ALL DIMENSIONS SHOWN AT "EXPANSION JOINT NEAR PIER 8" ARE TYPICAL UNLESS OTHERWISE NOTED.



REVISION		
DATE	DESCRIPTION	APPROVED BY
7-22-98	ADDED NOTES TO TYPICAL RAIL SECTION	ADO

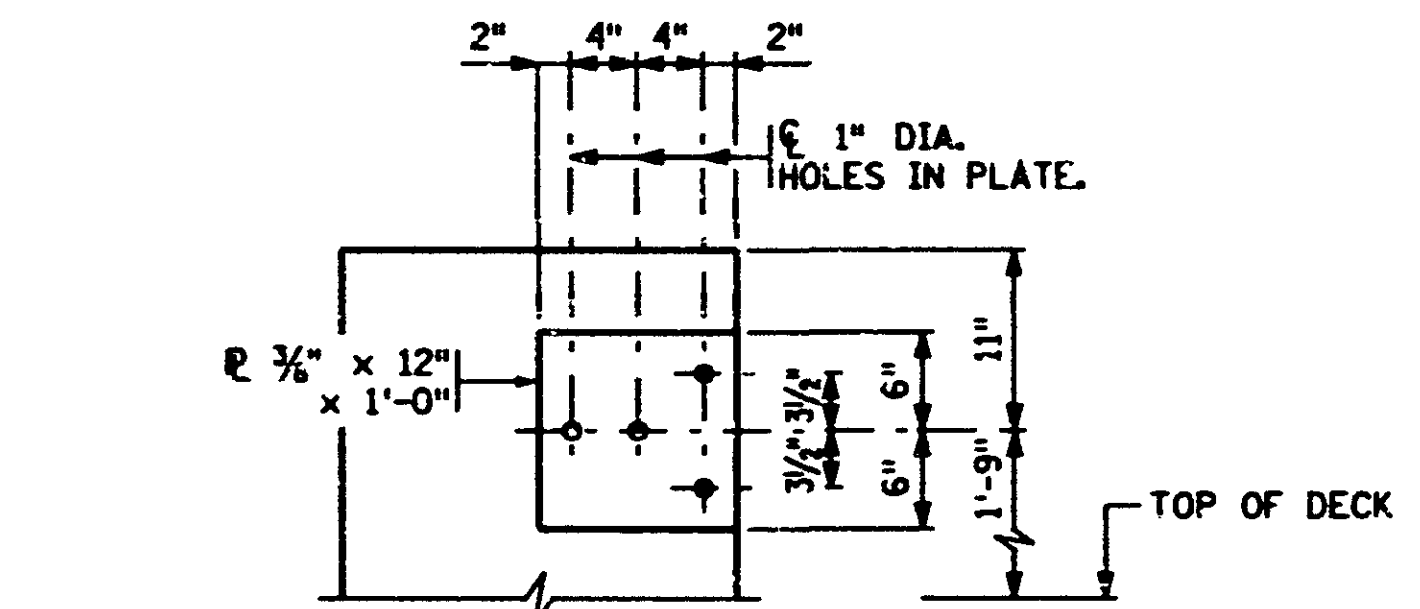


TYPICAL RAIL SECTION AT EXPANSION JOINT
NEAR PIERS 2, 5 & 8 AND AT ALL 2" EXPANSION JOINTS (20 LOCATIONS)



GUARDRAIL CONNECTION DETAIL-- PLAN VIEW

(REINFORCEMENT NOT SHOWN)
☆ DIMENSION INCLUDES 3/8" PLATE



GUARDRAIL CONNECTION DETAIL-- ELEVATION

GALVANIZE AFTER FABRICATION PER SPEC. 3394
ESTIMATED WEIGHT = 27 LBS.
4 REQUIRED FOR RAIL RETROFIT

NOTES:

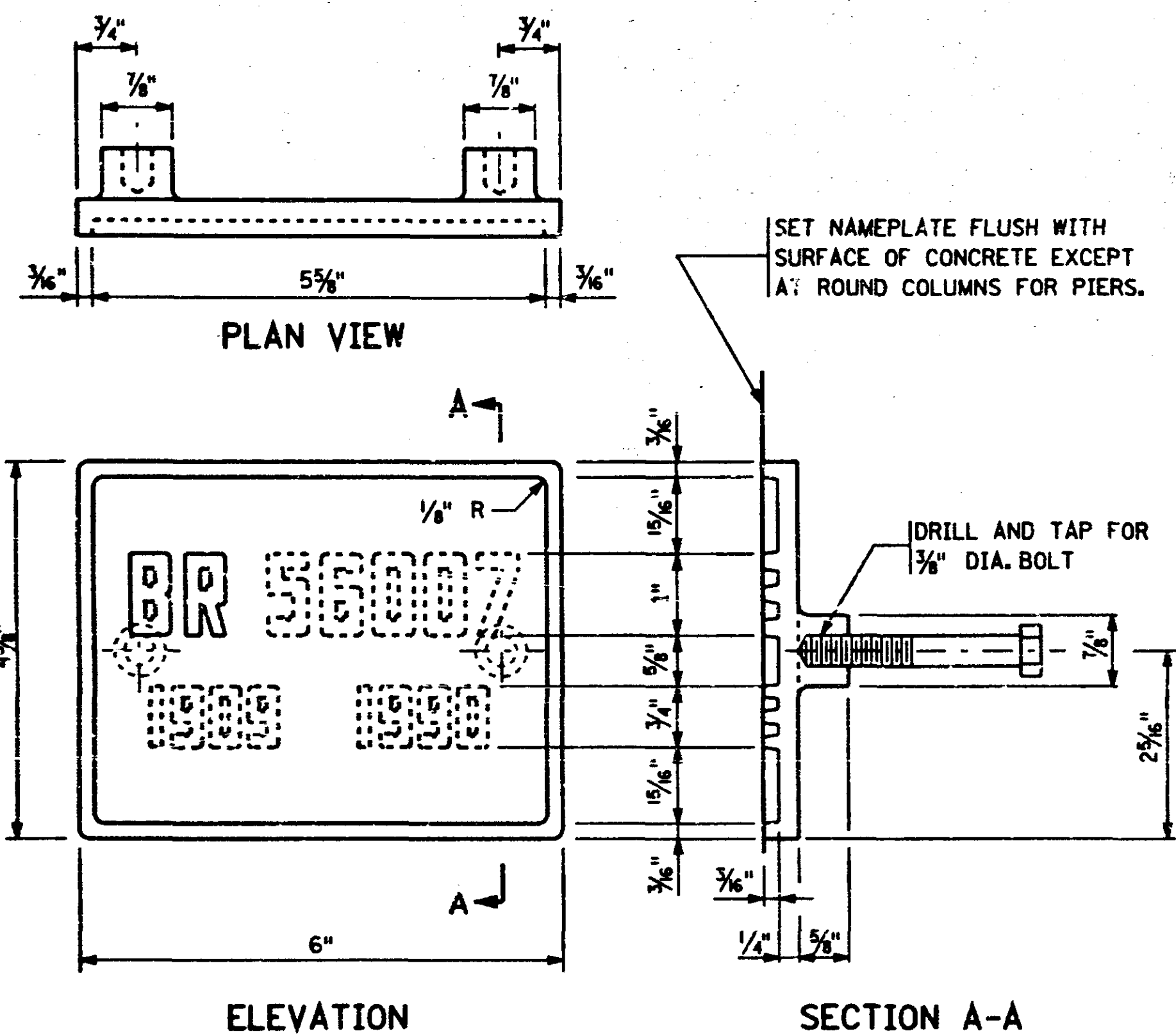
- DIMENSIONS GIVEN TO INPLACE BRIDGE WERE TAKEN FROM THE ORIGINAL PLAN FOR BR. 9340.
- FINISH ALL EDGES OF PROPOSED RAIL FACE WITH 1/2" VEE.
- ① BENT COVER PLATE TO BE SPEC. 3306. GALVANIZE AFTER FABRICATION AS PER SPEC. 3394. PLATE ASSEMBLY TO BE RECESSED 1/2" BELOW PROPOSED RAIL FACE.
- ② CUT TO PROVIDE 1" CLEARANCE TO PROPOSED CONCRETE RAIL FACE. REPAIR GALVANIZING AS APPROVED BY THE ENGINEER.
- ③ 3" (TYPE 2)
6 1/2" (TYPE 9)
4" (TYPE 4)
- ④ DIMENSIONS GIVEN FOR THE OPEN JOINTS ARE THE SAME AS THE INPLACE OPENINGS DIMENSIONED AT 45° F. ON THE ORIGINAL PLANS. ACTUAL INPLACE OPENINGS MAY VARY. THE CONTRACTOR MAY CALCULATE THE ANTICIPATED THERMAL CHANGE IN OPENING WIDTH AS FOLLOWS:
JOINT NEAR PIER 2: 1/4" PER 10° F.
JOINT NEAR PIER 5: 3/8" PER 10° F.
JOINT NEAR PIER 8: 5/8" PER 10° F.
- ⑤ SEE SHEET NO. 1 FOR DIRECTION OF TRAFFIC.

CERTIFIED BY *John Ottman*
PROFESSIONAL ENGINEER
REG. NO. 7578 7-22-19 98

TITLE: **RAIL RETROFIT**
(7 OF 8)

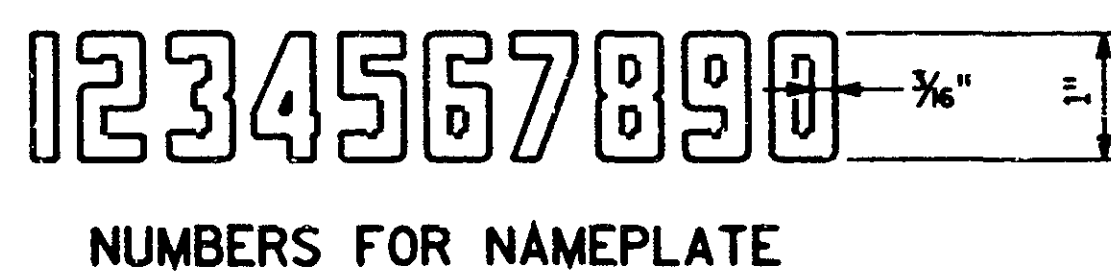
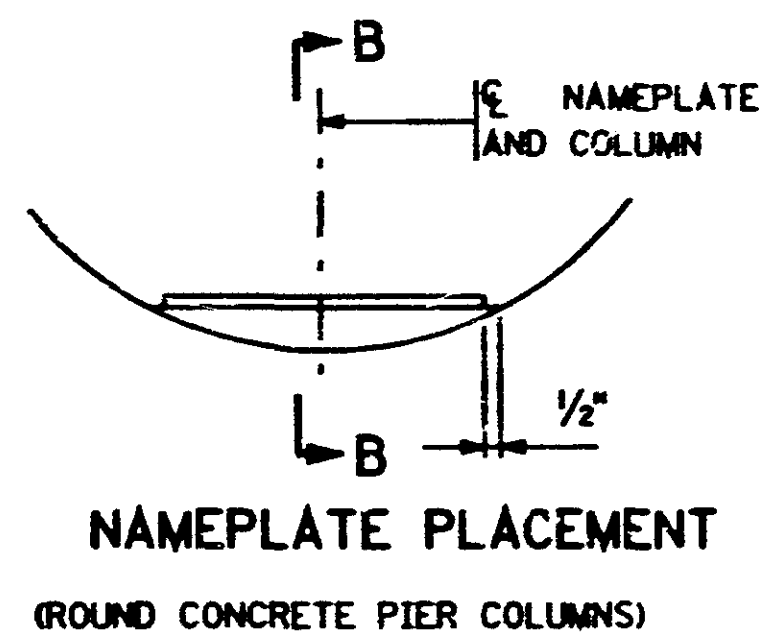
DES: E.O.W. DR: L.J.H./E.L.R. APPROVED: 7-23-98
CHK: A.D.O. CRG: A.D.O.
SHEET NO. 20R OF 61 SHEETS

BRIDGE NO. 9340



THE DASHED NUMBERS SHOWN ABOVE ARE FOR ILLUSTRATION. DATA TO BE SHOWN ON NAMEPLATE IS AS FOLLOWS:

BRIDGE: 9340
YEAR: 1967 1998



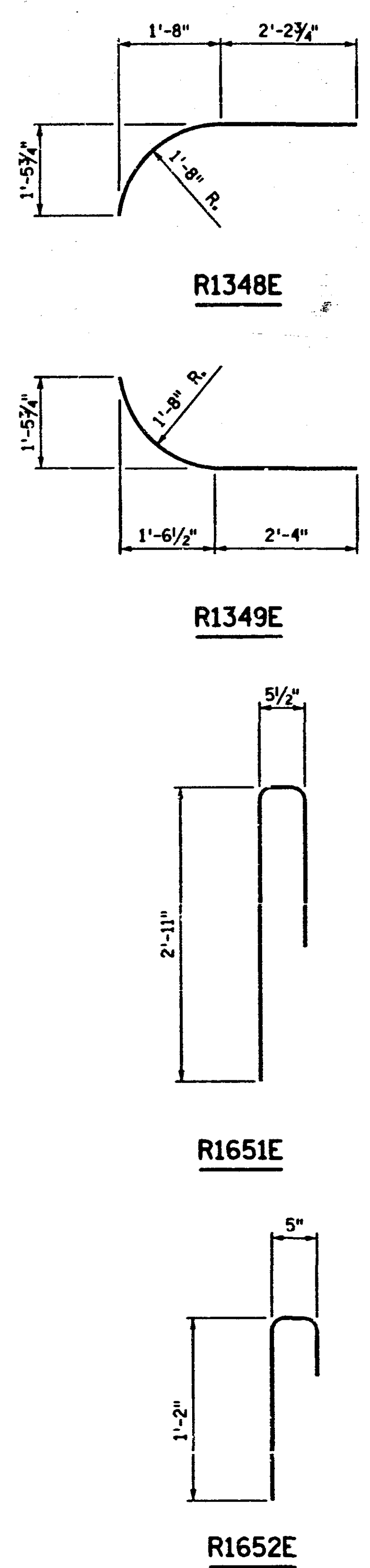
NOTES:

- NO SHOP DRAWING REQUIRED.
- MATERIAL SHALL COMPLY WITH SPEC. 3327.
- LETTERS AND NUMBERS SHALL CONFORM TO THOSE SHOWN.
- DRAFT ON LETTERS AND NUMBERS SHALL NOT BE MORE THAN 3" IN 12".
- HORIZONTAL SPACING OF LETTERS AND NUMBERS SHALL PRODUCE A BALANCED LAYOUT IN PROPORTION TO SPACING SHOWN.
- TOP SURFACE OF LETTERS, NUMBERS AND FRAMES SHALL BE BURNISHED.
- FURNISH 2 STEEL BOLTS 3/8" DIA. x 3" LONG WITH EACH PLATE.
- ALL DIMENSIONS FOR 3/4" HIGH LETTERS AND NUMBERS SHALL BE IN DIRECT PROPORTION TO THOSE SHOWN FOR THE 1" HIGH LETTERS AND NUMBERS.

APPROVED: JUNE 5, 1995
OFFICE OF BRIDGES AND STRUCTURES

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
BRIDGE NAMEPLATE
(FOR BRIDGE RECONSTRUCTION)

REVISION
DETAIL NO.
B102



BILL OF REINFORCEMENT FOR RAIL RETROFIT

BAR	NO.	LENGTH	SHAPE	LOCATION
R1301E	30	1'-10"	---	PANEL A
R1302E	5	14'-10"	---	PANEL B
R1303E	10	27'-5"	---	PANEL C
R1304E	5	8'-11"	---	PANEL D
R1305E	5	18'-2"	---	PANEL E
R1306E	85	19'-8"	---	PANEL F
R1307E	60	29'-8"	---	PANEL G
R1308E	205	18'-8"	---	PANEL H
R1309E	175	28'-2"	---	PANEL J
R1310E	10	18'-11"	---	PANEL K
R1311E	20	28'-5"	---	PANEL L
R1312E	5	29'-0"	---	PANEL M
R1313E	10	18'-9"	---	PANEL N
R1314E	5	18'-6"	---	PANEL P
R1315E	5	27'-11"	---	PANEL Q
R1316E	10	26'-0"	---	PANEL R
R1317E	10	9'-8"	---	PANEL S
R1318E	10	28'-8"	---	PANEL T
R1319E	20	19'-0"	---	PANEL U
R1320E	5	19'-6"	---	PANEL V
R1321E	5	29'-3"	---	PANEL W
R1322E	25	28'-11"	---	PANEL X
R1323E	40	19'-2"	---	PANEL Y
R1324E	5	18'-3"	---	PANEL Z
R1325E	5	27'-8"	---	PANEL AA
R1326E	5	15'-3"	---	PANEL BB
R1327E	5	25'-2"	---	PANEL CC
R1328E	5	19'-1"	---	PANEL DD
R1329E	5	15'-10"	---	PANEL EE
R1330E	5	16'-0"	---	PANEL FF
R1331E	5	27'-7"	---	PANEL GG
R1332E	5	27'-2"	---	PANEL HH
R1333E	5	24'-0"	---	PANEL JJ
R1334E	5	25'-1"	---	PANEL W1B
R1335E	5	26'-8"	---	PANEL W2B
R1336E	5	26'-7"	---	PANEL W3B
R1337E	10	16'-7"	---	PANEL W4B & W7B
R1338E	10	26'-11"	---	PANEL W5B & E12B
R1339E	5	16'-5"	---	PANEL W6B
R1340E	5	27'-4"	---	PANEL W8B
R1341E	5	27'-7"	---	PANEL E9B
R1342E	5	16'-4"	---	PANEL E10B
R1343E	5	16'-3"	---	PANEL E11B
R1344E	5	24'-3"	---	PANEL E13B
R1345E	5	26'-0"	---	PANEL E14B
R1346E	5	24'-9"	---	PANEL E15B
R1347E	5	16'-0"	---	PANEL E16B
R1348E	5	4'-0"	BENT	PANEL M1B
R1349E	5	4'-0"	BENT	PANEL N2B
R1350E	1214	2'-6"	---	ALL PANELS
R1651E	4170	5'-0"	BENT	ALL PANELS
R1652E	28	1'-9"	BENT	PANEL EE&FF
R1353E	2	11'-2"	---	PANEL EE&FF

DATE	DESCRIPTION	APPROVED BY
6/16/98	REVISED LENGTH AND NO. OF R1350E BARS.	A.D.O.
7/21/98	REVISED NO. OF ANCHORAGES. DELETED R1348E AND R1349E BARS. ADD BARS R1652E & R1353E.	A.D.O.

CERTIFIED BY: *Delores Ottomano*
REG. NO. 7578 7-22, 19 98

TITLE: **RAIL RETROFIT**
(8 OF 8)

SUMMARY OF QUANTITIES FOR RAIL RETROFIT

STRUCTURAL CONCRETE (3Y46)	330 CU. YD.
REINFORCEMENT BARS (EPOXY COATED)	13160 POUND
ANCHORAGES TYPE 13	1214 EACH
ANCHORAGES TYPE 16	4198 EACH
1/4" THICK CORK	360 SQ. FT.
EXPANSION JOINT COVER PLATE	6 EACH
BRIDGE NAME PLATE	2 EACH

- ① PAYMENT INCLUDED IN PRICE BID FOR ITEM NO. 2433.602 "RECONSTRUCT CONCRETE RAILING".
- ② PAYMENT FOR ANCHORAGES INCLUDED IN ITEM NO. 2433.516 "ANCHORAGES TYPE REINF. BARS".
- ③ "EXPANSION JOINT COVER PLATE" IS APPROXIMATELY 2110 POUNDS FOR ALL PLATES.
- ④ INCLUDED IN PRICE BID FOR OTHER ITEMS.

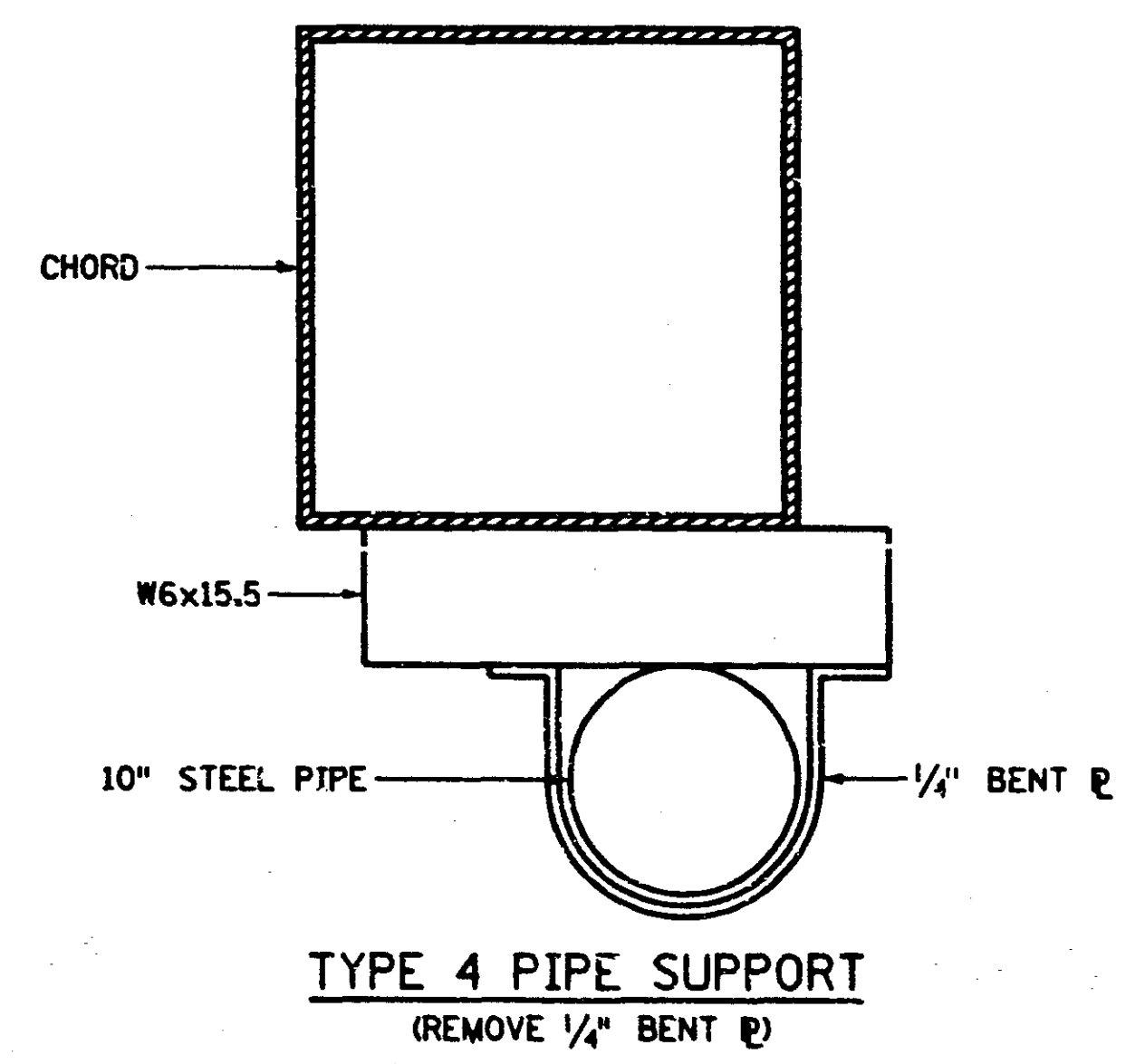
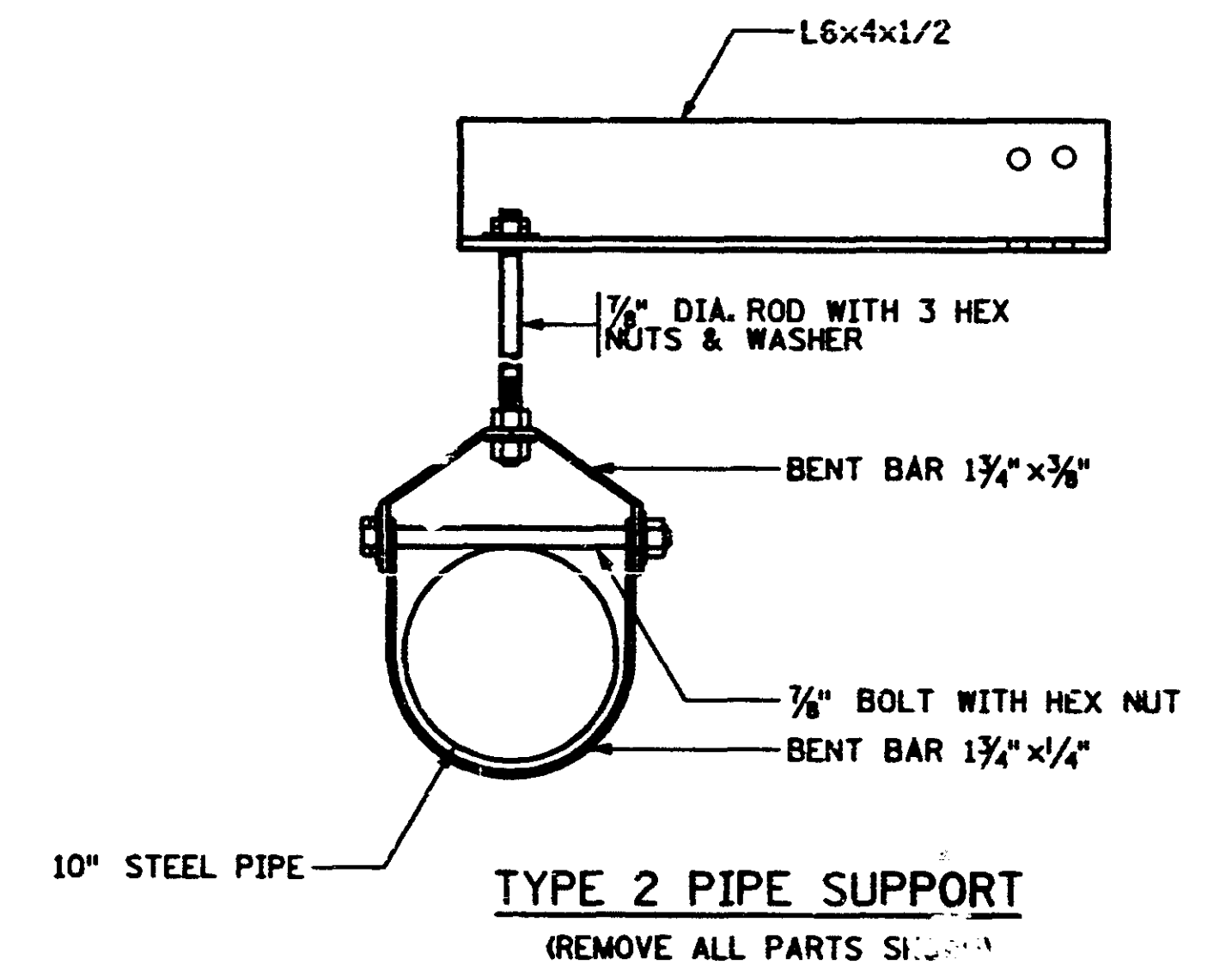
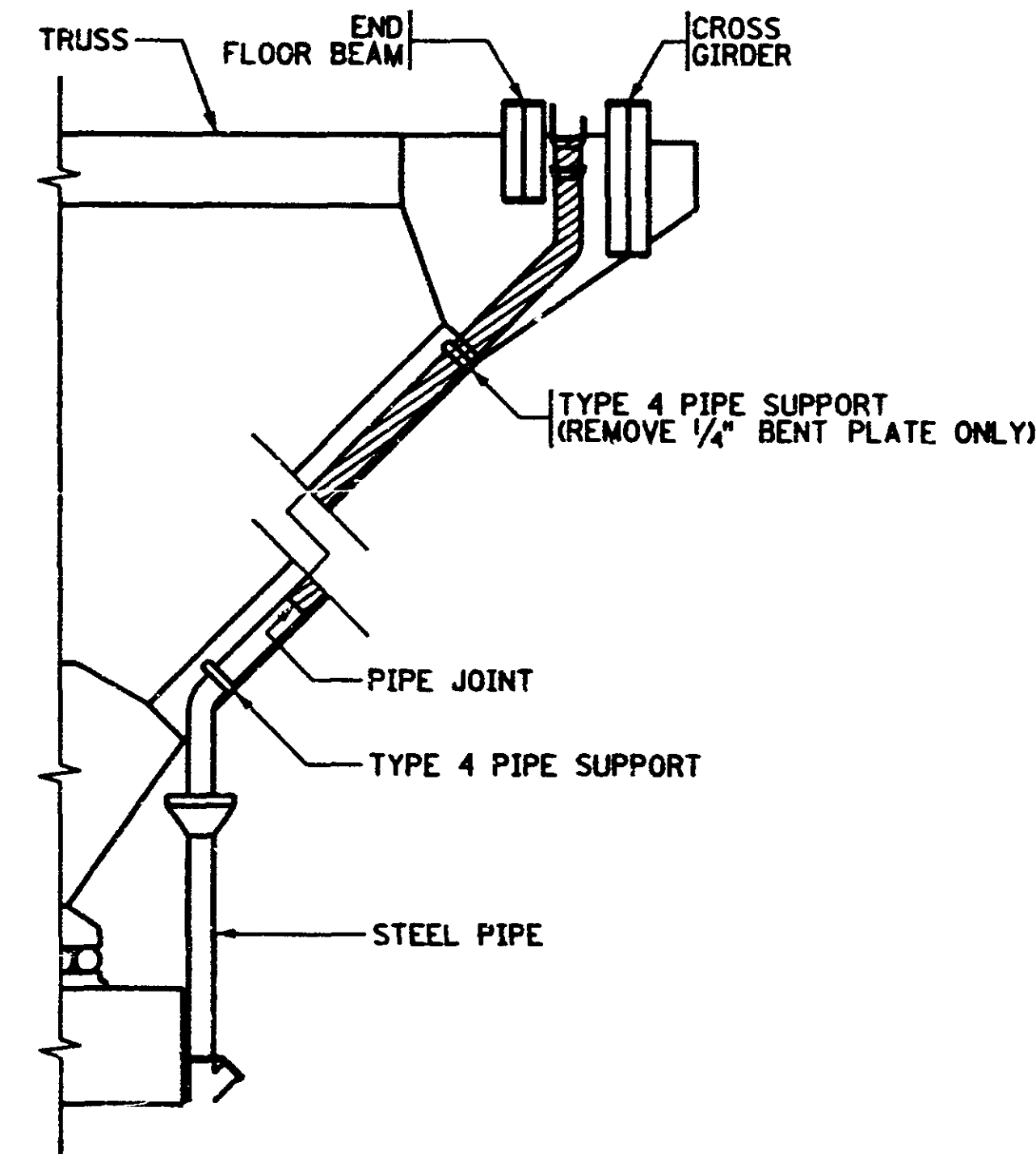
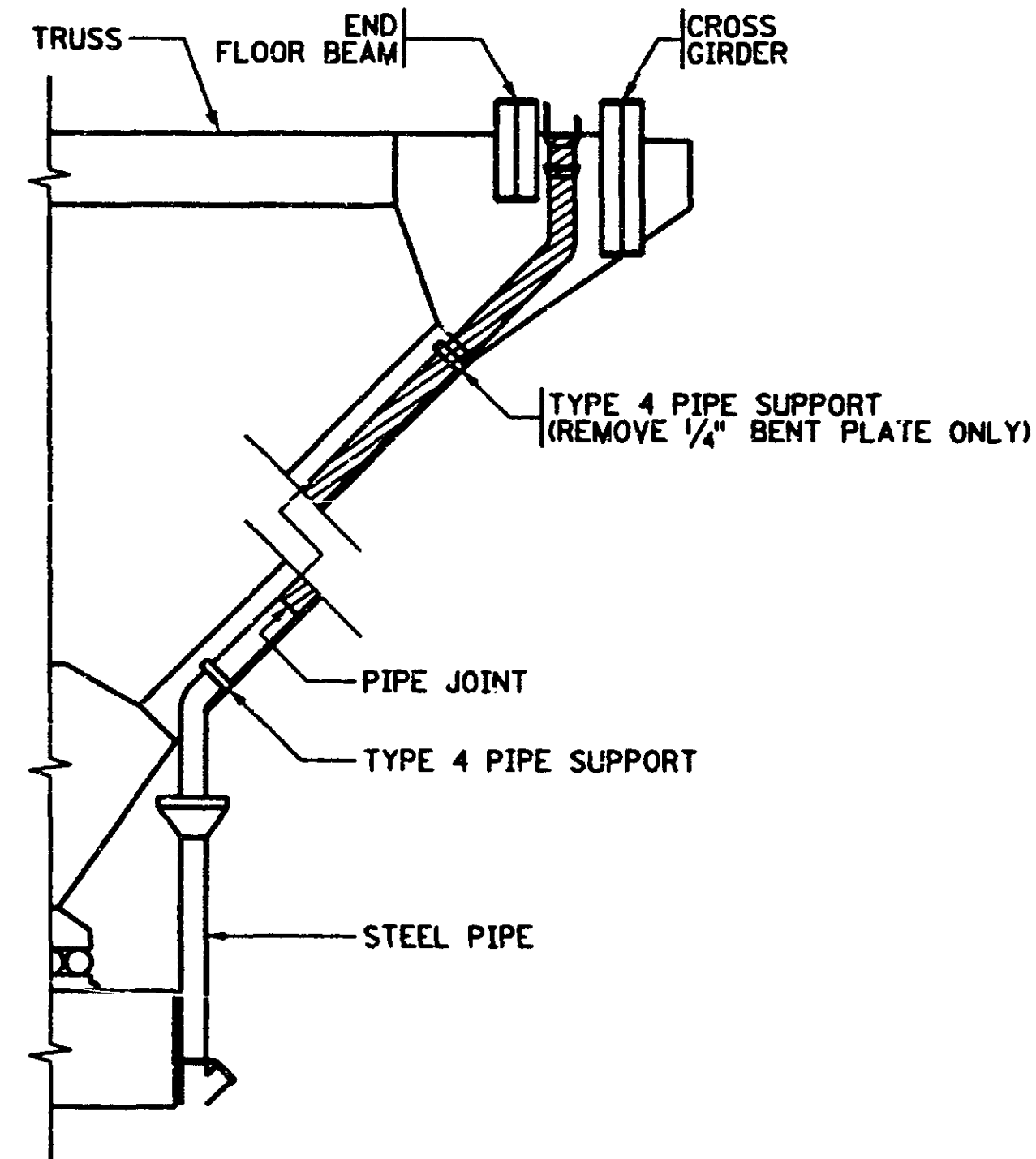
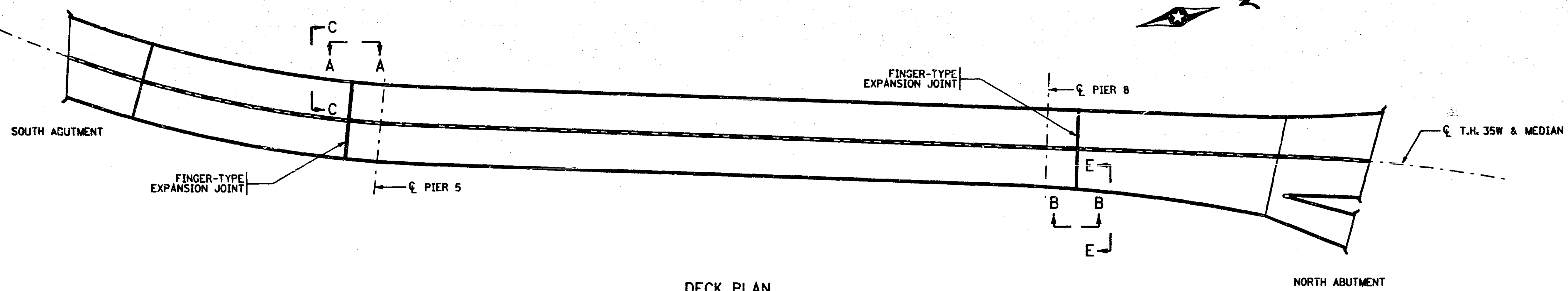
TABLE

PANEL	PANEL LENGTH	BAR MARK	PANEL	PANEL LENGTH	BAR MARK
A	2'-2"	R1301E	W3A	27'-6"	---
B	15'-2 1/2"	R1302E	W4A	16'-9"	---
C	27'-9"	R1303E	W5A	27'-6"	---
D	9'-3"	R1304E	W6A	17'-3"	---
E	18'-6"	R1305E	W7A	17'-1 1/2"	---
F	20'-0"	R1306E	W8A	27'-6"	---
G	30'-0"	R1307E	W1B	25'-5 3/4"	R1334E
H	19'-0"	R1308E	W2B	27'-0 1/4"	R1335E
J	28'-6"	R1309E	W3B	26'-11 3/8"	R1336E
K	19'-3"	R1310E	W4B	16'-11 3/8"	R1337E
L	28'-9"	R1311E	W5B	27'-3"	R1338E
M	29'-4 1/2"	R1312E	W6B	16'-9"	R1339E
N	19'-1 1/2"	R1313E	W7B	16'-11 1/2"	R1337E
P	18'-10"	R1314E	W8B	27'-8 3/8"	R1340E
Q	28'-3"	R1315E	E9A	27'-6"	---
R	26'-4"	R1316E	E10A	17'-0"	---
S	10'-0"	R1317E	E11A	17'-1 1/2"	---
T	29'-0"	R1318E	E12A	27'-6"	---
U	19'-4"	R1319E	E13A	24'-4 1/2"	---
V	19'-10"	R1320E	E14A	26'-10 1/2"	---
W	29'-7 1/2"	R1321E	E15A	25'-1 1/2"	---
X	29'-3"	R1322E	E16A	16'-9"	---
Y	19'-6"	R1323E	E9B	27'-11 3/8"	R1341E
Z	18'-7 1/2"	R1324E	E10B	16'-8 3/8"	R1342E
AA	28'-0"	R1325E	E11B	16'-7 1/2"	R1343E
BB	15'-7"	R1326E	E12B	27'-3 1/2"	R1338E
CC	25'-6 1/4"	R1327E	E13B	24'-7 1/2"	R1344E
DD	19'-5 1/2"	R1328E	E14B	26'-4 1/8"	R1345E
EE	16'-2 1/2"	R1329E	E15B	25'-0 3/4"	R1346E
FF	16'-4"	R1330E	E16B	16'-3 3/8"	R1347E
GG	27'-11"	R1331E	M1A	3'-11 3/8"	---
HH	27'-6"	R1332E	N1B	5'-3 3/8"	R1348E
JJ	24'-4 3/4"	R1333E	N2A	4'-1 3/4"	---
W1A	25'-7 1/2"	---	N2B	5'-3 1/8"	R1349E
W2A	27'-4"	---	---	---	---

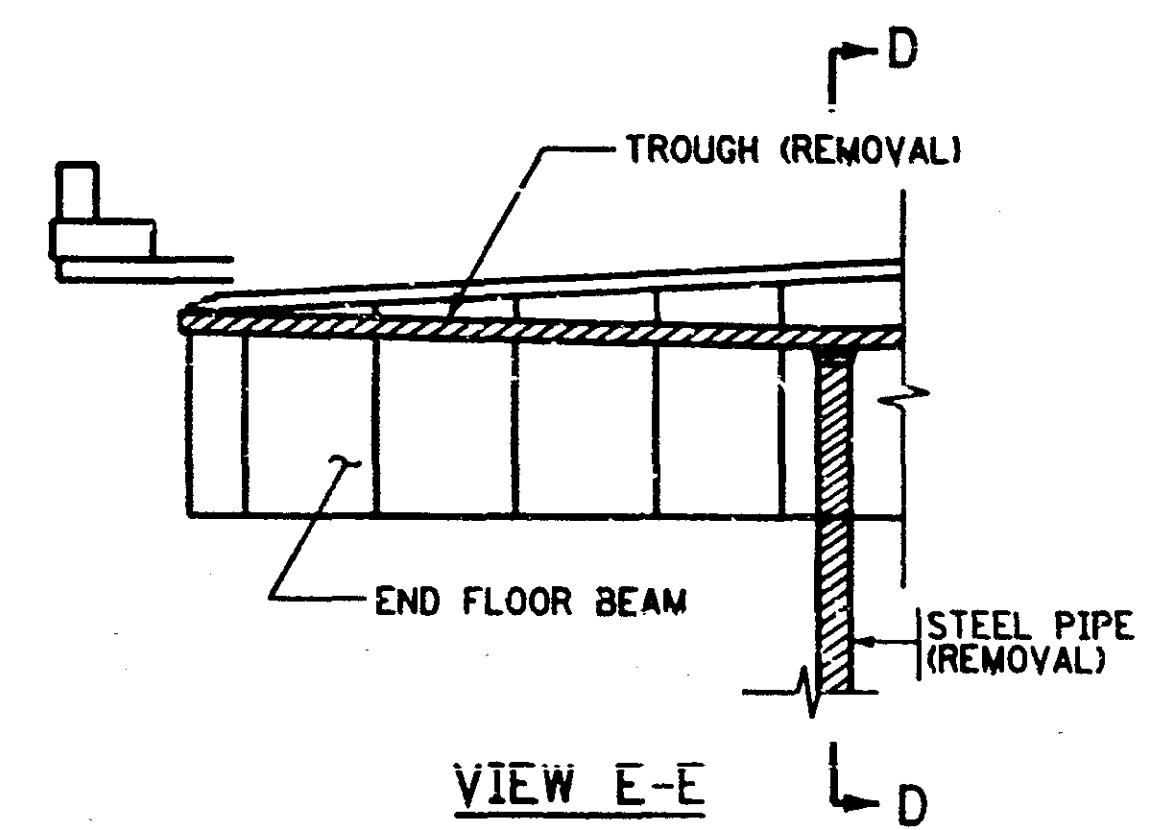
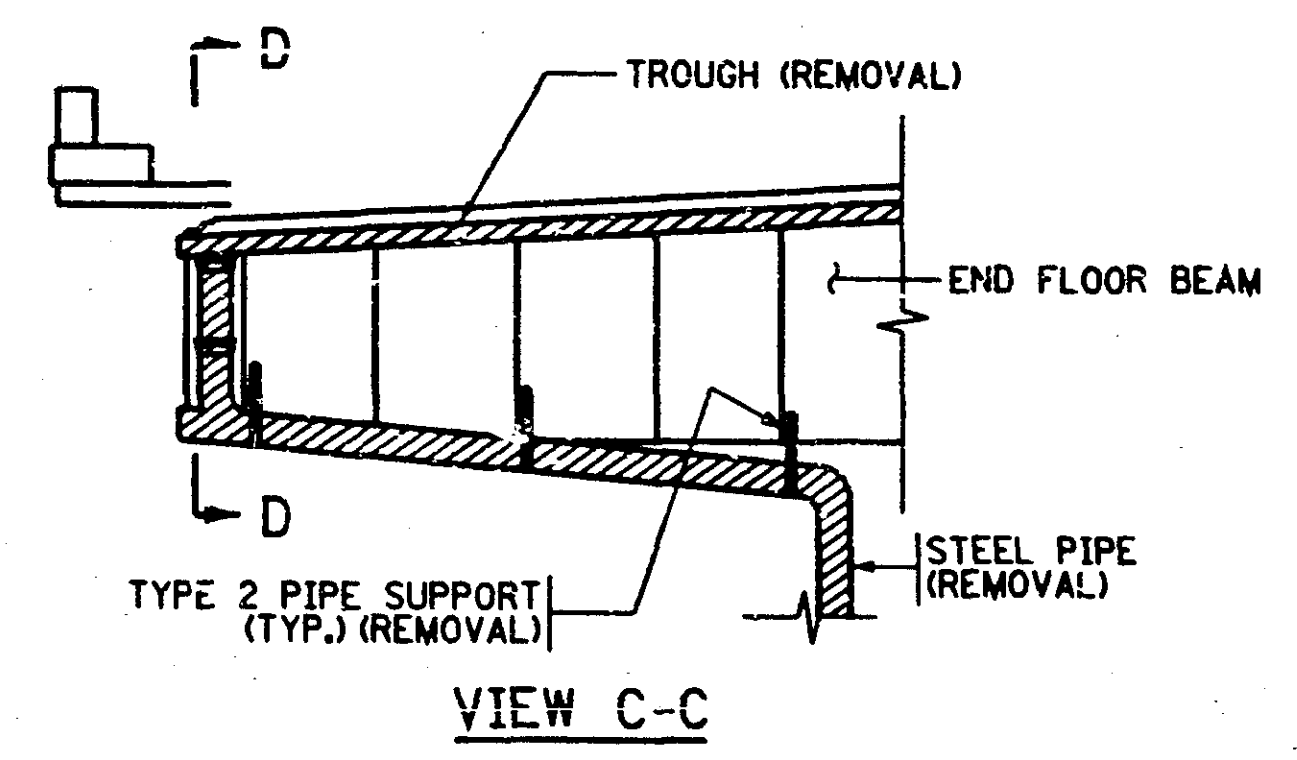
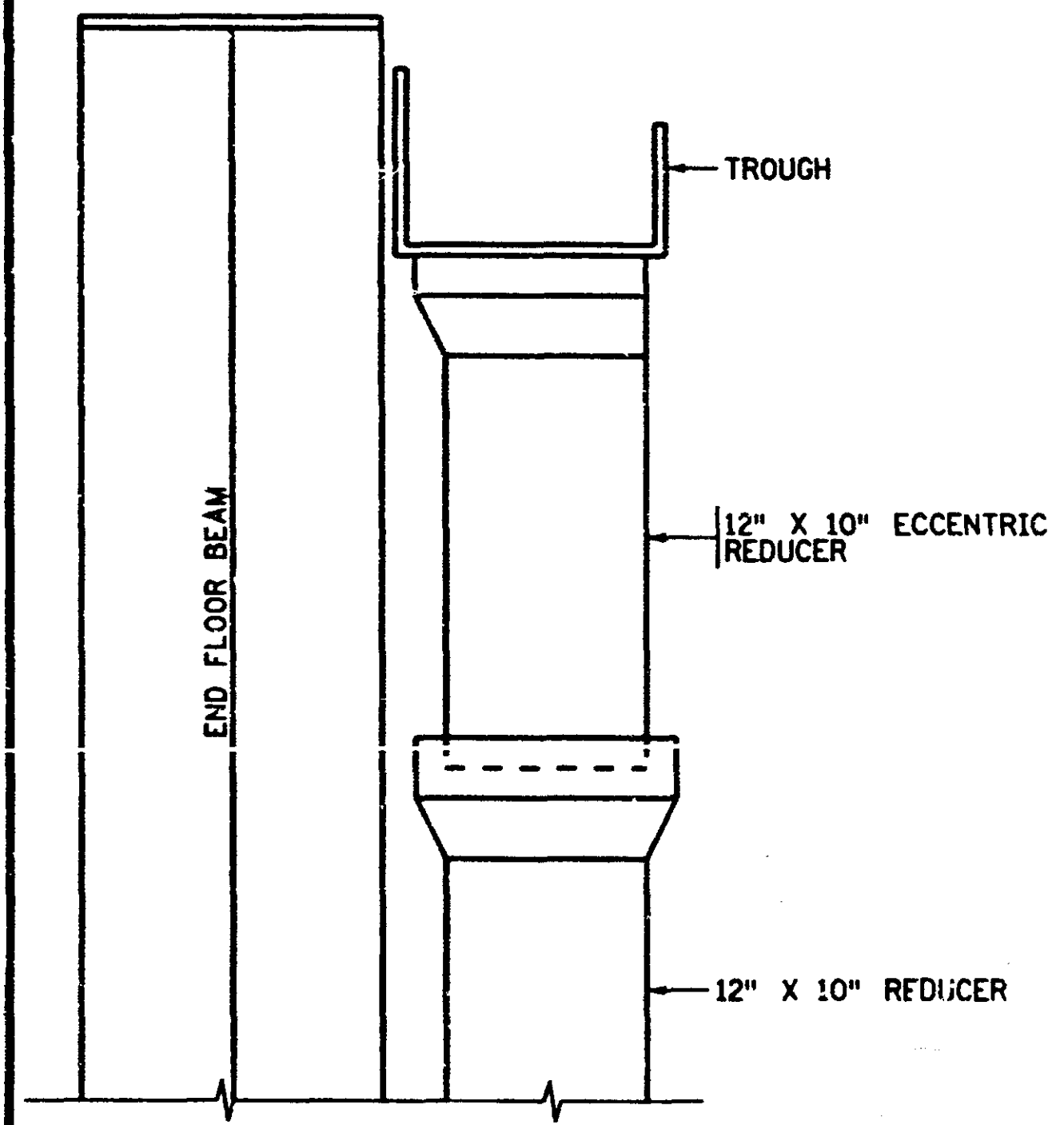
NOTE:
⑤ NOT INCLUDED IN WEIGHT OF REINFORCEMENT. INCLUDED IN PRICE BID FOR ITEM NO. 2433.516 "ANCHORAGES TYPE REINF. BARS".

DESIGNED BY: E.O.W. CHECKED BY: A.D.O.
DRAWN BY: L.J.H./E.L.R. CHECKED BY: A.D.O.
APPROVED: 7-23-98
SHEET NO. 21R2 OF 61 SHEETS
BRIDGE NO. 9340

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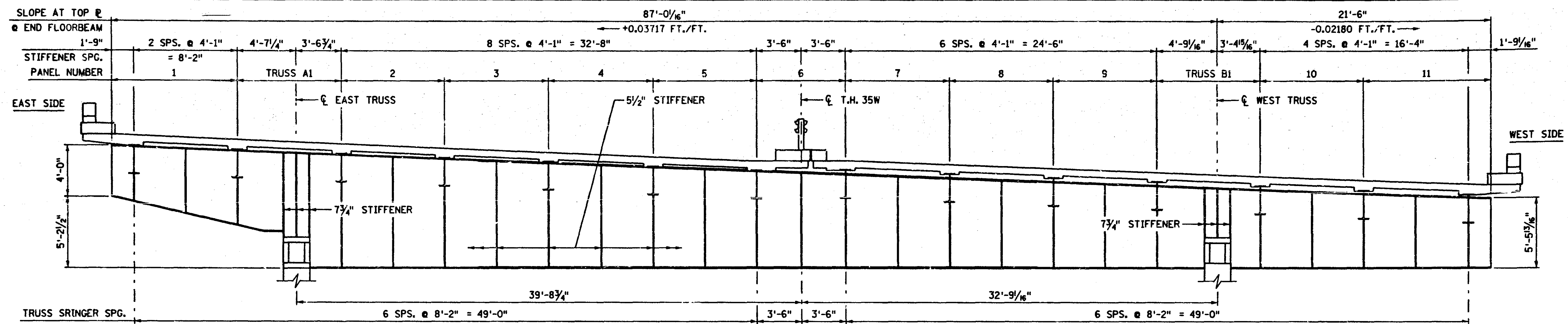


REMOVE TROUGH UNDER FINGER-TYPE EXPANSION JOINT, REMOVE 10" STEEL PIPE FROM TROUGH TO PIPE JOINT, AND REMOVE TYPE 2 AND TYPE 4 PIPE SUPPORTS.



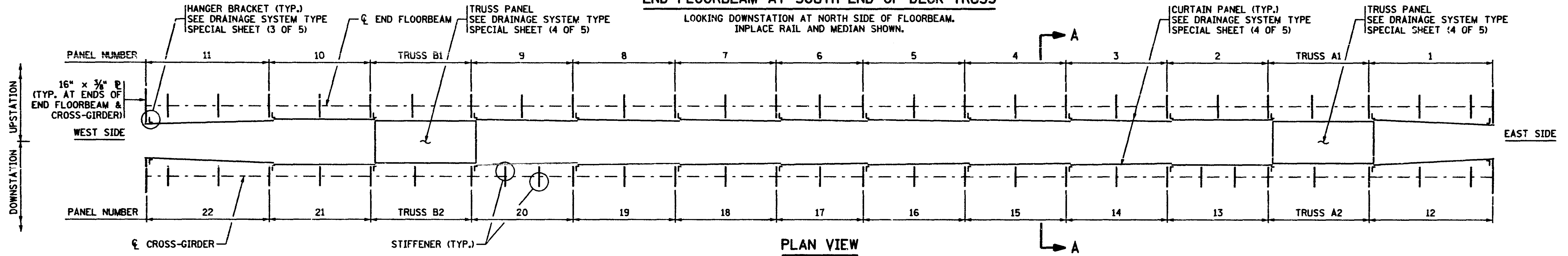
CERTIFIED BY <i>Ruben Ottaviano</i> PROFESSIONAL ENGINEER	TITLE DRAINAGE REMOVAL	DESIGNED BY CHKD BY	DRN BY CHKD BY	ELR ADC	APPROVED BY 1-30-98	BRIDGE NO. 9340
REG. NO. 7578	1-29 19 98	SHEET NO. 22 OF 61 SHEETS				

ADJACENT DOCUMENT WAS SUPPLIED BY AGENCY NAMED BELOW. DURING THE REGULAR COURSE OF BUSINESS, TO BE FILMED BY STATE OF MINNESOTA MICROGRAPHIC SERVICES UNIT ACCORDING TO NATIONAL BUREAU OF STANDARDS REQUIREMENTS FOR PERMANENT MICROFILM AND ACCORDING TO PROCEDURES FOR THE DOCUMENT SERIES.

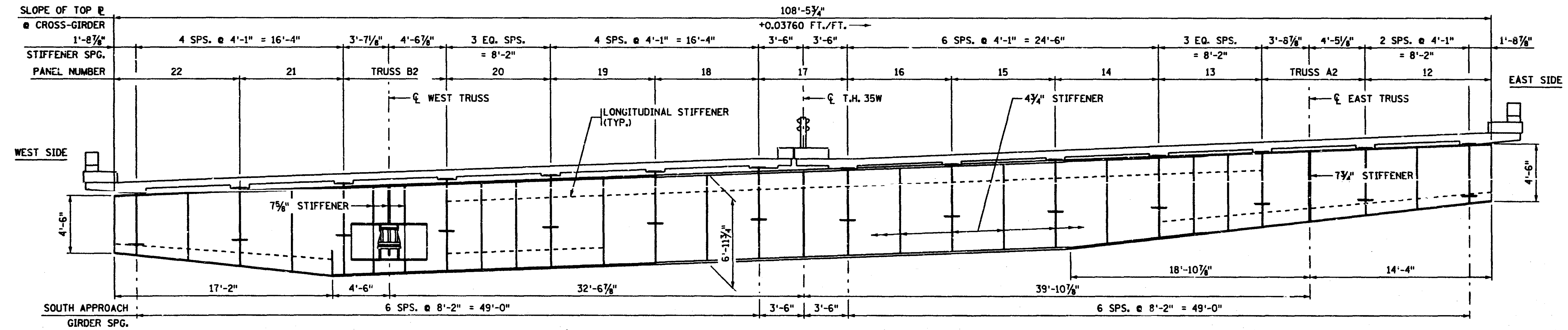


END FLOORBEAM AT SOUTH END OF DECK TRUSS

LOOKING DOWNSTATION AT NORTH SIDE OF FLOORBEAM.
INPLACE RAIL AND MEDIAN SHOWN.



PLAN VIEW



CROSS-GIRDER AT SOUTH APPROACH SPAN

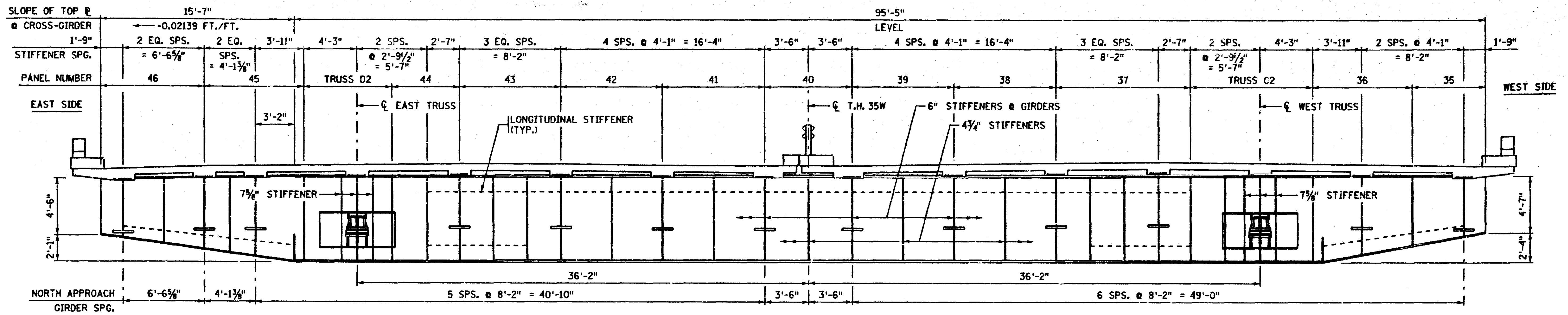
LOOKING UPSTATION AT SOUTH SIDE OF CROSS-GIRDER.
INPLACE RAIL AND MEDIAN SHOWN.

NOTES:

- DIMENSIONS GIVEN TO INPLACE BRIDGE WERE TAKEN FROM THE ORIGINAL PLANS FOR BR. 9340.
- SEE DRAINAGE SYSTEM TYPE SPECIAL SHEET (3 OF 5) FOR SECTION A-A.
- PANEL NUMBER IS ALSO ORDER OF PLACEMENT. TRUSS PANELS TO BE PLACED AFTER ADJACENT PANELS ARE IN PLACE.
- DETAILS SHOWN WITH TROUGH SYSTEM REMOVED.

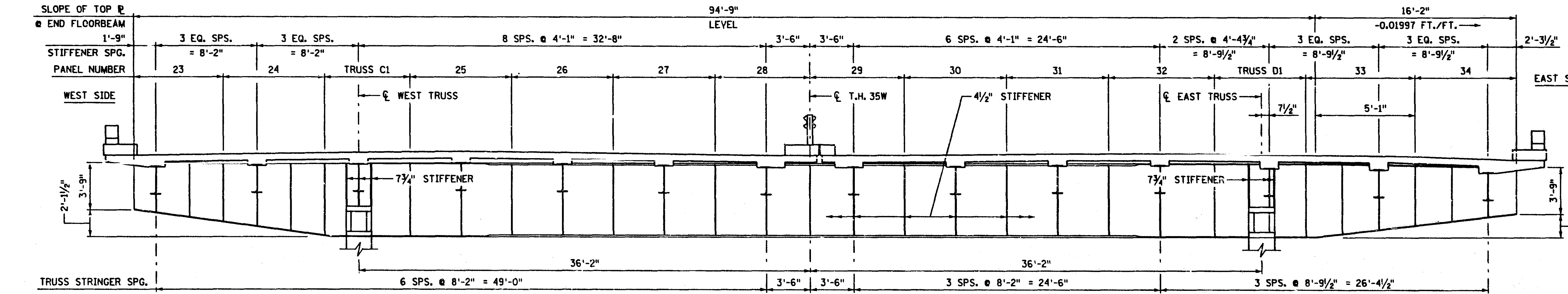
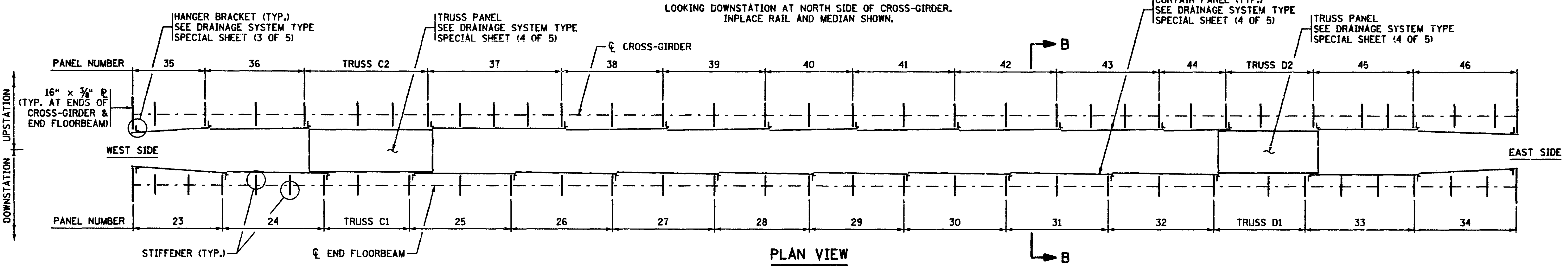
CERTIFIED BY REG. NO. 7578	<i>Charles Ottosen</i> PROFESSIONAL ENGINEER 1-29 19 98	TITLE DRAINAGE SYSTEM TYPE SPECIAL (1 OF 5)	DES. E.O.W.	DR. L.J.H.	APPROVED	BRIDGE NO. 9340
			CHK. A.D.O.	CHK. EOW/ADO	1-30-98	
SHEET NO. 23 OF 61 SHEETS						

ADJACENT DOCUMENT WAS SUPPLIED BY AGENCY NAMED BELOW. DURING THE REGULAR COURSE OF BUSINESS, TO BE FILMED BY STATE OF MINNESOTA MICROGRAPHIC SERVICES UNIT ACCORDING TO NATIONAL BUREAU OF STANDARDS REQUIREMENTS FOR PERMANENT MICROFILM AND ACCORDING TO PROCEDURES FOR THE DOCUMENT SERIES.



CROSS-GIRDER AT NORTH APPROACH SPAN

LOOKING DOWNSTATION AT NORTH SIDE OF CROSS-GIRDER. INPLACE RAIL AND MEDIAN SHOWN.



NOTES:

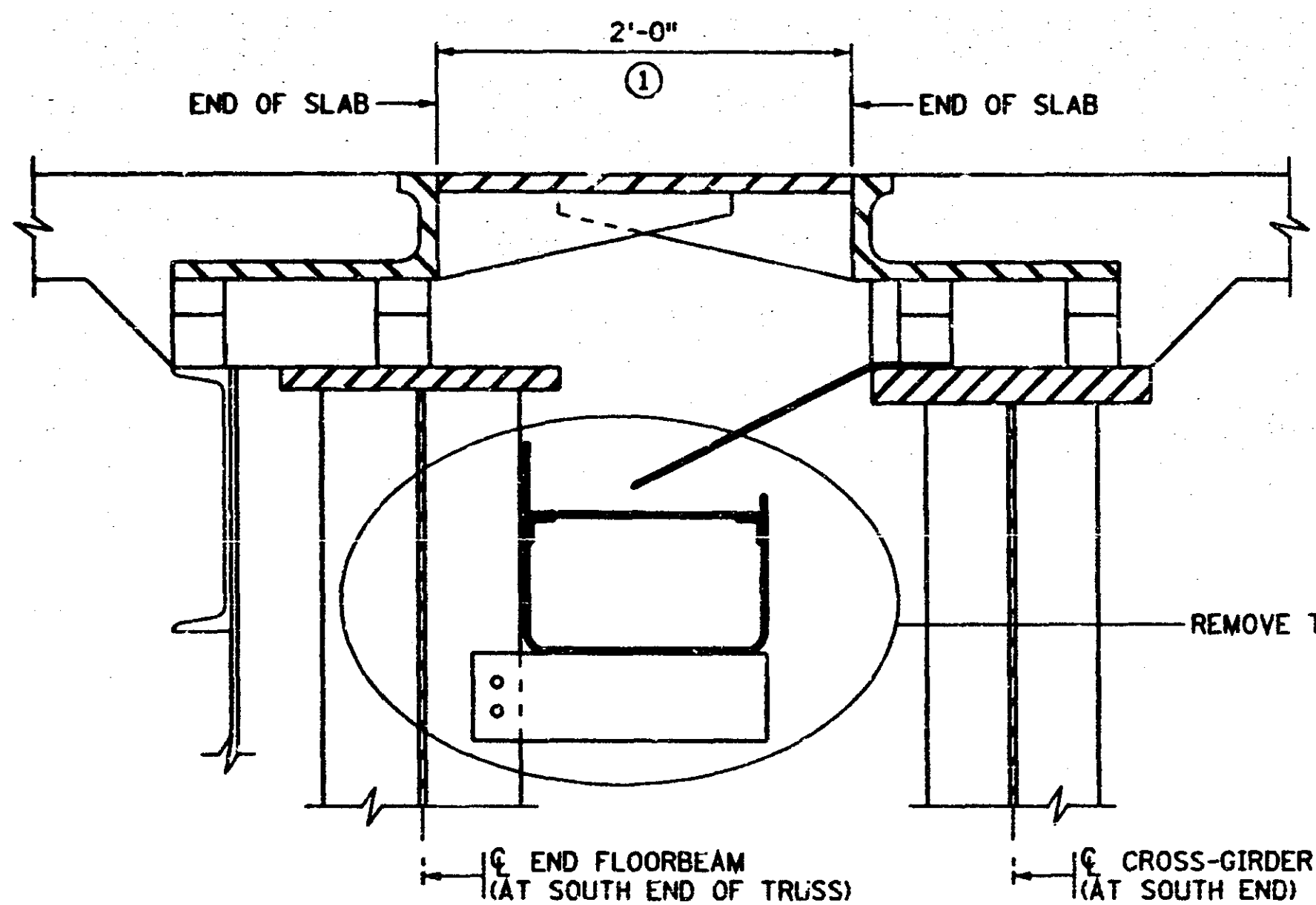
DIMENSIONS GIVEN TO INPLACE BRIDGE WERE TAKEN FROM THE ORIGINAL PLANS FOR BR. 9340.
 SEE DRAINAGE SYSTEM TYPE SPECIAL SHEET (3 OF 5) FOR SECTION B-B.
 PANEL NUMBER IS ALSO ORDER OF PLACEMENT. TRUSS PANELS TO BE PLACED AFTER ADJACENT PANELS ARE IN PLACE.
 DETAILS SHOWN WITH TROUGH SYSTEM REMOVED.

END FLOORBEAM AT NORTH END OF DECK TRUSS

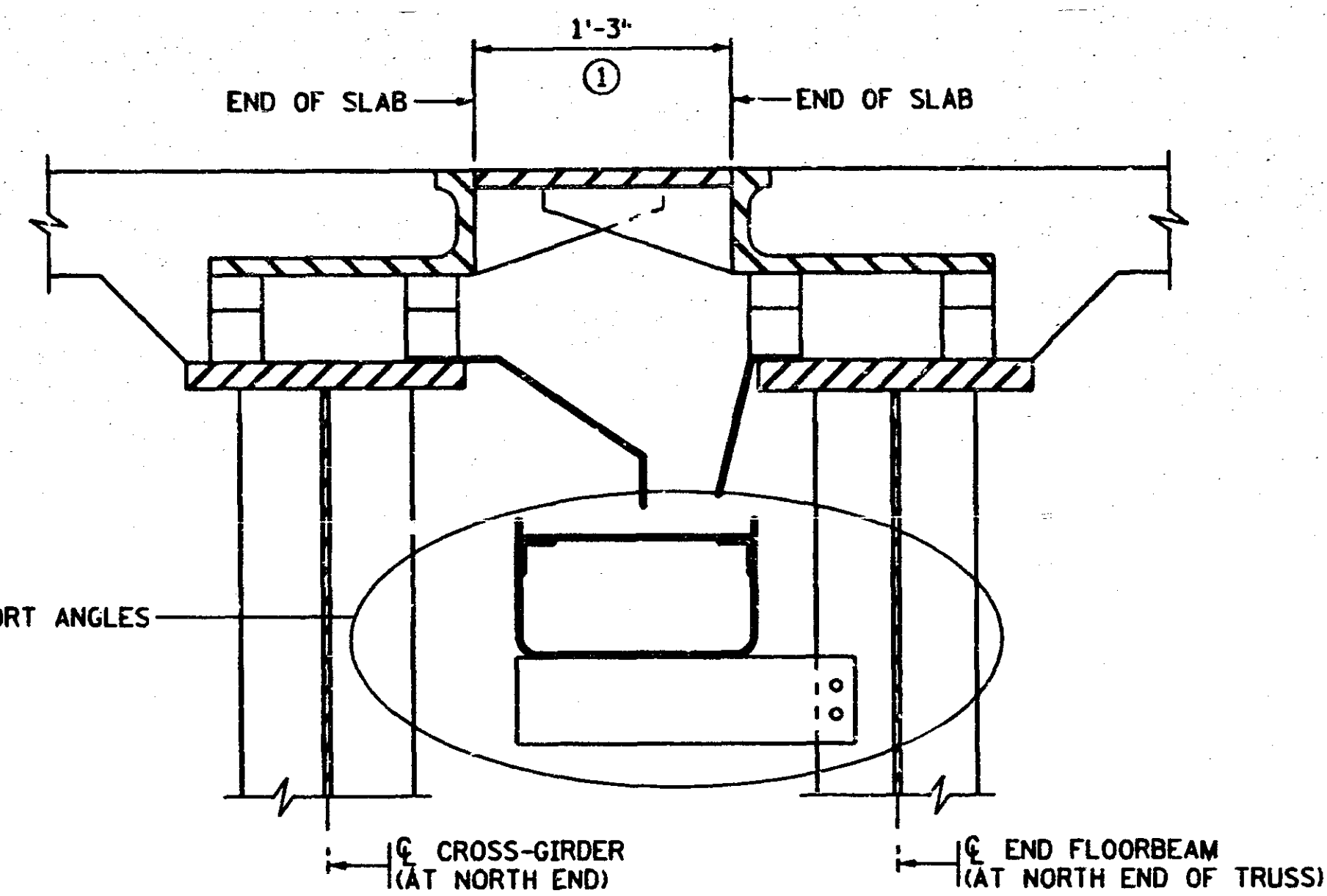
LOOKING UPSTATION AT SOUTH SIDE OF FLOORBEAM. INPLACE RAIL AND MEDIAN SHOWN.

CERTIFIED BY REG. NO. 7578	<i>Robert Ottman</i> PROFESSIONAL ENGINEER 1-29 19 98	TITLES DRAINAGE SYSTEM TYPE SPECIAL (2 OF 5)	DES. E.O.W.	DR. L.J.H.	APPROVED	BRIDGE NO. 9340
			CHK. A.D.O.	CHK. EOW/ADO	1-30-98 SHEET NO. 24 OF 61 SHEETS	

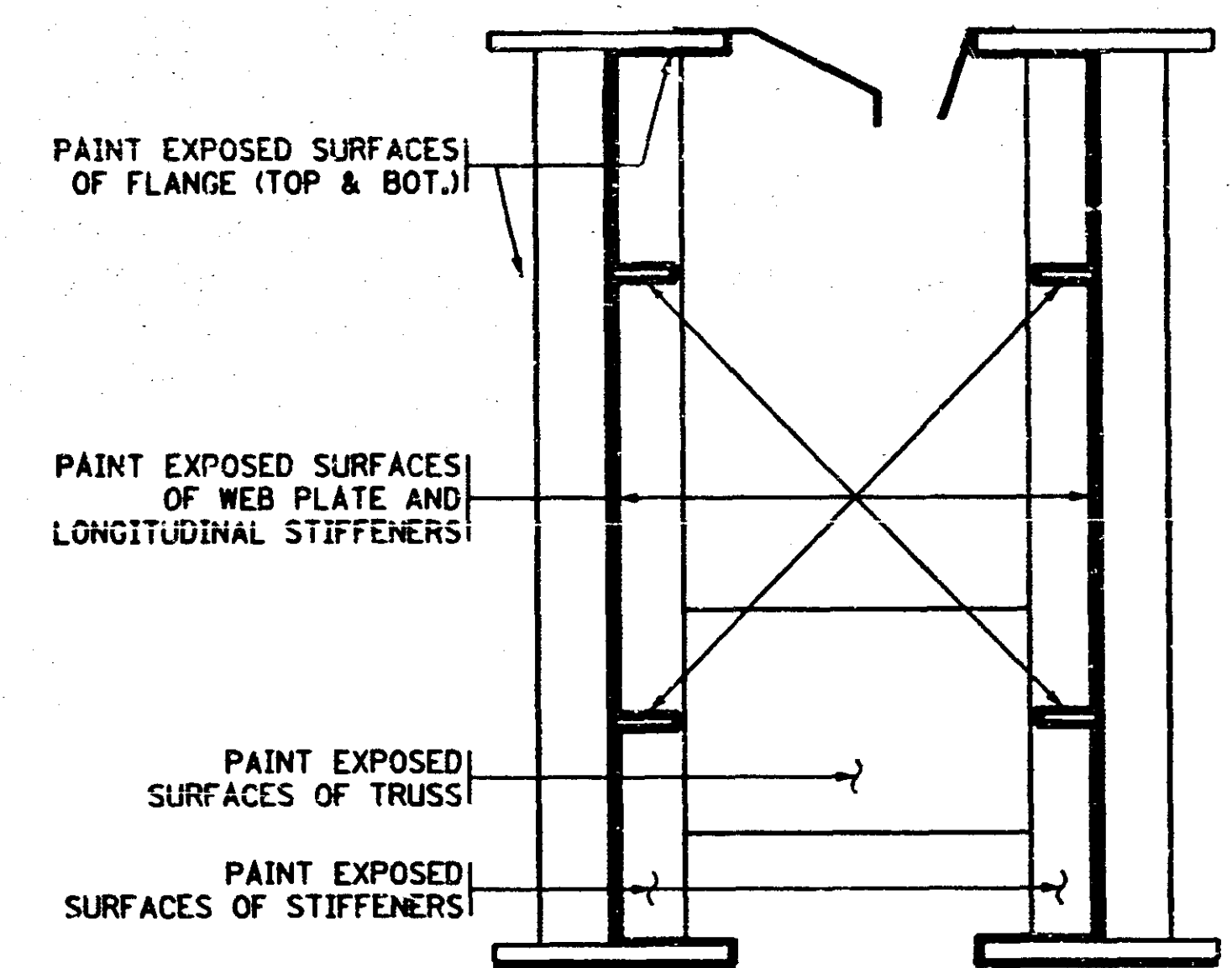
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SECTION A-A (INPLACE)

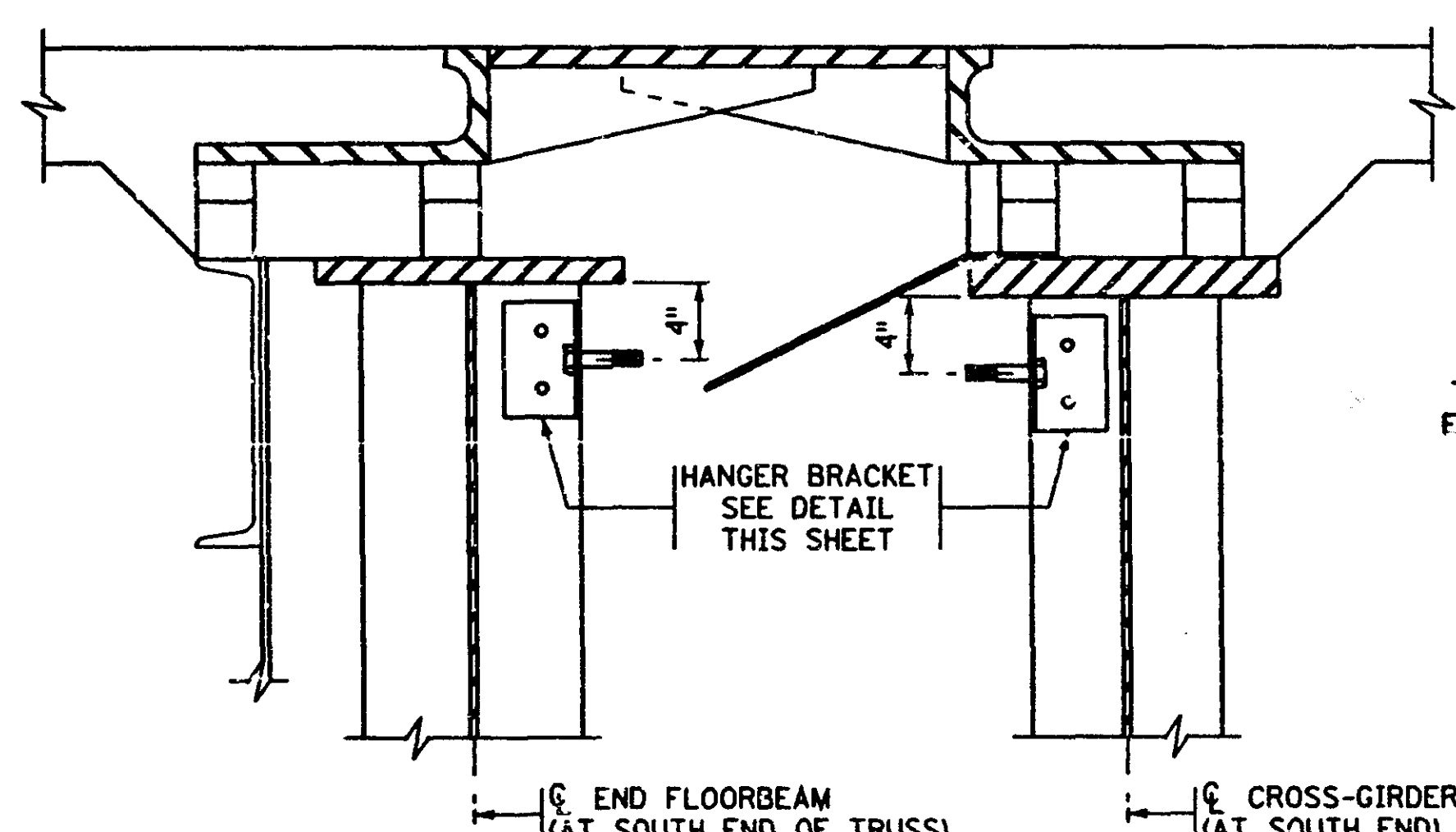


SECTION B-B (INPLACE)

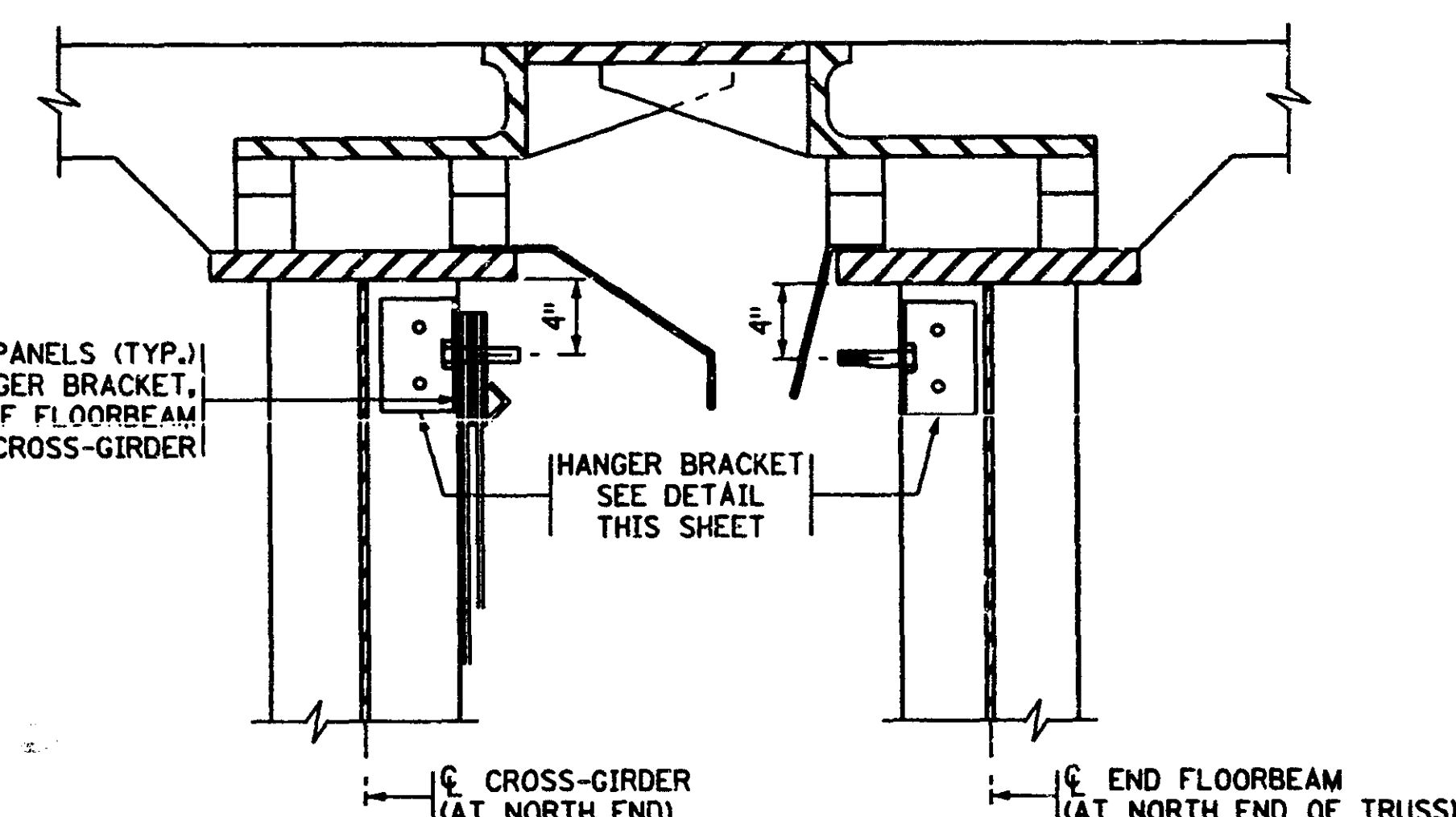


PAINTING OPERATION

TO BE COMPLETED BEFORE INSTALLATION OF CURTAIN PANELS

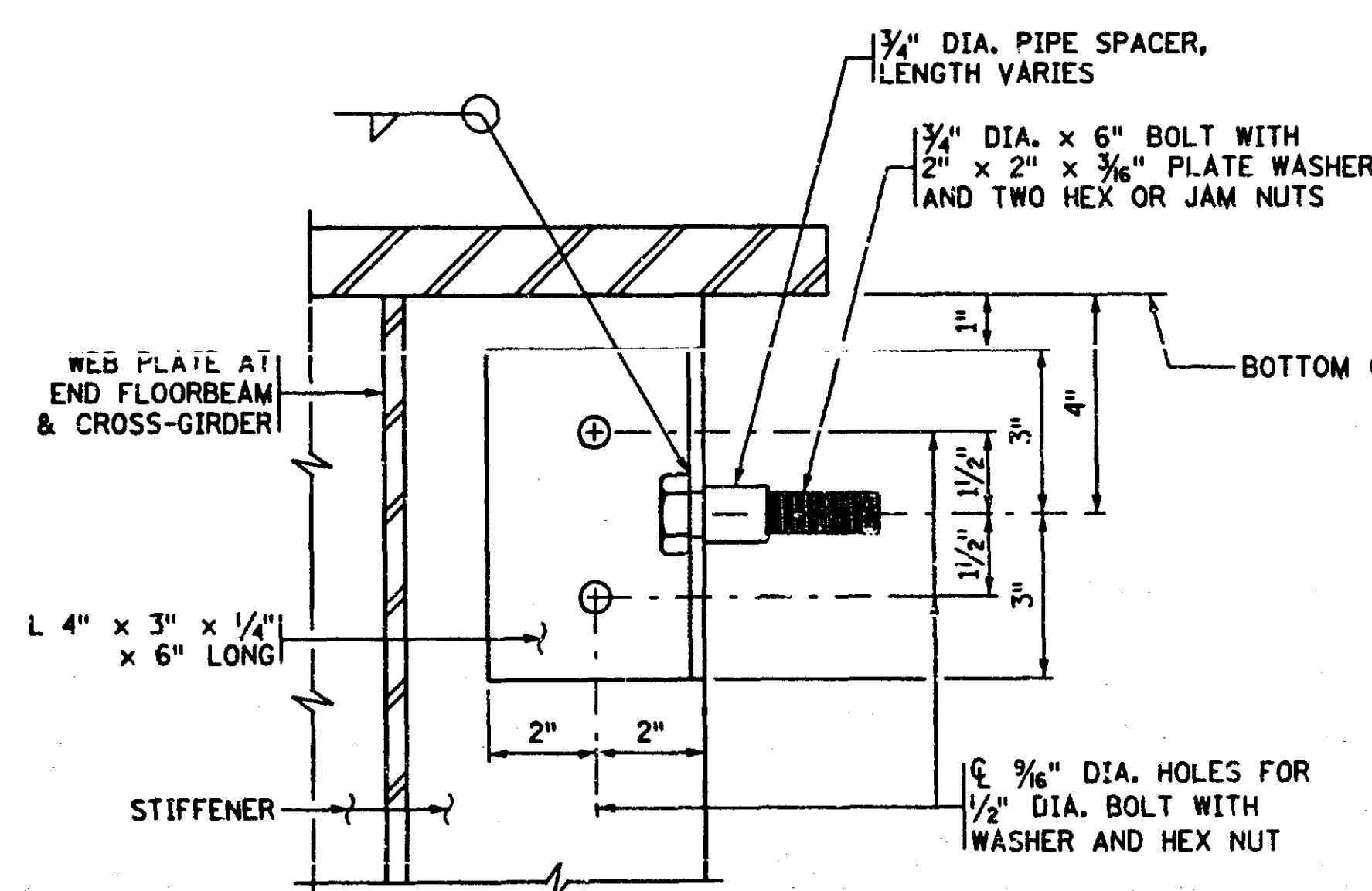


SECTION A-A (PROPOSED)

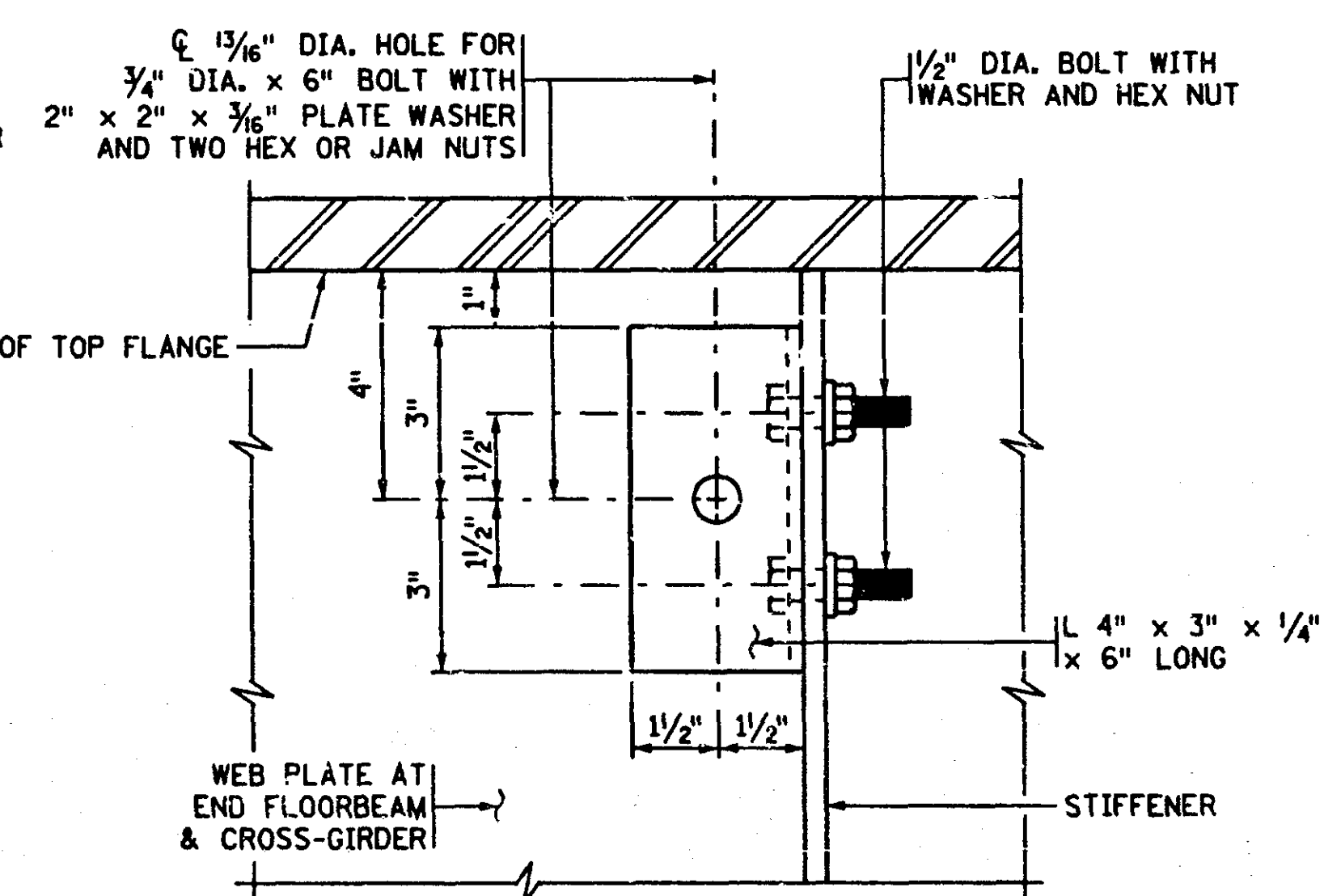


SECTION B-B (PROPOSED)

PANELS (TYP.)
TWO AT EACH HANGER BRACKET,
EXCEPT AT ENDS OF FLOORBEAM
AND CROSS-GIRDER



ELEVATION



SIDE VIEW

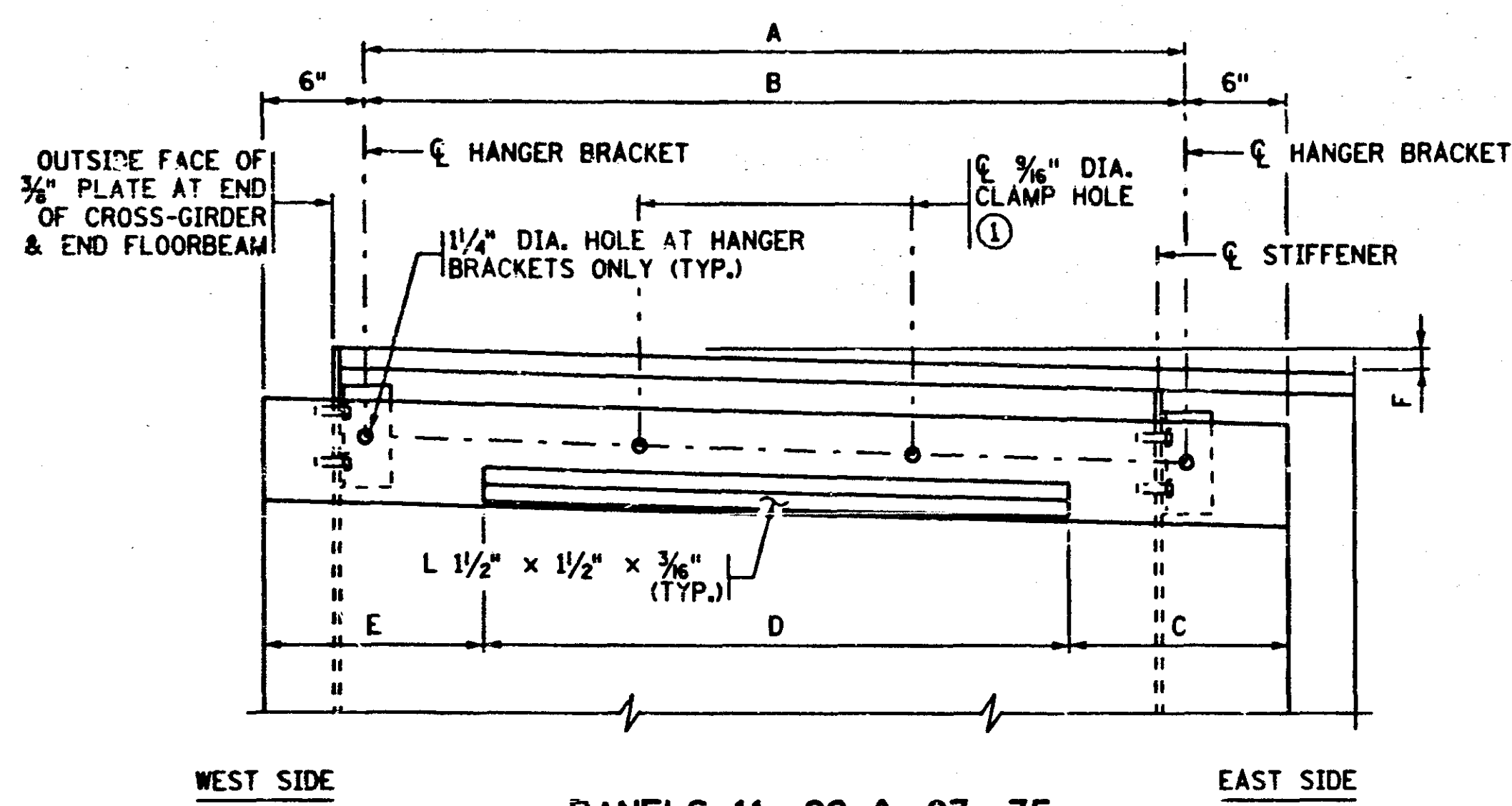
HANGER BRACKET DETAIL

NOTES:

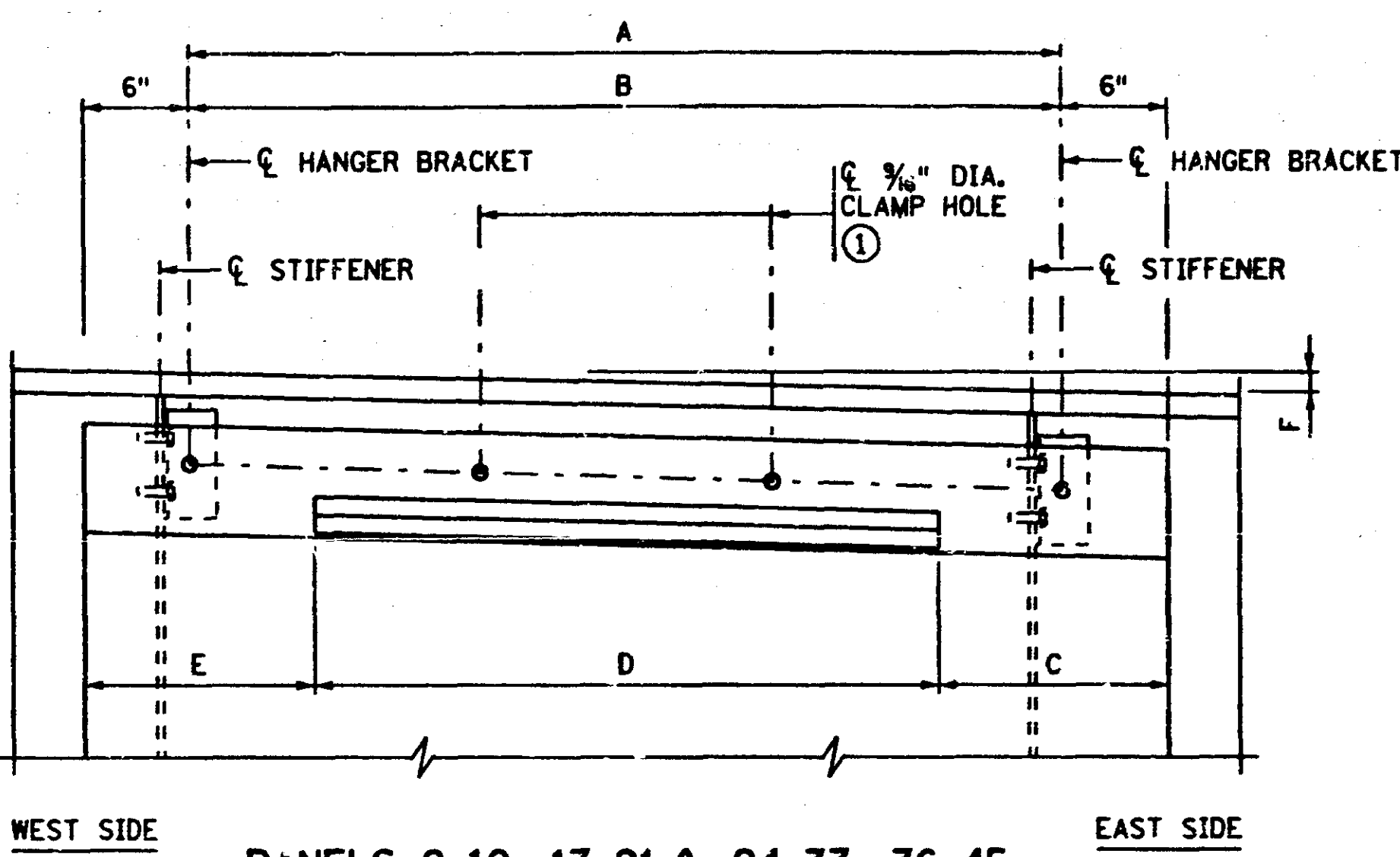
- DIMENSIONS GIVEN TO INPLACE BRIDGE WERE TAKEN FROM THE ORIGINAL PLANS FOR BR. 9340.
- STIFFENER WIDTHS VARY FROM 4 3/4" TO 7 3/4".
- SEE DRAINAGE SYSTEM TYPE SPECIAL SHEET (1 OF 5) FOR LOCATION OF SECTION A-A.
- SEE DRAINAGE SYSTEM TYPE SPECIAL SHEET (2 OF 5) FOR LOCATION OF SECTION B-B.
- ① DIMENSIONS GIVEN AT 45° F.

CERTIFIED BY <i>Arthur Ottaviano</i> PROFESSIONAL ENGINEER REG. NO. 7578	TITLE DRAINAGE SYSTEM TYPE SPECIAL (3 OF 5)	DES: E.O.W.	DR: L.J.H.	APPROVED: 1-30-98	BRIDGE NO. 9340
		CHK: A.D.G.	CHK: EQW/ADO	SHEET NO. 25 OF 61 SHEETS	

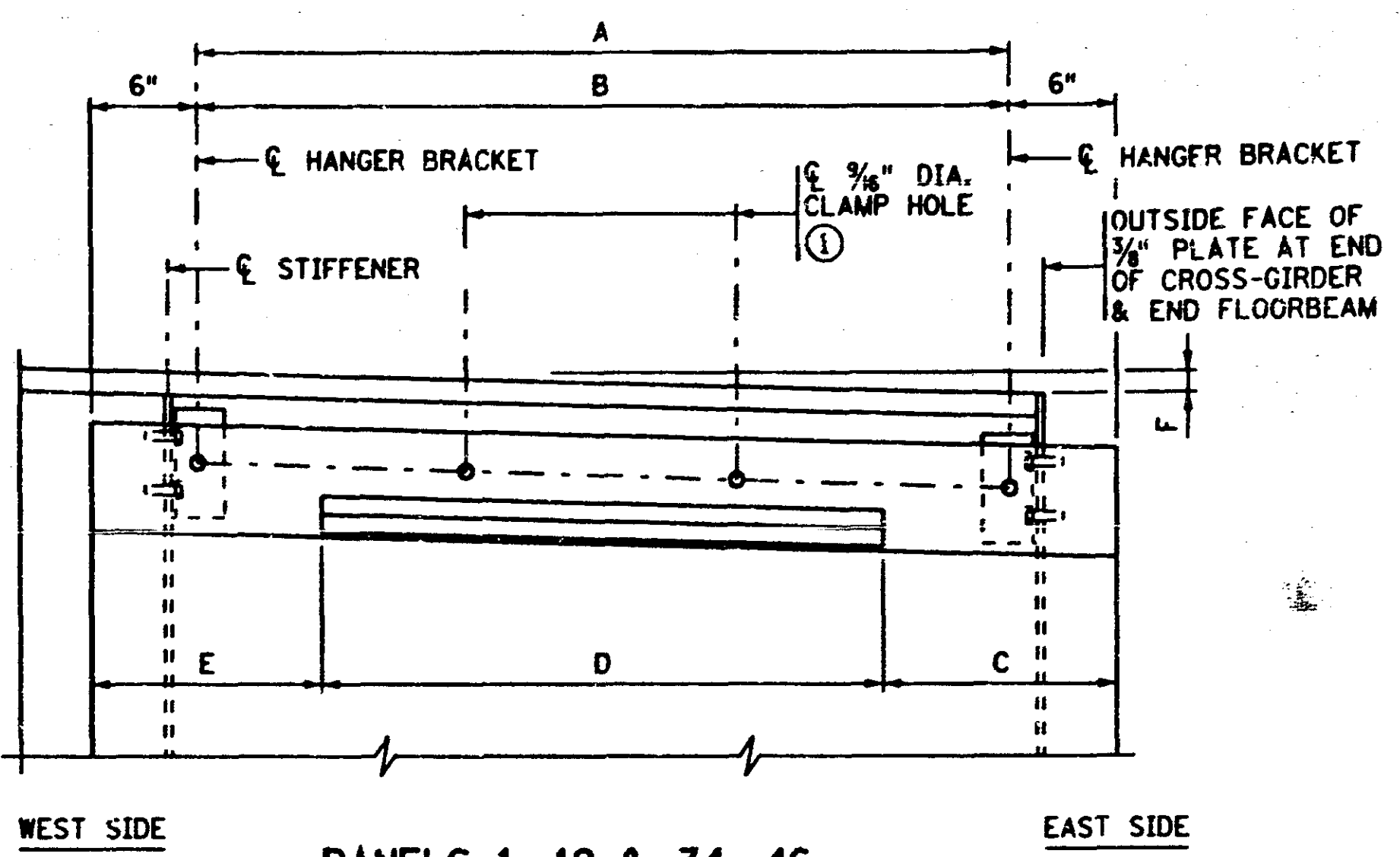
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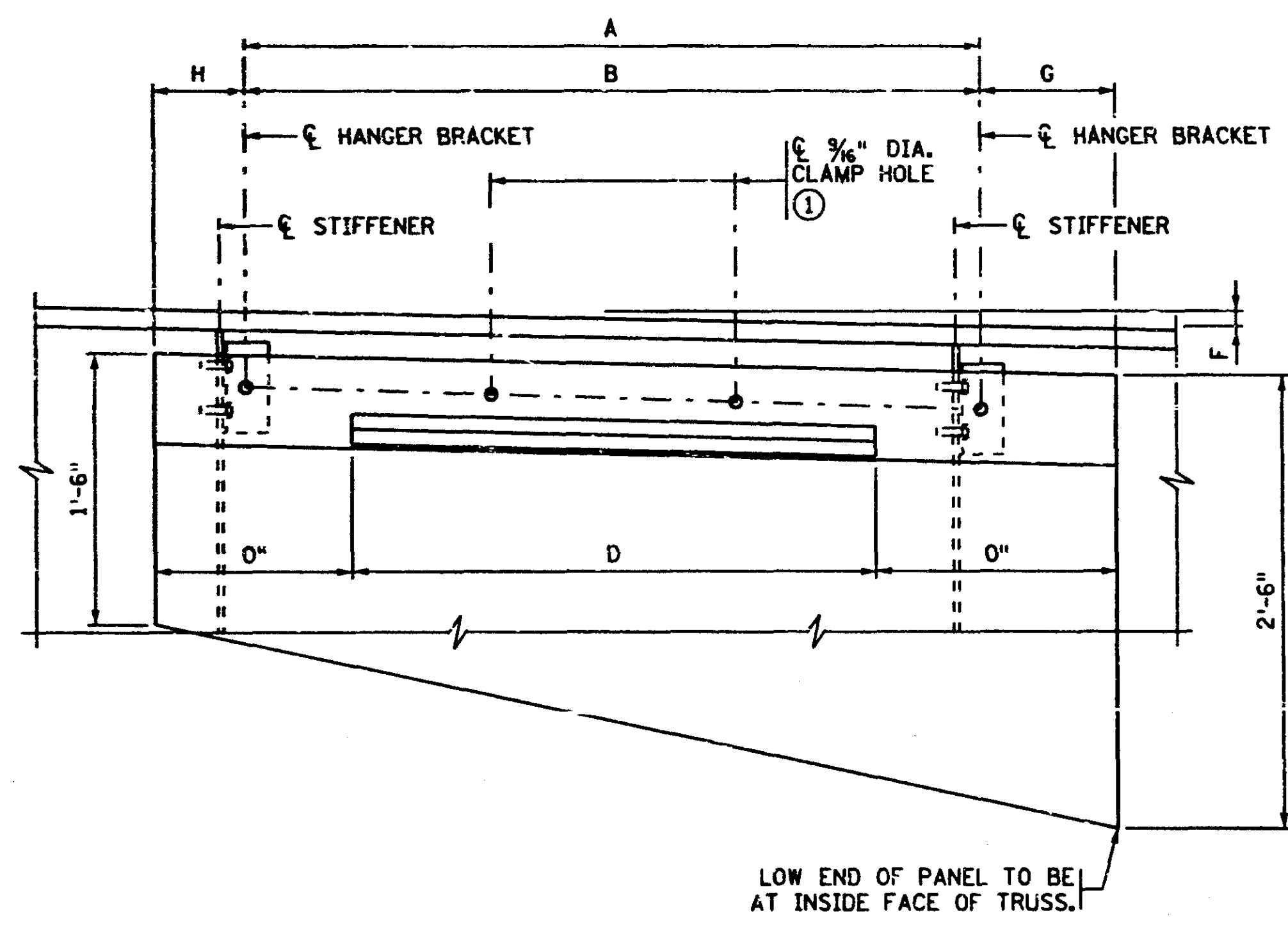
PANELS 11, 22 & 23, 35
 LOOKING UP STATION.
 END FLOORBEAM AT SOUTH END OF DECK TRUSS AND
 CROSS GIRDER AT NORTH APPROACH SPAN SHOWN.



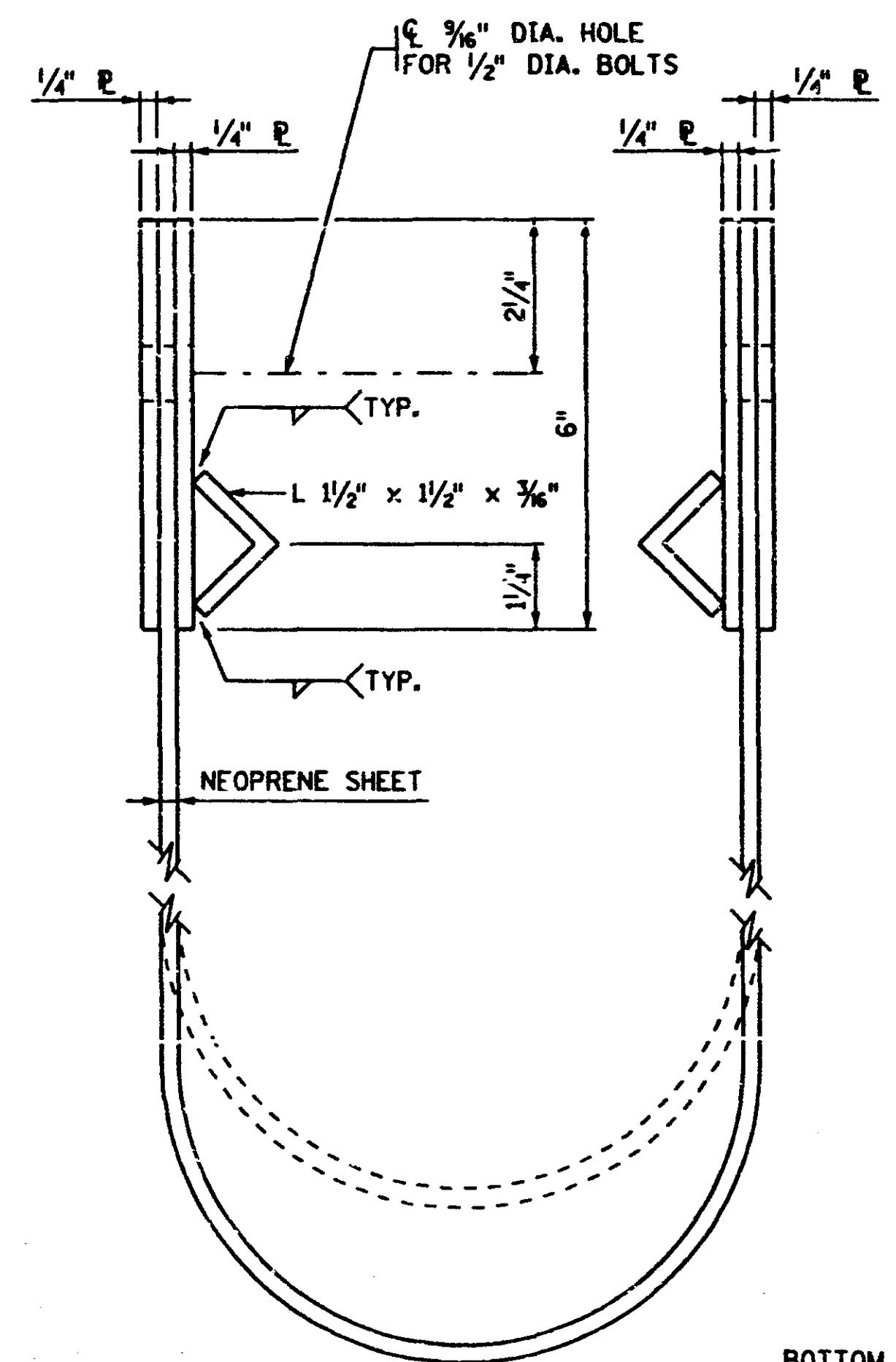
PANELS 2-10, 13-21 & 24-33, 36-45
 LOOKING UP STATION.
 END FLOORBEAM AT SOUTH END OF DECK TRUSS AND
 CROSS GIRDER AT NORTH APPROACH SPAN SHOWN.



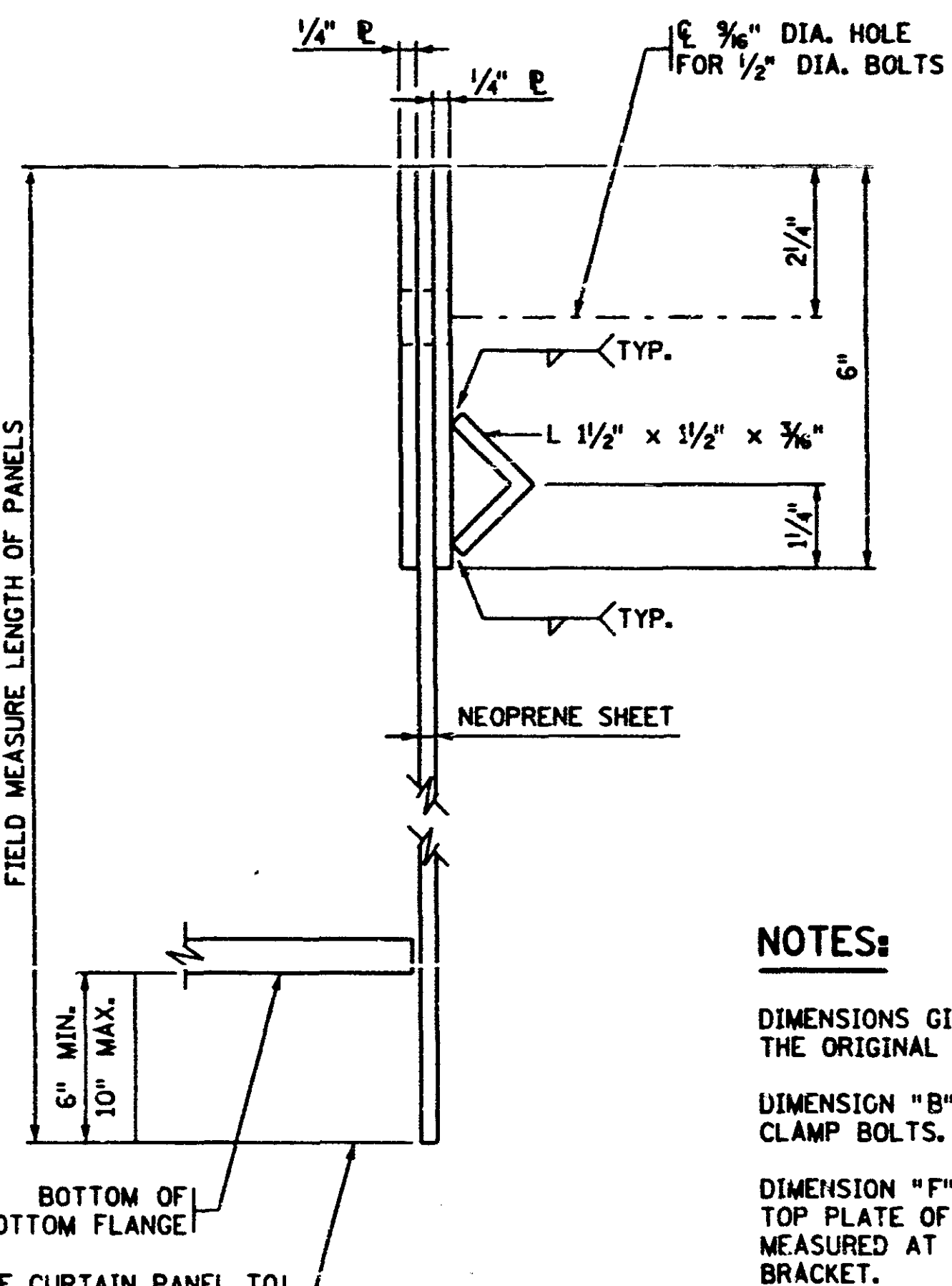
PANELS 1, 12 & 34, 46
 LOOKING UP STATION.
 END FLOORBEAM AT SOUTH END OF DECK TRUSS AND
 CROSS GIRDER AT NORTH APPROACH SPAN SHOWN.



TRUSS PANEL



SIDE VIEW AT TRUSS PANELS



SIDE VIEW AT PANELS

NOTES:

- DIMENSIONS GIVEN TO INPLACE BRIDGE WERE TAKEN FROM THE ORIGINAL PLANS FOR BR. 9340.
- DIMENSION "B" IS SPACING FOR 3/8" DIA. HOLES FOR 1/2" DIA. CLAMP BOLTS.
- DIMENSION "F" IS THE VERTICAL DIFFERENCE OF THE TOP PLATE OF THE END FLOORBEAM OR CROSS-GIRDER MEASURED AT WEST HANGER BRACKET AND EAST HANGER BRACKET.
- SEE DRAINAGE SYSTEM TYPE SPECIAL SHEET (5 OF 5) FOR DIMENSION TABLES AND SUMMARY OF QUANTITIES.
- ① EACH CLAMP HOLE REQUIRES ONE 1/2" DIA. BOLT WITH WASHER AND NUT.

CERTIFIED BY <i>Robert Ottman</i> PROFESSIONAL ENGINEER REG. NO. 7578	TITLE DRAINAGE SYSTEM TYPE SPECIAL (4 OF 5)	DES: E.O.W. CHK: A.D.O.	DR: L.J.H. CHK: EOW/ADO	APPROVED 1-30-98	BRIDGE NO. 9340
SHEET NO. 26 OF 61 SHEETS					

DIMENSIONS FOR CURTAIN PANELS						
PANEL	A	B	C	D	E	F
1	9'-7 ³ / ₁₆ "	3 EQ. SPS.	0"	9'-6 ¹³ / ₁₆ "	1'-1"	+4 ⁵ / ₁₆ "
2	8'-2"	3 EQ. SPS.	1'-1"	7'-0"	1'-1"	+3 ⁵ / ₁₆ "
3	8'-2"	3 EQ. SPS.	0"	8'-1"	1'-1"	+3 ⁵ / ₁₆ "
4	8'-2"	3 EQ. SPS.	0"	8'-1"	1'-1"	+3 ⁵ / ₁₆ "
5	8'-2"	3 EQ. SPS.	0"	8'-1"	1'-1"	+3 ⁵ / ₁₆ "
6	7'-0"	3 EQ. SPS.	0"	6'-11"	1'-1"	+3 ⁵ / ₁₆ "
7	8'-2"	3 EQ. SPS.	0"	8'-1"	1'-1"	+3 ⁵ / ₁₆ "
8	8'-2"	3 EQ. SPS.	0"	8'-1"	1'-1"	+3 ⁵ / ₁₆ "
9	8'-2"	3 EQ. SPS.	0"	8'-1"	1'-1"	+3 ⁵ / ₁₆ "
10	8'-2"	3 EQ. SPS.	1'-1"	7'-0"	1'-1"	+2 ⁵ / ₁₆ "
11	9'-11 ¹ / ₁₆ "	3 EQ. SPS.	0"	10'-11 ¹ / ₁₆ "	0"	+2 ⁵ / ₁₆ "
12	9'-7 ¹¹ / ₁₆ "	3 EQ. SPS.	0"	9'-6 ¹¹ / ₁₆ "	1'-1"	+4 ⁵ / ₁₆ "
13	8'-2"	4 EQ. SPS.	1'-1"	7'-0"	1'-1"	+3 ¹¹ / ₁₆ "
14	8'-2"	3 EQ. SPS.	0"	8'-1"	1'-1"	+3 ¹¹ / ₁₆ "
15	8'-2"	3 EQ. SPS.	0"	8'-1"	1'-1"	+3 ¹¹ / ₁₆ "
16	8'-2"	3 EQ. SPS.	0"	8'-1"	1'-1"	+3 ¹¹ / ₁₆ "
17	7'-0"	3 EQ. SPS.	0"	6'-11"	1'-1"	+3 ¹¹ / ₁₆ "
18	8'-2"	3 EQ. SPS.	0"	8'-1"	1'-1"	+3 ¹¹ / ₁₆ "
19	8'-2"	3 EQ. SPS.	0"	8'-1"	1'-1"	+3 ¹¹ / ₁₆ "
20	8'-2"	4 EQ. SPS.	0"	8'-1"	1'-1"	+3 ¹¹ / ₁₆ "
21	8'-2"	3 EQ. SPS.	1'-1"	7'-0"	1'-1"	+3 ¹¹ / ₁₆ "
22	9'-11 ¹ / ₁₆ "	3 EQ. SPS.	0"	10'-11 ¹ / ₁₆ "	0"	+4 ¹ / ₂ "
23	7'-2 ¹ / ₂ "	3 EQ. SPS.	1'-1"	7'-1 ¹ / ₂ "	0"	0"
24	8'-2"	4 EQ. SPS.	2'-7 ³ / ₈ "	6'-6 ³ / ₈ "	0"	0"
25	8'-2"	3 EQ. SPS.	1'-1"	5'-6 ¹⁵ / ₁₆ "	2'-6 ¹⁵ / ₁₆ "	0"
26	8'-2"	3 EQ. SPS.	1'-1"	8'-1"	0"	0"
27	8'-2"	3 EQ. SPS.	1'-1"	8'-1"	0"	0"
28	7'-7"	3 EQ. SPS.	1'-1"	7'-6"	0"	0"
29	7'-7"	3 EQ. SPS.	1'-1"	7'-6"	0"	0"
30	8'-2"	3 EQ. SPS.	1'-1"	8'-1"	0"	0"
31	8'-2"	3 EQ. SPS.	1'-1"	8'-1"	0"	0"
32	8'-5 ³ / ₄ "	3 EQ. SPS.	1'-1"	8'-4 ³ / ₄ "	0"	0"
33	8'-9 ¹ / ₂ "	4 EQ. SPS.	1'-1"	6'-11 ³ / ₁₆ "	1'-9 ³ / ₁₆ "	-1 ¹⁵ / ₁₆ "
34	7'-10 ³ / ₁₆ "	4 EQ. SPS.	0"	8'-10 ³ / ₁₆ "	0"	-1 ⁷ / ₁₆ "
35	5'-10 ³ / ₁₆ "	2 EQ. SPS.	1'-1"	5'-9 ³ / ₁₆ "	0"	0"
36	8'-0"	3 EQ. SPS.	1'-1"	7'-11"	0"	0"
37	10'-9"	3 EQ. SPS.	1'-1"	9'-7"	1'-1"	0"
38	8'-2"	3 EQ. SPS.	1'-1"	8'-1"	0"	0"
39	8'-2"	3 EQ. SPS.	1'-1"	8'-1"	0"	0"
40	7'-0"	3 EQ. SPS.	1'-1"	6'-11"	0"	0"
41	8'-2"	3 EQ. SPS.	1'-1"	8'-1"	0"	0"
42	8'-2"	3 EQ. SPS.	1'-1"	8'-1"	0"	0"
43	8'-2"	4 EQ. SPS.	1'-1"	8'-1"	0"	0"
44	5'-4 ¹ / ₂ "	3 EQ. SPS.	2'-0 ³ / ₄ "	4'-3 ³ / ₄ "	0"	0"
45	8'-0 ³ / ₁₆ "	3 EQ. SPS.	1'-1"	6'-10 ³ / ₁₆ "	1'-1"	-1 ⁷ / ₁₆ "
46	8'-0 ³ / ₁₆ "	3 EQ. SPS.	0"	9'-0 ³ / ₁₆ "	0"	-2 ¹ / ₁₆ "

DIMENSIONS FOR CURTAIN PANELS AT TRUSS						
PANEL	A	B	D	F	G	H
A1	8'-2"	3 EQ. SPS.	9'-2"	+3 ⁵ / ₁₆ "	6"	6"
A2	8'-2"	3 EQ. SPS.	9'-2"	+3 ¹¹ / ₁₆ "	6"	6"
B1	8'-2"	3 EQ. SPS.	9'-2"	+3 ⁵ / ₁₆ "	6"	6"
B2	8'-2"	3 EQ. SPS.	9'-2"	+3 ¹¹ / ₁₆ "	6"	6"
C1	6'-9 ¹¹ / ₁₆ "	4 EQ. SPS.	10'-10"	0"	1'-11 ¹⁵ / ₁₆ "	2'-0 ³ / ₁₆ "
C2	9'-10"	4 EQ. SPS.	10'-10"	0"	6"	6"
D1	7'-3 ¹⁵ / ₁₆ "	3 EQ. SPS.	9'-0 ¹ / ₄ "	0"	1'-2 ³ / ₁₆ "	6"
D2	7'-0 ¹ / ₂ "	4 EQ. SPS.	9'-0 ¹ / ₄ "	0"	6"	1'-5 ³ / ₄ "

SUMMARY OF QUANTITIES FOR DRAINAGE SYSTEM TYPE SPECIAL ①	
HANGER BRACKET	58 EACH
CURTAIN PANEL	46 EACH
TRUSS PANEL	4 EACH
② STRUCTURAL STEEL (3306)	6180 POUND
③ NEOPRENE SHEETING	3410 SQ. FT.

- ① PAYMENT INCLUDED IN PRICE BID FOR ITEM NO. 2402.601 "DRAINAGE SYSTEM TYPE SPECIAL". SEE SPECIAL PROVISIONS.
- ② INCLUDES WEIGHT OF HANGER BRACKETS, 3/4" x 6" HANGER BOLT, WASHERS AND NUTS, AND PLATES, ANGLES AND BOLTS FOR CURTAIN PANELS.
- ③ INCLUDED IN CURTAIN PANELS.

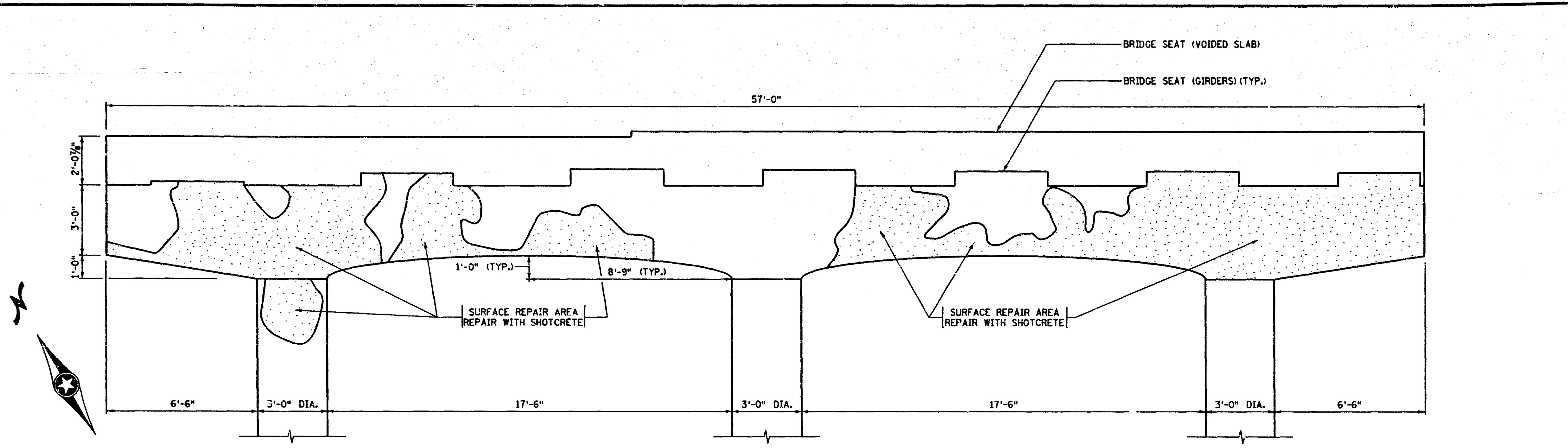
NOTES:

DIMENSIONS GIVEN TO INPLACE BRIDGE WERE TAKEN FROM THE ORIGINAL PLANS FOR BR. 9340.

SEE DRAINAGE SYSTEM TYPE SPECIAL SHEET (4 OF 5) FOR LOCATION OF DIMENSIONS.

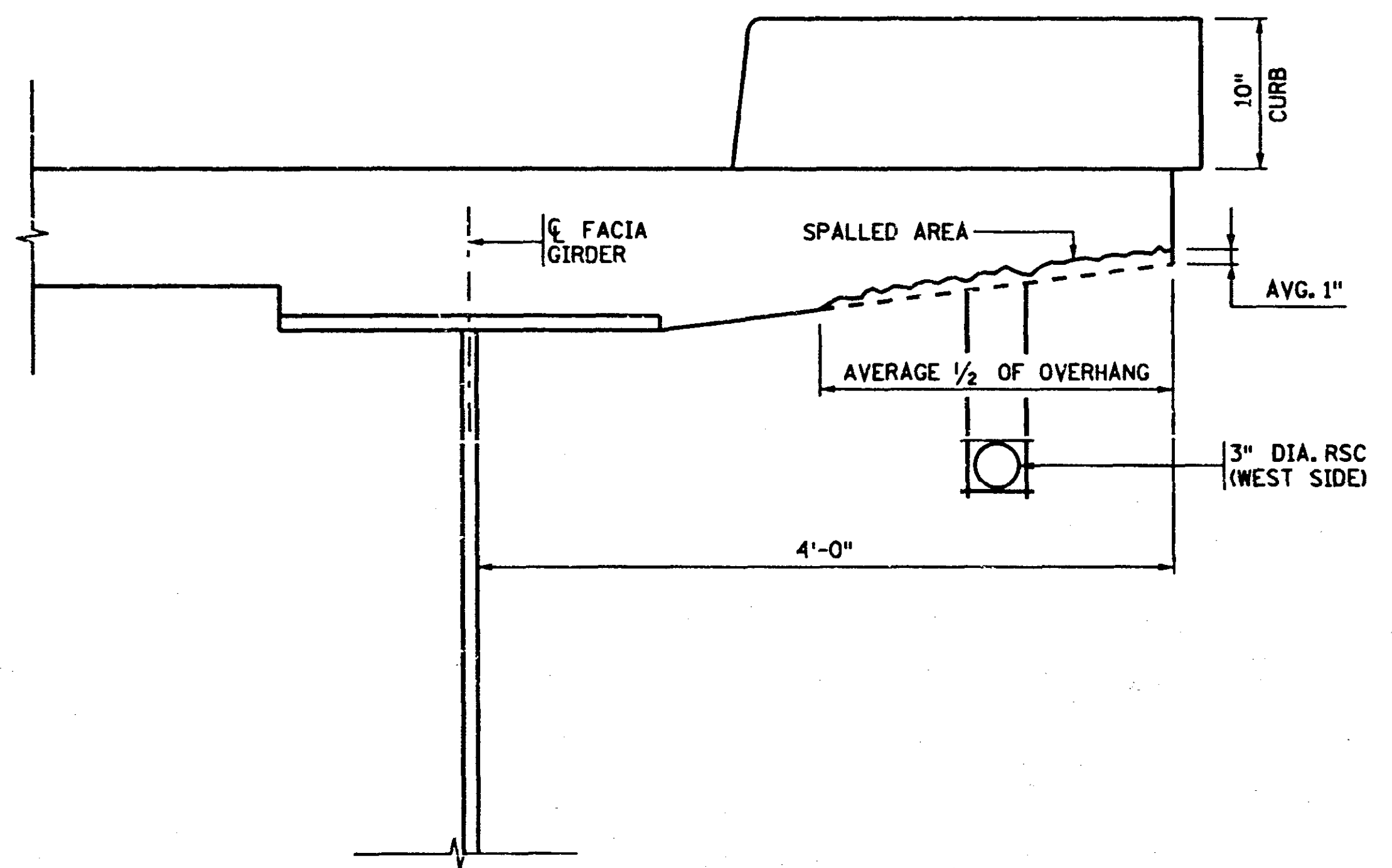
DIMENSION "F" IS THE VERTICAL DIFFERENCE OF THE TOP PLATE OF THE END FLOORBEAM OR CROSS GIRDER MEASURED AT WEST HANGER BRACKET AND EAST HANGER BRACKET.

CERTIFIED BY <i>Robert Osterman</i> PROFESSIONAL ENGINEER	TITLE DRAINAGE SYSTEM TYPE SPECIAL (5 OF 5)	DES: E.O.W. DR: L.J.H. CHK: A.D.O. CHK: A.D.O.	APPROVED: 1-30-98	BRIDGE NO. 9340
REG. NO. 7578	1-29 19 98	SHEET NO. 27 OF 61 SHEETS		

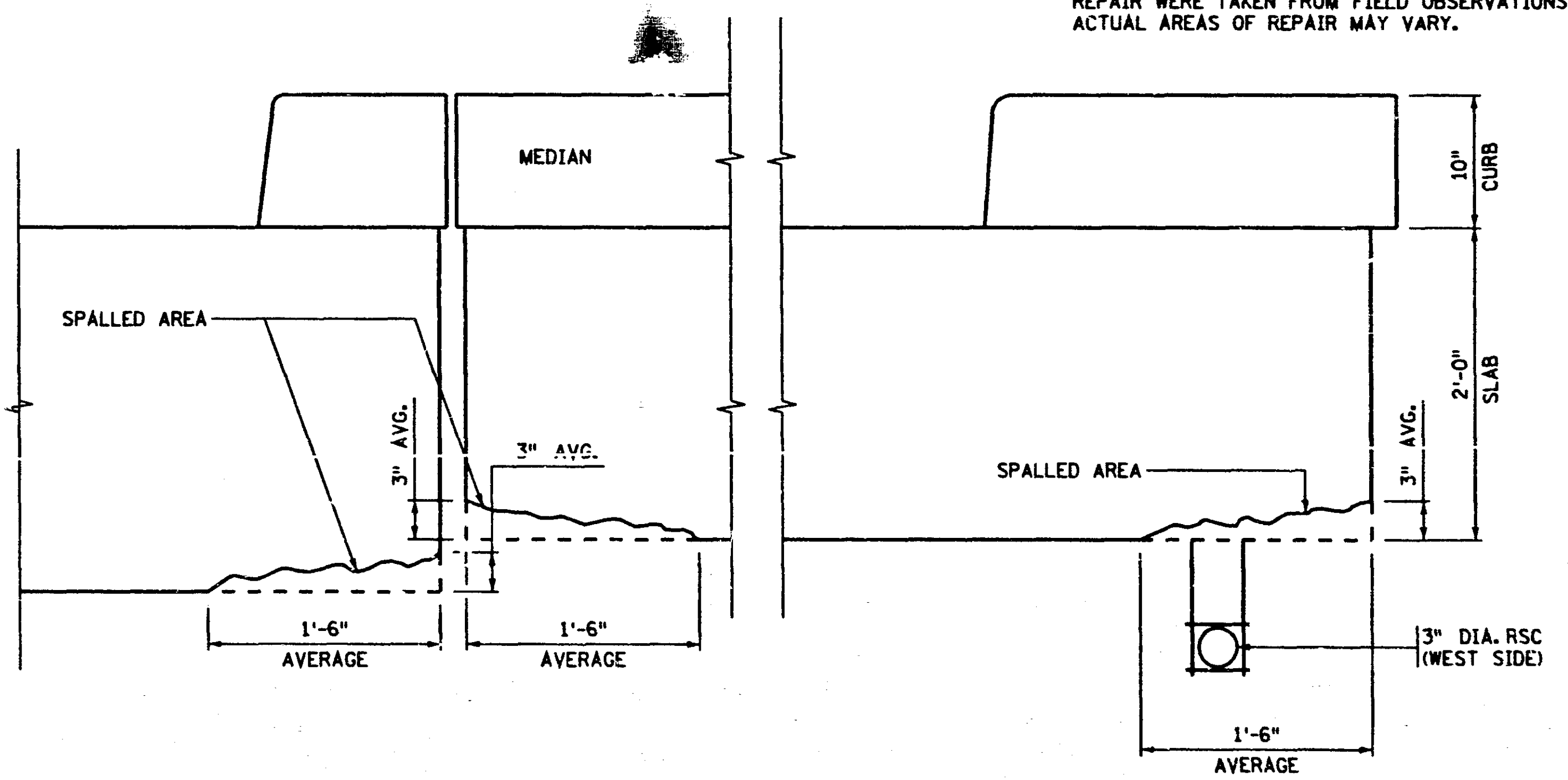


SURFACE REPAIR AREAS OF PIER 11
(WEST SIDE OF BRIDGE) (SOUTH SIDE SHOWN)

NOTES:
 DIMENSIONS GIVEN FOR SPALLED AREAS WERE ESTIMATED FROM FIELD OBSERVATIONS AND WERE USED AS THE BASIS FOR DETERMINING THE ESTIMATED QUANTITY OF CONCRETE SURFACE REPAIR. ACTUAL AREAS OF REPAIR WILL VARY.
 REPAIR SPALLED AREAS WITH SHOTCRETE. SEE SPECIAL PROVISIONS.
 AREAS SHOWN ON PIER 11 FOR CONCRETE SURFACE REPAIR WERE TAKEN FROM FIELD OBSERVATIONS. ACTUAL AREAS OF REPAIR MAY VARY.



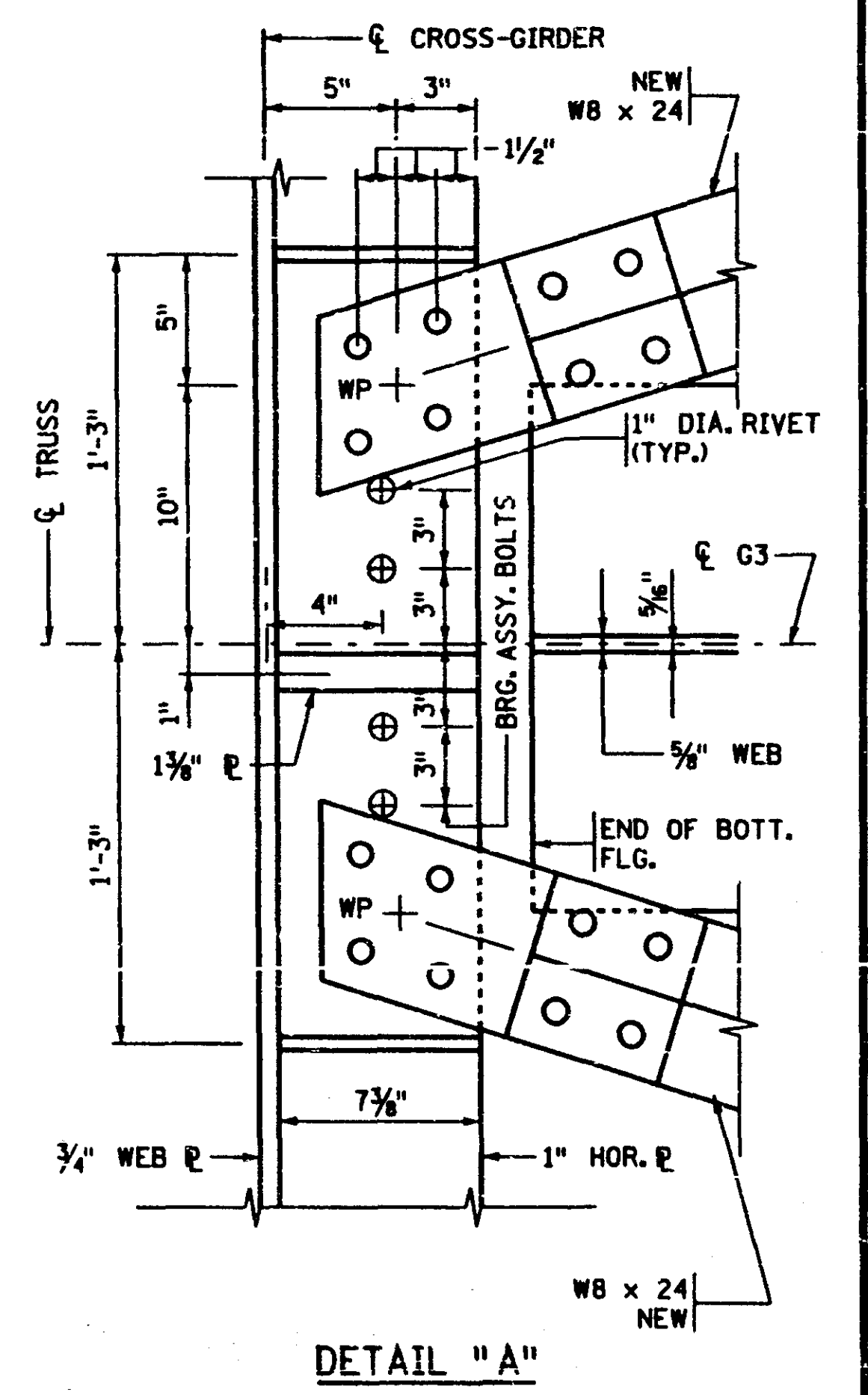
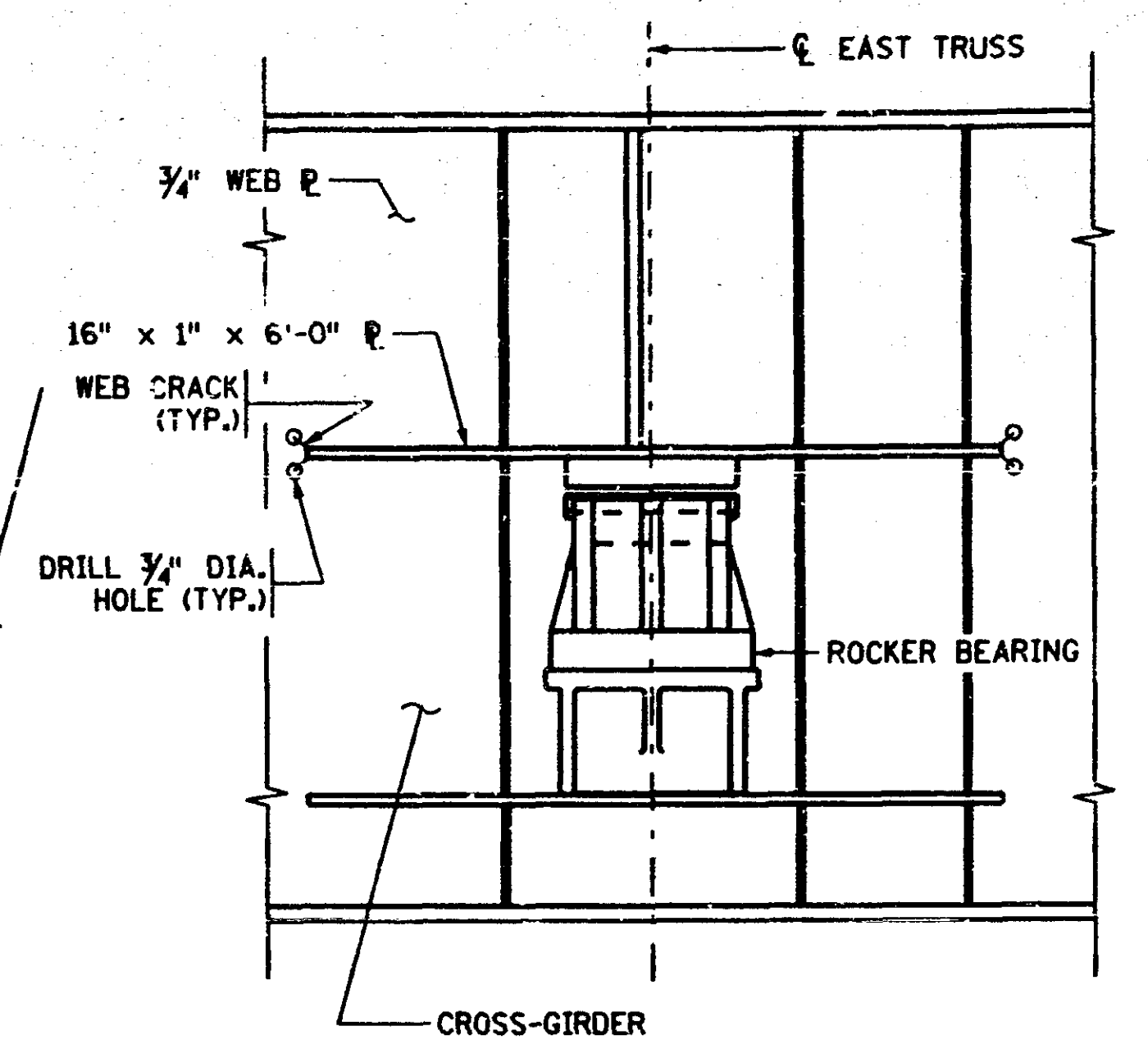
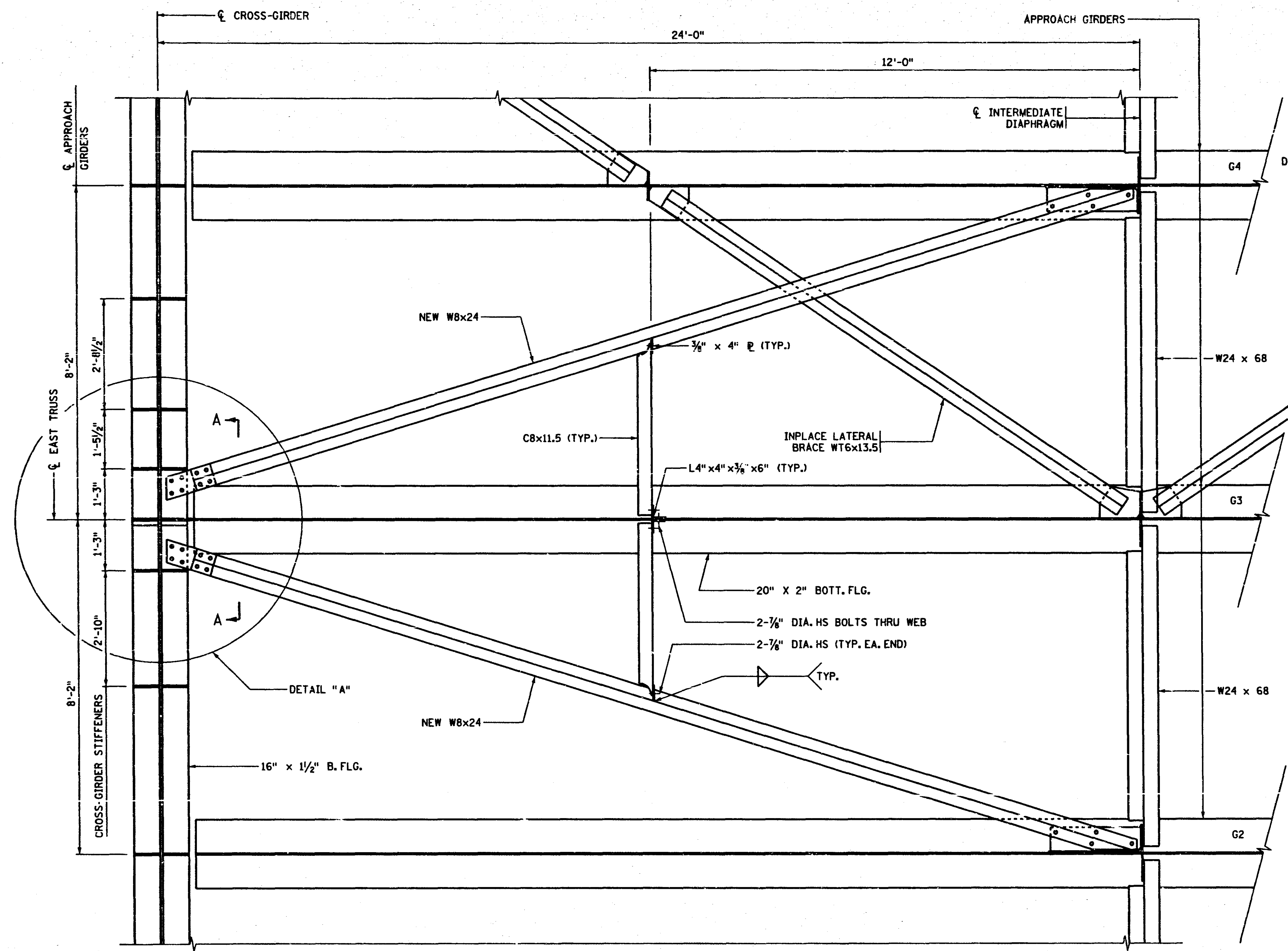
APPROACH AND TRUSS SPANS (STEEL)



SPANS 12, 13 AND 14 (VOIDED SLAB)

CERTIFIED BY <i>Robert Ottaviano</i> PROFESSIONAL ENGINEER REG. NO. 7578 1-29 19 98	TITLE: CONCRETE SURFACE REPAIR	DES: ADO	DR: ELR	APPROVED: 1-30-98	BRIDGE NO. 9340
		CHK: ADO	CHK: ADO	SHEET NO. 28 OF 61 SHEETS	

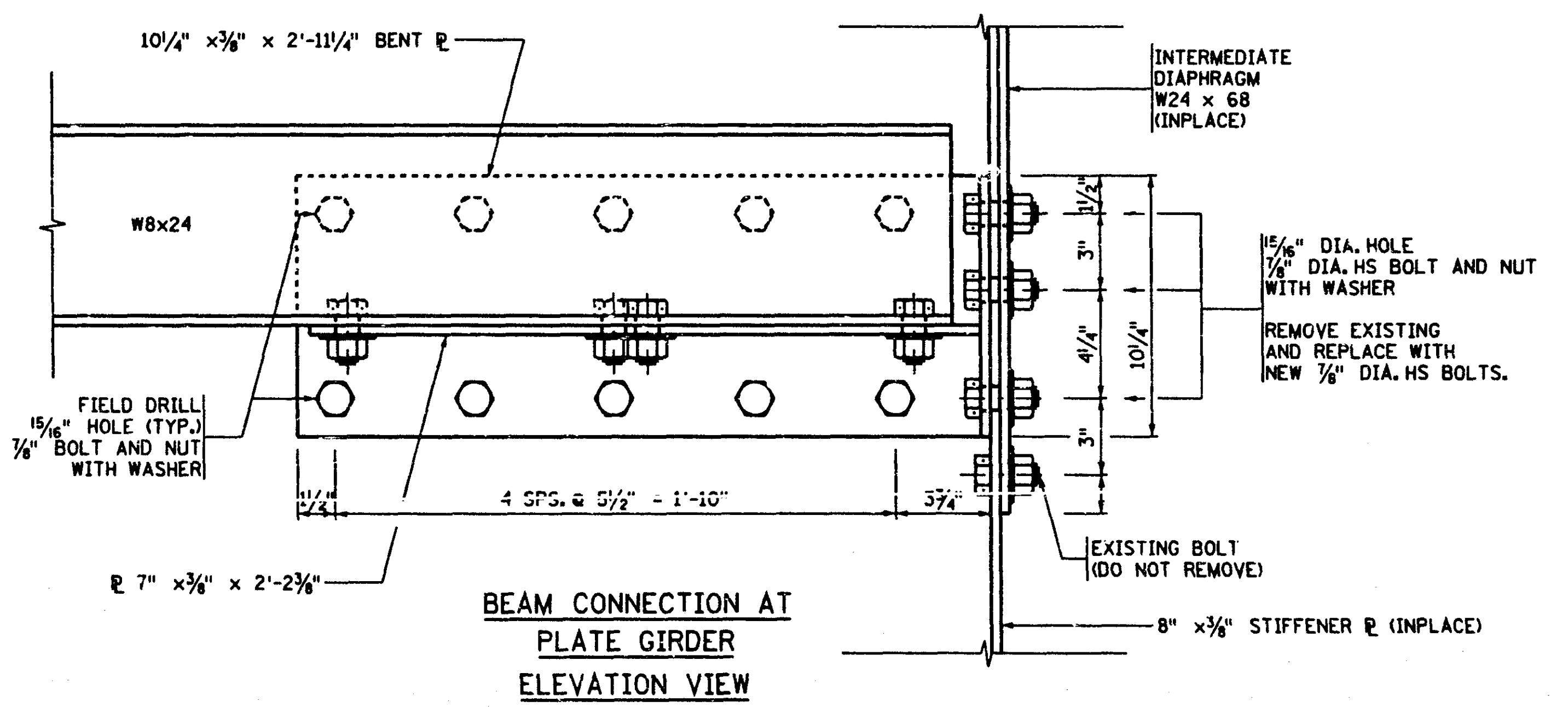
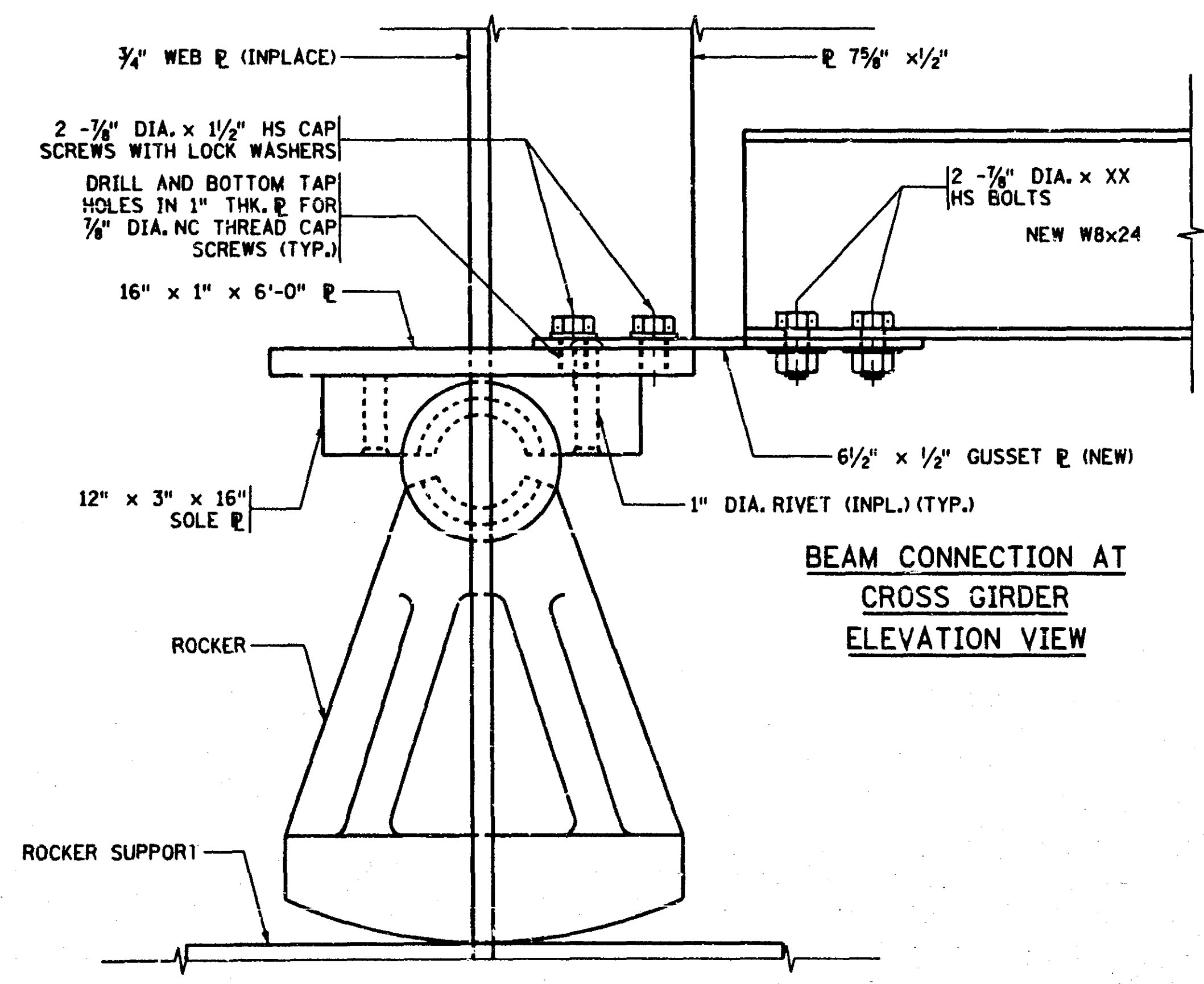
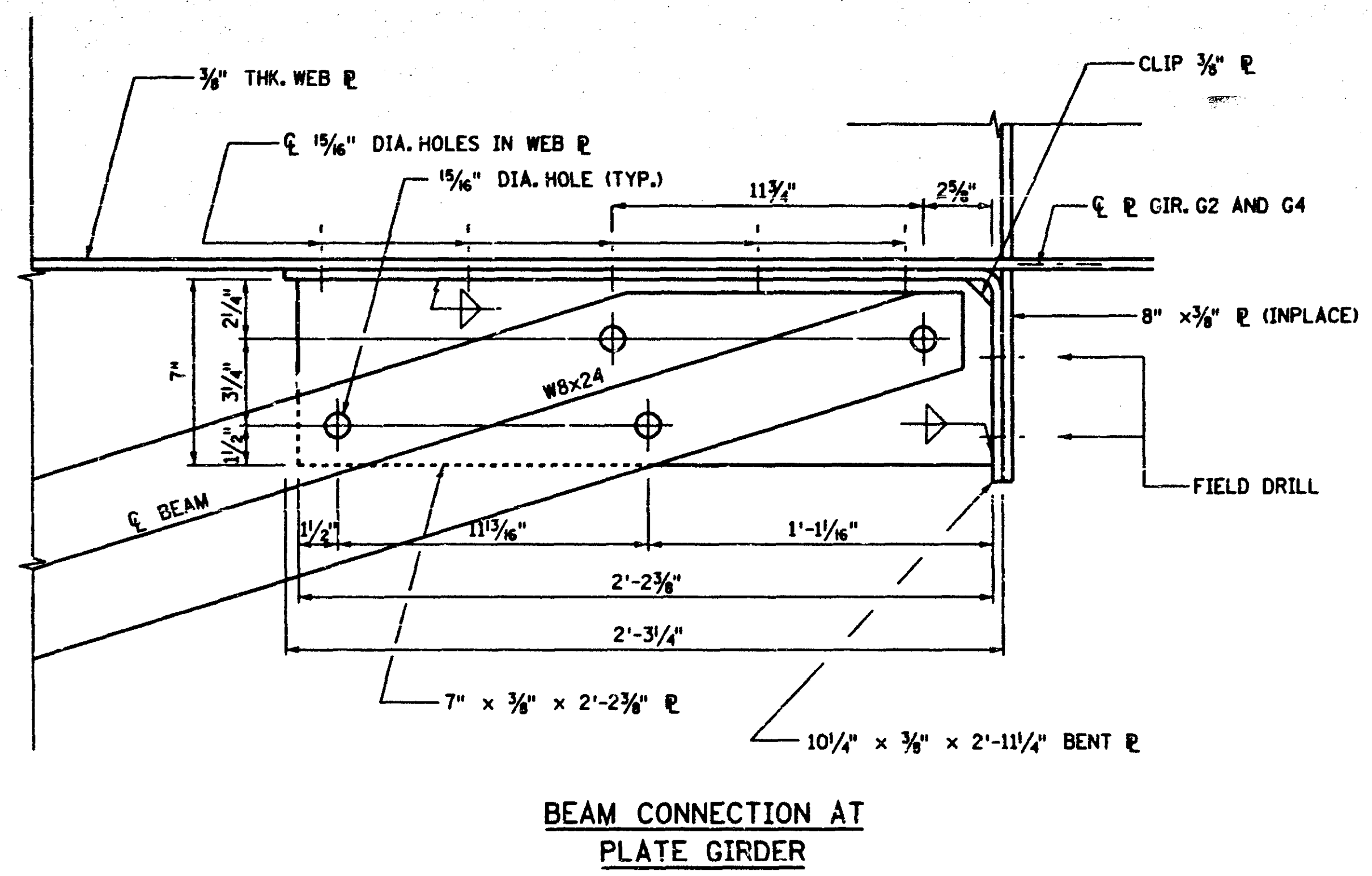
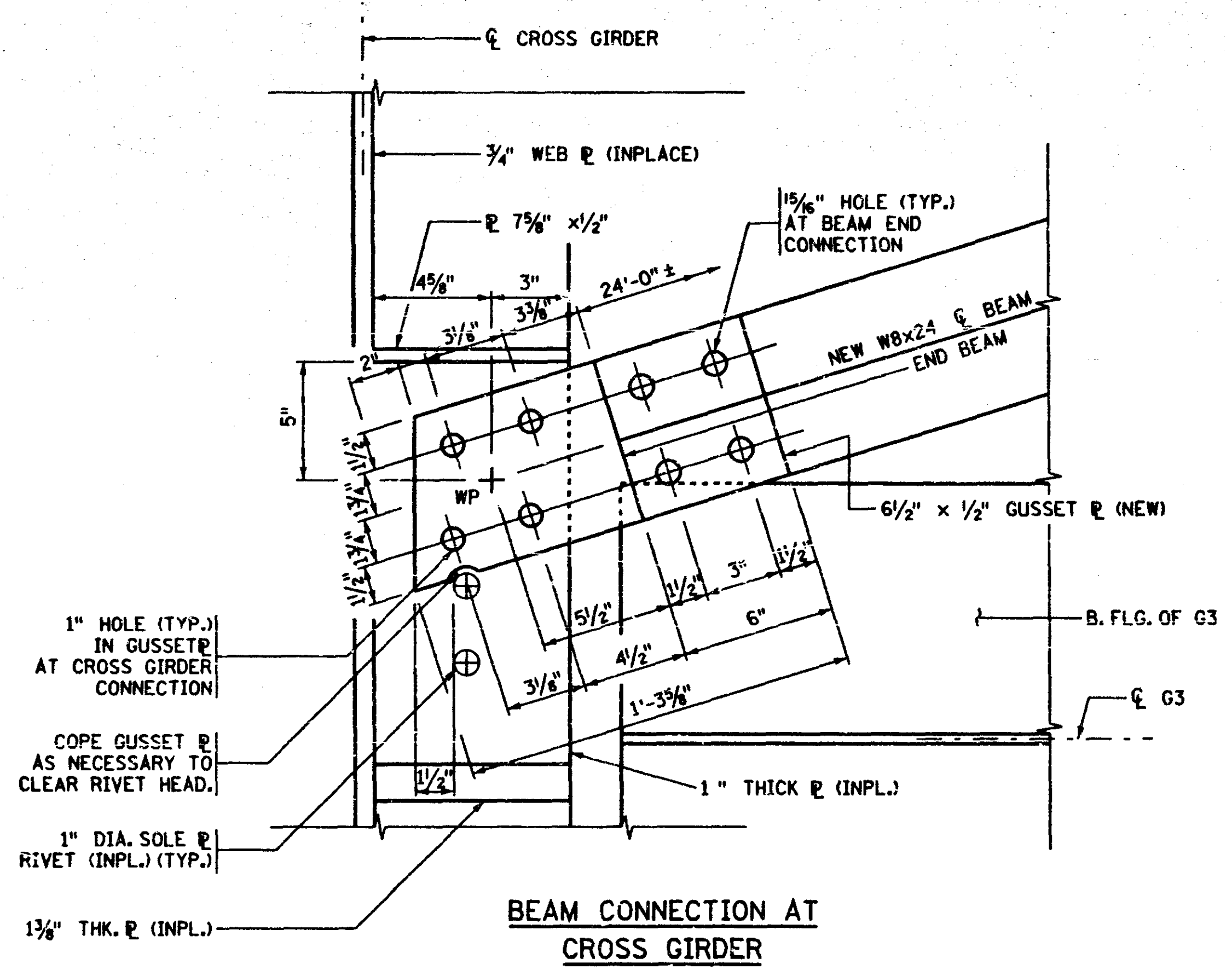
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SEE SHEET 30 FOR ADDITIONAL DIMENSIONS.

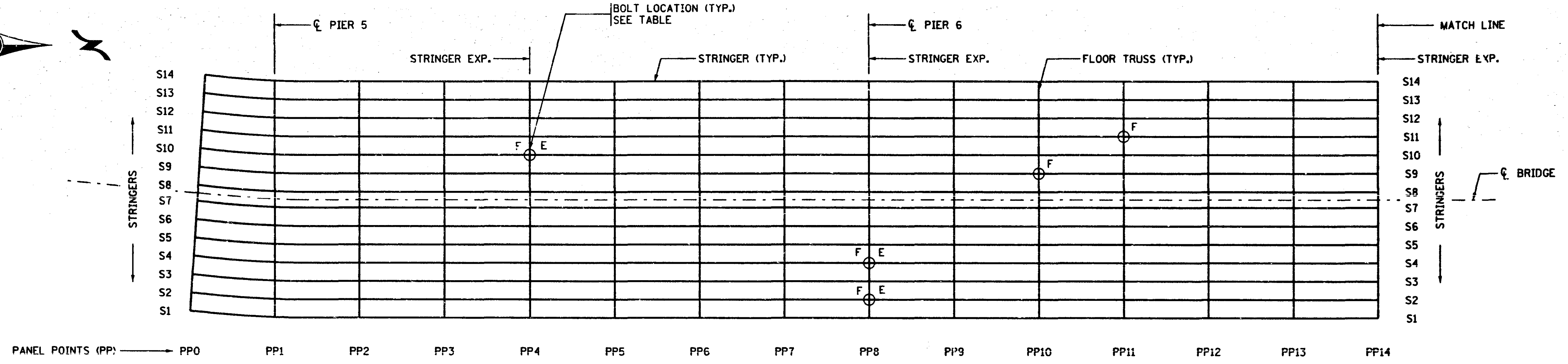
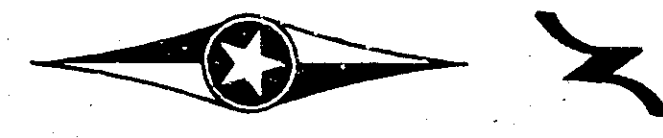
CERTIFIED BY <i>Calvin Ottman</i> PROFESSIONAL ENGINEER	TITLE CROSS-GIRDER RETROFIT	DESIGNED BY ADO/EOW	DRW ELR	APPROVED 1-30-98	BRIDGE NO. 9340
REG. NO. 7578	1-29 19 98	CHKD	CHKD ADO/EOW	SHEET NO. 29 OF 61 SHEETS	

ADJACENT DOCUMENT WAS SUPPLIED BY AGENCY NAMED BELOW. DURING THE REGULAR COURSE OF BUSINESS, TO BE FILMED BY STATE OF MINNESOTA MICROGRAPHIC SERVICES UNIT ACCORDING TO NATIONAL BUREAU OF STANDARDS REQUIREMENTS FOR PERMANENT MICROFILM AND ACCORDING TO PROCEDURES FOR THE DOCUMENT SERIES.

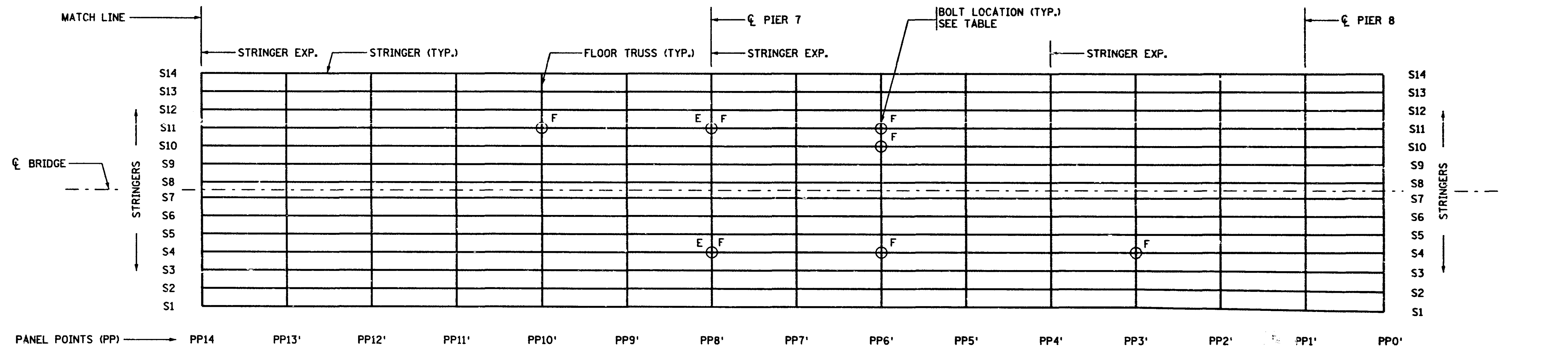


CERTIFIED BY <i>Robert Ottman</i> PROFESSIONAL ENGINEER REG. NO. 7578 1-29 19 98	TITLE: CROSS-GIRDER RETROFIT BEAM CONNECTIONS	DES: ADO	DR: ELR	APPROVED: 1-30-98	BRIDGE NO. 9340
		CHK: ADO	CHK: ADO	SHEET NO. 30 OF 61 SHEETS	

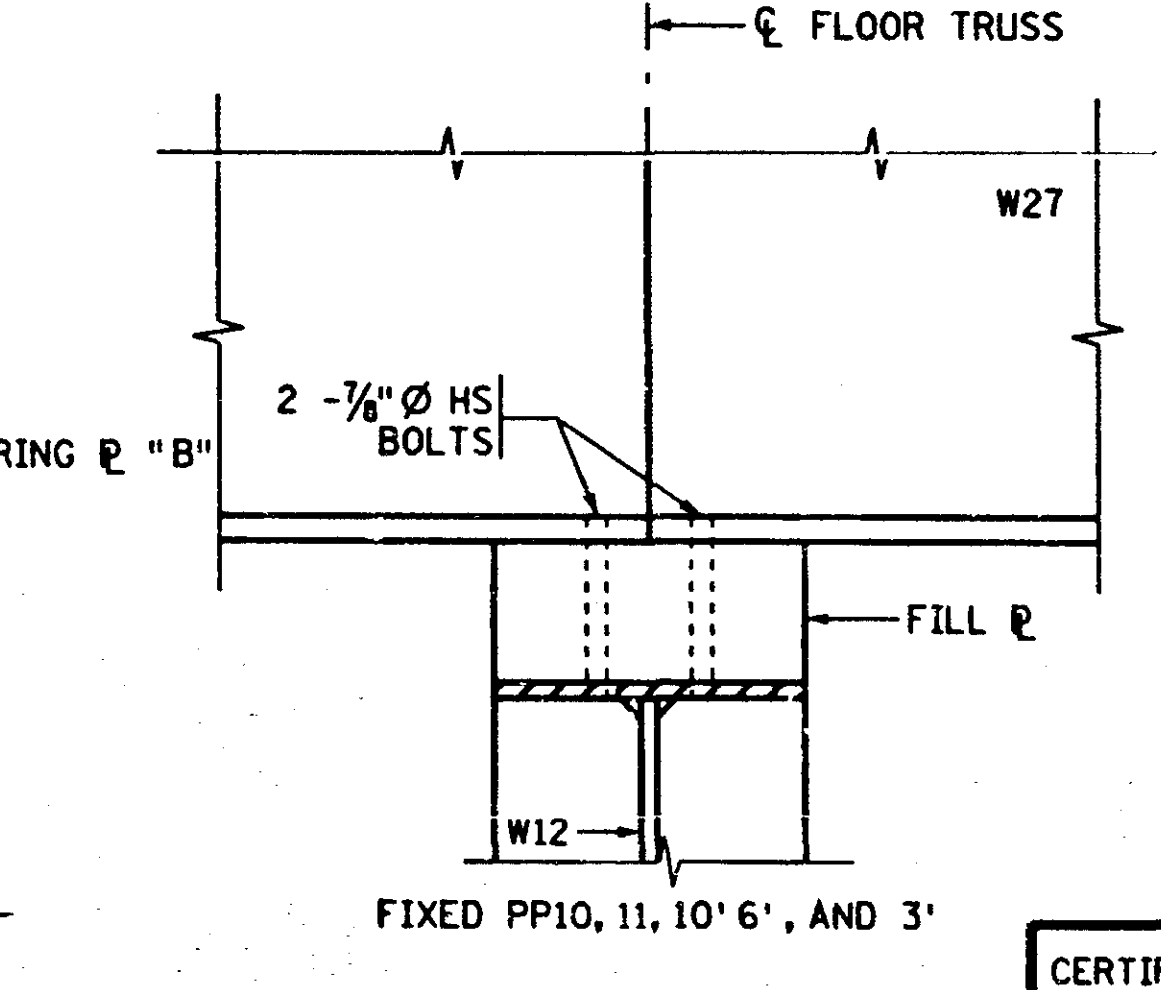
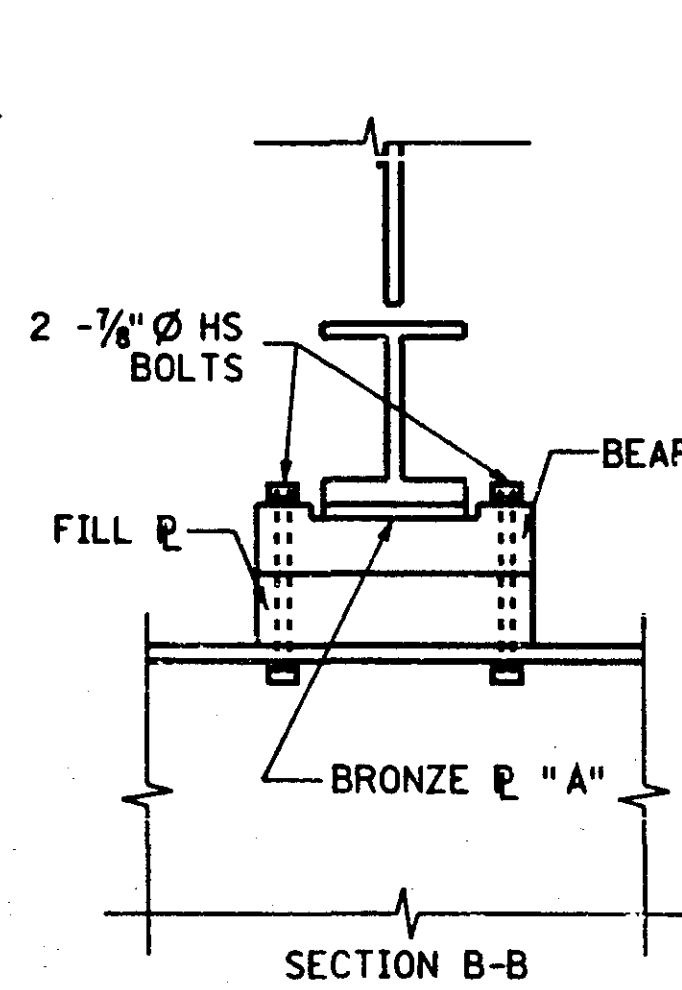
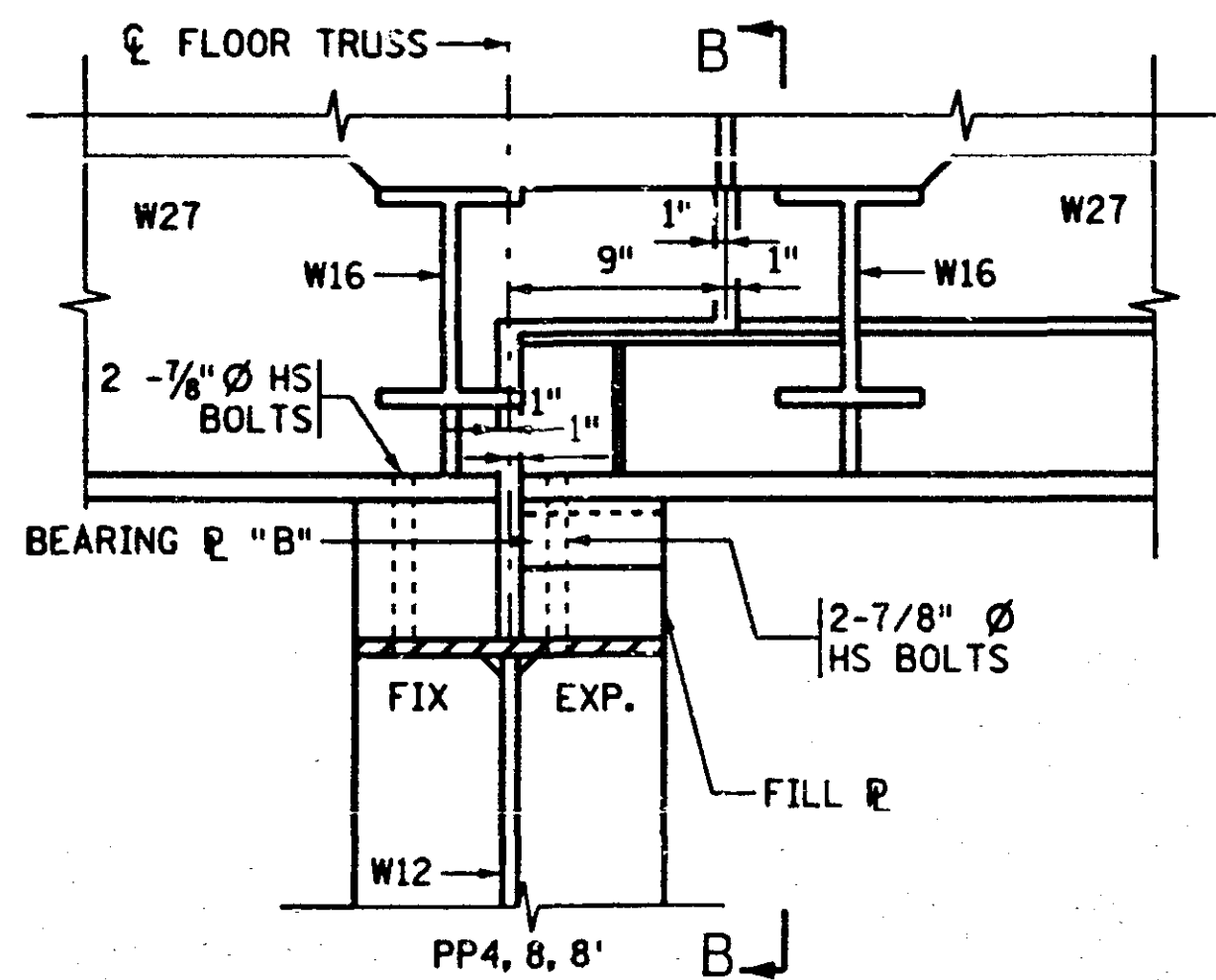
ADJACENT DOCUMENT WAS SUPPLIED BY AGENCY NAMED BELOW. DURING THE REGULAR COURSE OF BUSINESS, TO BE FILMED BY STATE OF MINNESOTA MICROGRAPHIC SERVICES UNIT ACCORDING TO NATIONAL BUREAU OF STANDARDS REQUIREMENTS FOR PERMANENT MICROFILM AND ACCORDING TO PROCEDURE FOR THE DOCUMENT SERIES.



TRUSS FRAMING PLAN



TRUSS FRAMING PLAN



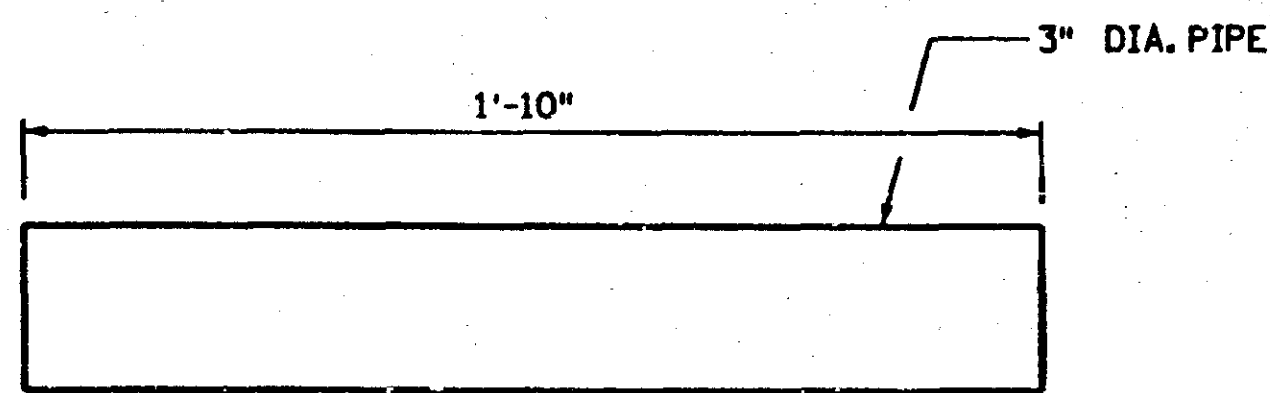
STRINGER SEATS AT FLOOR TRUSSES FOR STRINGERS S1, S2, S4 THRU S11, S13, & S14

LOCATION	EXISTING CONDITION
PP4, S10	ONE BOLT BROKEN
PP8, S2	ONE BOLT MISSING, ONE NUT MISSING, FILL P ROTATED
PP8, S4	ONE BOLT MISSING
PP10, S9	ONE BOLT MISSING
PP11, S11	THREE BOLTS MISSING
PP10, S11	ONE BOLT LOOSE
PP8, S4	ONE NUT MISSING "REDI-ROD"
PP8, S11	ONE BOLT MISSING
PP6, S4	TWO BOLTS "WORKING"
PP6, S10	TWO BOLTS LOOSE
PP6, S11	ONE BOLT MISSING, TWO BOLTS LOOSE
PP3, S4	ONE BOLT LOOSE

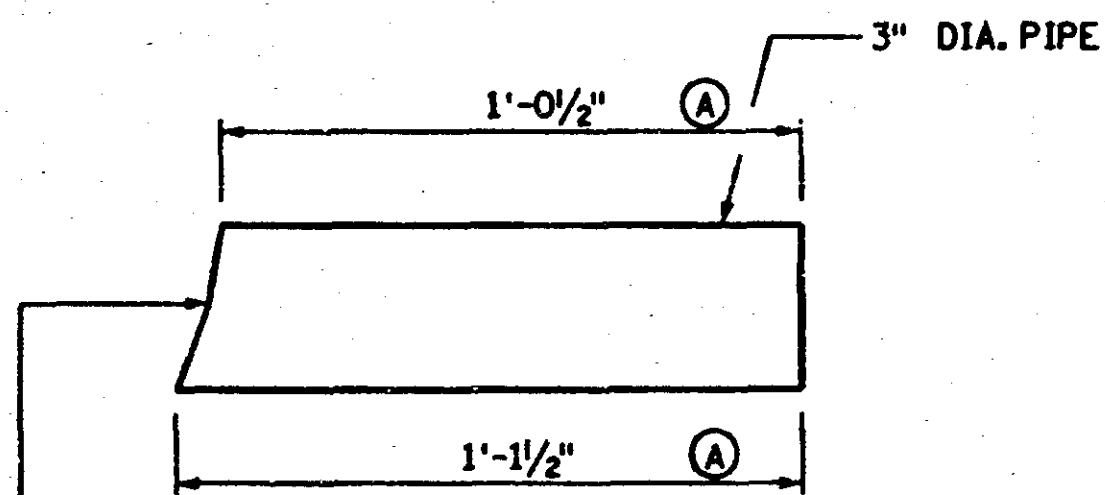
NOTES:
E DENOTES EXP. PLATE
F DENOTES FIXED PLATE

CERTIFIED BY <i>Robert Ottum</i> REG. NO. 7578 PROFESSIONAL ENGINEER 1-29 19 98	TITLE: BOLT REPLACEMENT	DES: ADO CHK:	DR: ELR CHK: ADO	APPROVED: <i>1-30-98</i>	BRIDGE NO. 9340
		SHEET NO. 31 OF 61 SHEETS			

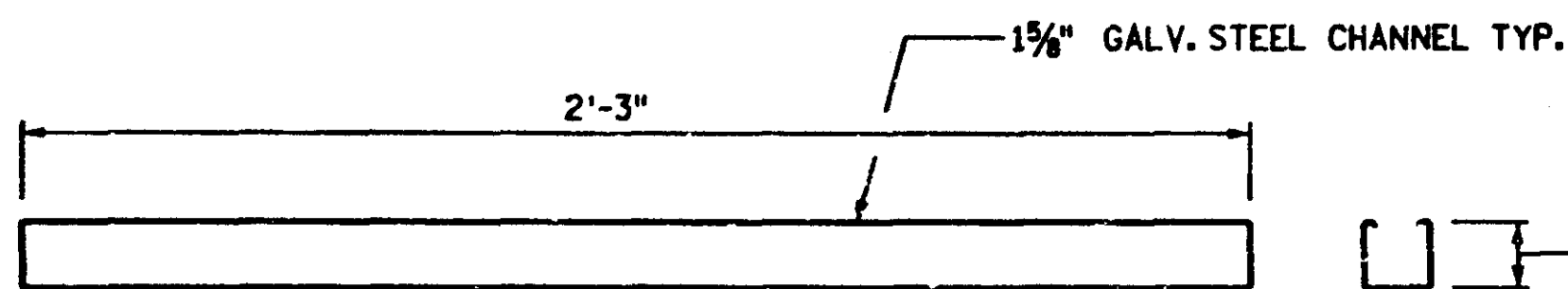
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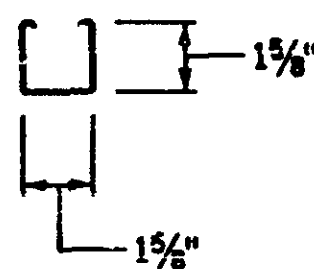
PIPE SLEEVE, TYPE 1



PIPE SLEEVE, TYPE 2



MOUNTING CHANNEL

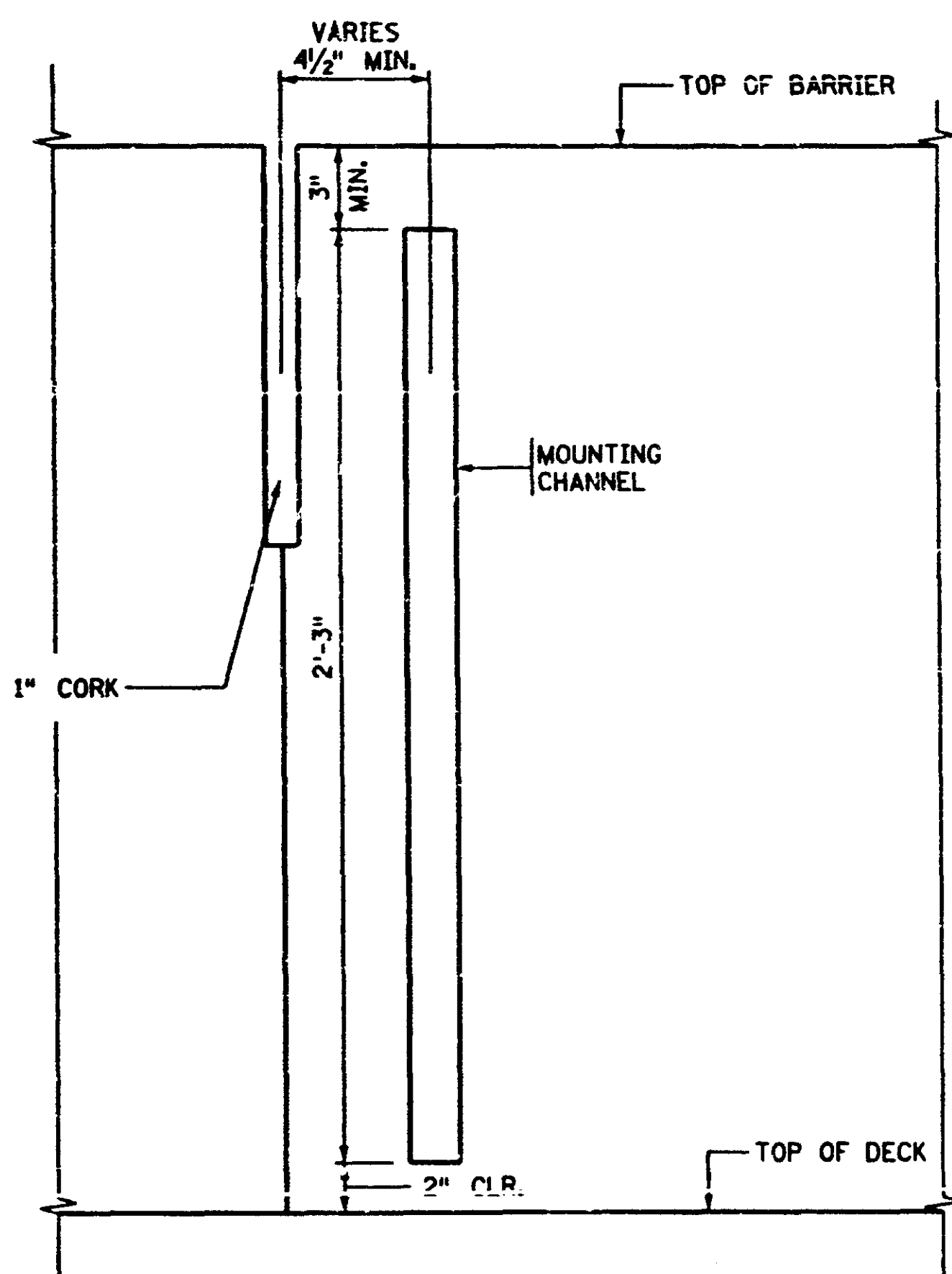


SHAPE TO FIT FORM

SUMMARY OF QUANTITIES FOR ANTI-ICING SYSTEM ①

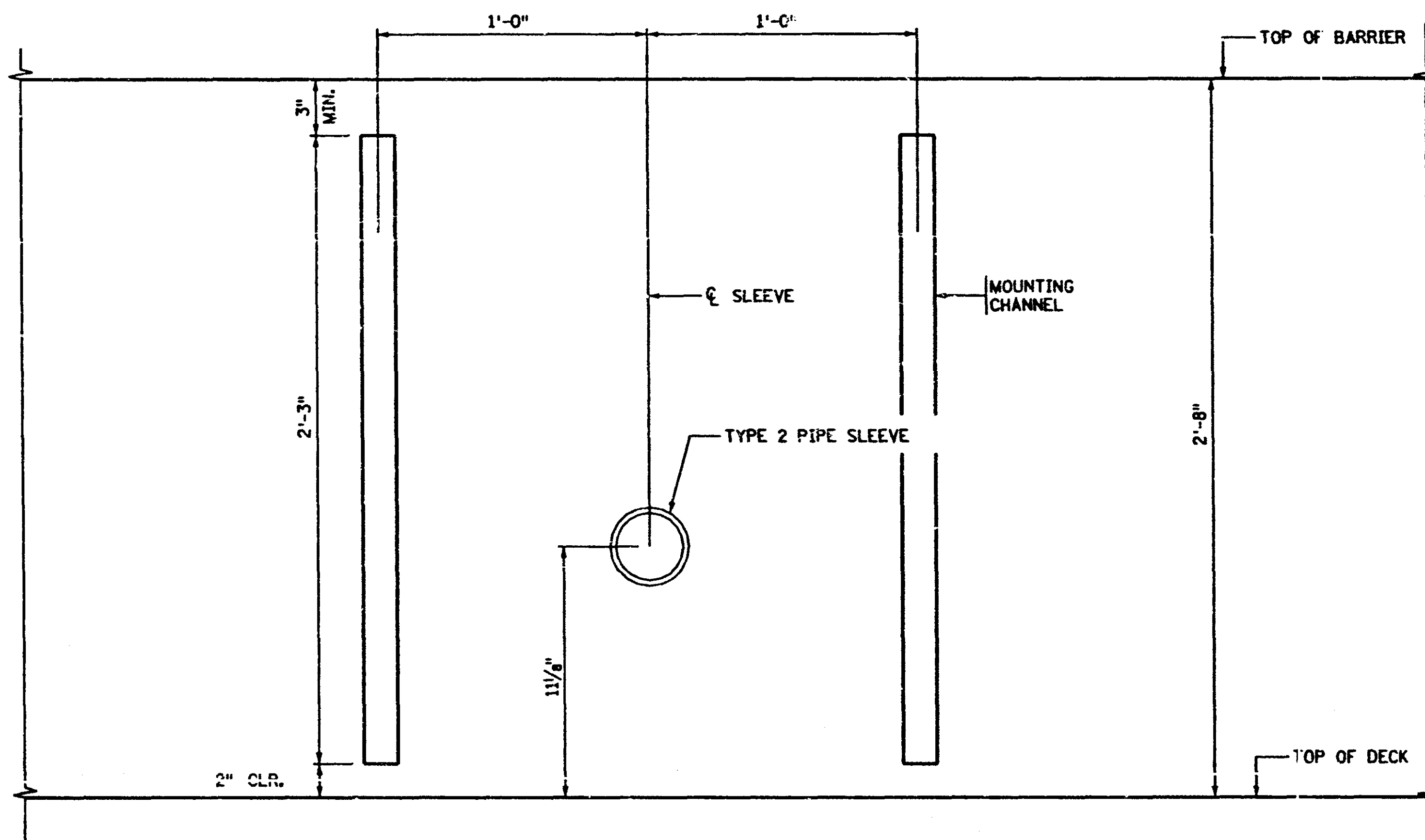
②	3" DIA. PVC PIPE SLEEVE, TYPE 1	64 EACH
③	3" DIA. PVC PIPE SLEEVE, TYPE 2	64 EACH
	1 5/8" GALV. STEEL CHANNEL	448 EACH
	3/4" DIA. ANCHORAGES	896 EACH

- ① SEE SPECIAL PROVISIONS
- ② SEE SHEETS 14 AND 17 FOR SPACING
- ③ SEE SHEETS 9 AND 10 FOR SPACING



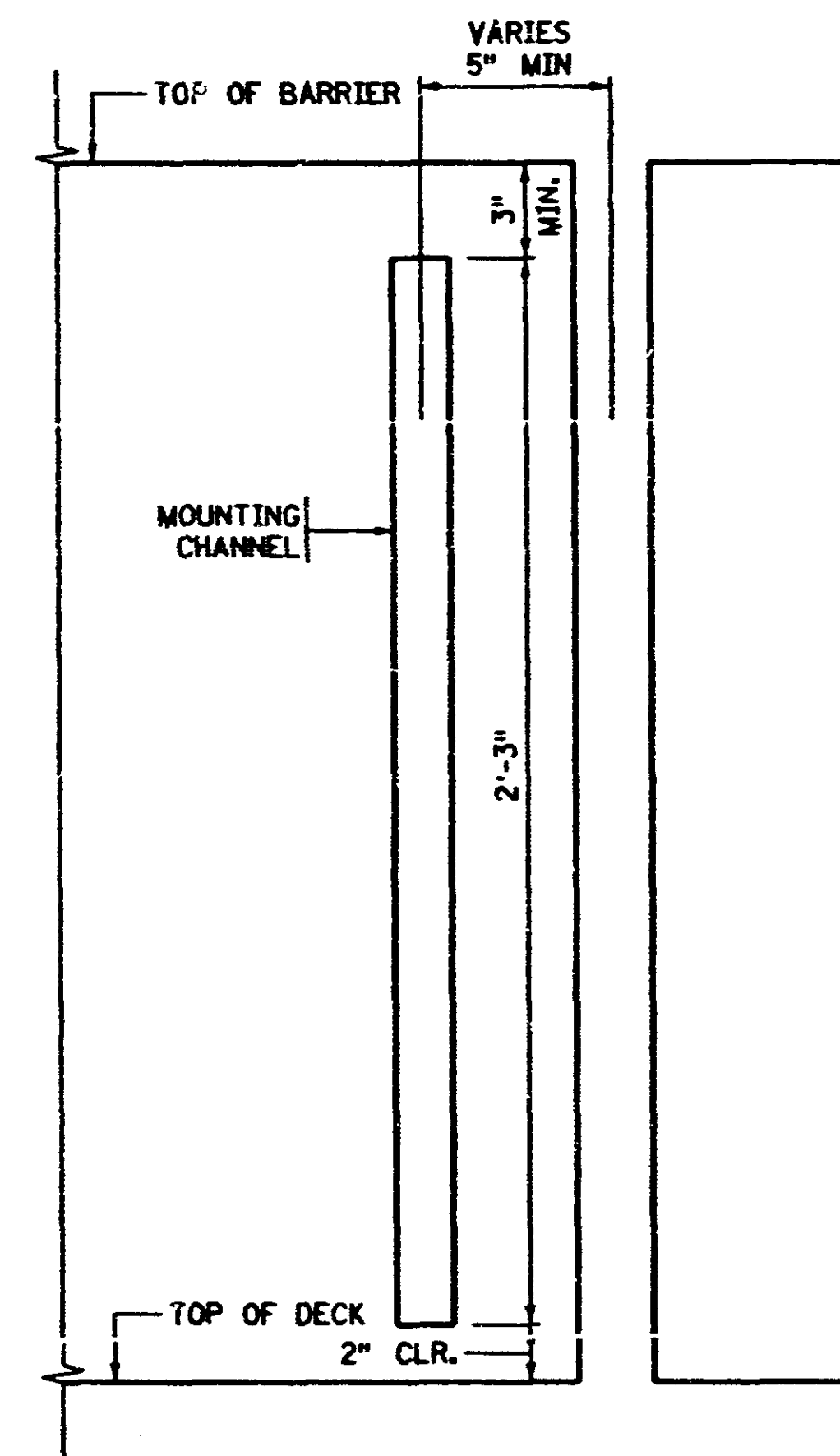
MEDIAN CORK JOINTS

PLACE MOUNTING CHANNELS AS SHOWN AT JOINT



PIPE SLEEVE, TYPE 2

PLACE MOUNTING CHANNELS AS SHOWN AT EACH PIPE SLEEVE



MEDIAN EXPANSION JOINTS

PLACE MOUNTING CHANNELS AS SHOWN AT EACH EXPANSION JOINT

NOTES:

SPACE CHANNELS AT 5'-0" MAX.
CONCRETE CAP NOT SHOWN FOR CLARITY

Ⓐ CONTRACTOR TO VERIFY DIMENSIONS

CERTIFIED BY	<i>Robert Ottman</i> PROFESSIONAL ENGINEER	TITLE	ANTI-ICING SYSTEM PROVISIONS	DESIGNED BY	DRN	ELR	APPROVED	BRIDGE NO.
REG. NO.	7578			CHKD BY	ADO/EOW	1-30-98		9340
							SHEET NO. 32 OF 61 SHEETS	

NOTES & GUIDELINES

GENERAL INFORMATION:

1. THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN THE DEVICES IN THIS TRAFFIC CONTROL PLAN UNLESS OTHERWISE NOTED.
2. FIELD CONDITIONS MAY REQUIRE MODIFICATIONS OF THIS LAYOUT AS DEEMED NECESSARY BY THE ENGINEER.
3. ALL DISTANCES ARE APPROXIMATE.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY WORK AREAS NEAR TRAFFIC IN ACCORDANCE WITH THE MNMUTCD.
5. AN ANNUAL FALL REVIEW OF ALL TRAFFIC CONTROLS WILL BE MADE TO PREPARE FOR WINTER MAINTENANCE OF THE PROJECT. THIS MAY INCLUDE ADJUSTMENTS OR EXCHANGE OF ONE TRAFFIC CONTROL DEVICE FOR ANOTHER. READJUSTMENTS MAY AGAIN BE REQUIRED IN THE SPRING.
6. IF THE CONTRACTOR DECIDES TO PERFORM THE CONSTRUCTION WORK IN A SEQUENCE OTHER THAN SHOWN IN THIS TRAFFIC CONTROL PLAN THE CONTRACTOR SHALL PROVIDE COMPLETE REVISED TRAFFIC CONTROL PLANS TO BE APPROVED BY THE ENGINEER.

SIGNING:

1. ALL TRAFFIC CONTROL DEVICES, INCLUDING OVERHEAD SIGNS ON ROADS OPEN TO TRAFFIC THAT ARE NOT CONSISTANT WITH TRAFFIC OPERATION SHALL BE COVERED, REMOVED OR REVISED AS DIRECTED BY THE ENGINEER.
2. WHEN SIGNS ARE INSTALLED, THEY SHALL BE MOUNTED ON POSTS DRIVEN INTO THE GROUND AT THE PROPER HEIGHT AND LATERAL OFFSET AS DETAILED IN THE MNMUTCD. IF THIS IS NOT POSSIBLE THEY WILL BE MOUNTED ON PORTABLE SUPPORTS AS APPROVED BY THE ENGINEER. WHEN THE SIGNS ARE REMOVED THE SIGN POSTS SHALL ALSO BE REMOVED AS SOON AS POSSIBLE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EXTRA SIGNING NEEDED TO FACILITATE TRAFFIC SWITCHES OR FOR TRANSITIONING TRAFFIC FROM ONE STAGE TO ANOTHER.
4. ALL ORANGE SIGNS SHALL BE MADE OF DIAMOND GRADE ORANGE REFLECTIVE SHEETING OR AN APPROVED SUBSTITUTE.
5. LONGITUDINAL DROPOFFS SHALL BE SIGNED AS SHOWN ON PAGES 6K-101 AND 6K-102 OF THE "TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS" FIELD MANUAL UNLESS OTHERWISE SPECIFIED IN THESE PLANS.
6. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE FINAL SIGNS TO ASSURE THAT THE FINAL SIGNS ARE INSTALLED AS NEEDED, OR PROVIDE TEMPORARY SIGNING AT THEIR EXPENSE UNTIL THE FINAL SIGNING IS INSTALLED.

PAVEMENT MARKING:



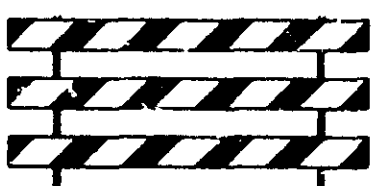




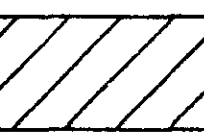









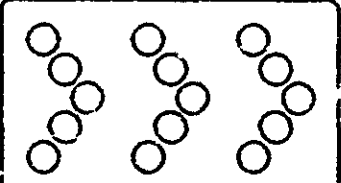

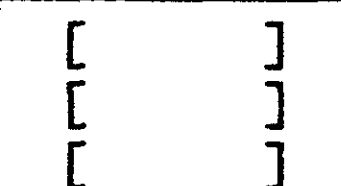
1. OBLITERATE ANY CONFLICTING PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.
2. PAINT, POLYMER LANE TAPE AND/OR TRPM'S ARE ACCEPTABLE TEMPORARY STRIPING ALTERNATIVES ACCORDING TO ACTUAL CONDITIONS ENCOUNTERED AS DIRECTED BY THE ENGINEER. GENERALLY, ONLY PAINT WILL BE USED BEFORE MAY 1ST OR WHEN THE OTHER MANUFACTURERS' SPECIFICATIONS CAN NOT BE MET.
3. TRPM'S (TEMPORARY RAISED PAVEMENT MARKERS) SHOULD BE USED TO SUPPLEMENT THE LONG TERM (MORE THAN 3 DAYS) EDGELINES ON ALL TRANSITION AREAS WHEN THE CONDITIONS ARE WITHIN THE MANUFACTURERS' SPECIFICATIONS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND INSTALLATION OF TEMPORARY AND FINAL STRIPING. MN/DOT TRAFFIC PERSONNEL WILL ASSIST IN THE SPOTTING OF TRANSITION AREAS, GORES AND TAPERS.

BARRIER & DELINEATION:

1. BARRIER DELINEATORS WILL HAVE A MINIMUM OF 24 SQ. IN. OF REFLECTIVE SURFACE AREA AND BE PLACED AT 50' SPACES ON TOP OF THE BARRIER WHEN THE BARRIER IS WITHIN 10' OF TRAFFIC UNLESS OTHERWISE NOTED OR AS DIRECTED BY THE ENGINEER. IF A SMALLER APPROVED BARRIER DELINEATOR IS USED IT SHALL BE AT ONE HALF THE SPACING AND ONE HALF THE BID PRICE.

TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND

SYMBOL DESCRIPTION

-  TRAFFIC CONTROL SIGN
-  TYPE III BARRICADE = 
-  DRUM-LIKE CHANNELIZER = 
-  TYPE I BARRICADE W/ STEADYBURN = 
-  AREA CLOSED TO TRAFFIC / WORK AREA
-  CONCRETE BARRIER WITH DELINEATORS
-  SOLID LINE PAVEMENT MARKING WITH TEMPORARY RAISED PAVEMENT MARKERS (TRPM'S) AT 10' SPACES
-  TYPE A OR B FLASHING WARNING LIGHT (SPECIFY HIGH INTENSITY)
-  RED FLASHING LIGHT
-  TYPE C STEADY BURN WARNING LIGHT
-  CENTER LINE DELINEATOR TUBE = 
-  CHANNELIZER SYMBOL
-  FLASHING ARROW BOARD TYPE C =  (4' X 8' UNLESS OTHERWISE NOTED).
-  PORTABLE CHANGEABLE MESSAGE SIGN = 

INDEX

TRAFFIC CONTROL SHEET NO. DESCRIPTIONS

TRAFFIC CONTROL SHEET NO.	DESCRIPTIONS
1	TITLE SHEET
2	PAY ITEM TABULATION SHEET
3-4	TRAFFIC CONTROL TABULATION SHEET
5-6	UNIVERSITY / SB 35W CLOSURE / DETOUR
7-8	WASHINGTON / NB 35W CLOSURE / DETOUR
9-15	STAGE 1
16-20	STAGE 2
21	STAGE 2A
22-24	TYPICALS
25-28	SPECIAL SIGN DETAILS

I HEREBY CERTIFY THAT SHEETS 34 THROUGH 61 OF THIS PLAN WERE 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.

Charles Hudach
 DATE JAN 23, 1998 REG. NO. 11940
 DESIGNER PATTY HARMS.

TRAFFIC CONTROL SHEET NO. 1	TITLE TITLE SHEET
STATE PROJ NO 2783-9340	SHEET NO 34 OF 61 SHEETS

1-30-98

METRO DIVISION - TRAFFIC

PAY ITEM TABULATION SHEET

ITEM	UNIT	STAGE 1	STAGE 2	STAGE 2A	TOTAL
PAVEMENT MARKING REMOVAL	SQ. FT.	415	3500	1630	5545
INSTALL CONCRETE MEDIAN BARRIER	LIN. FT.	4320	----	----	4320
RELOCATE CONCRETE MEDIAN BARRIER	LIN. FT.	----	4290	280	4570
IMPACT ATTENUATOR BARREL	EACH	26	----	15	41
RELOCATE IMPACT ATTENUATOR BARREL	EACH	----	13	----	13
CONNECTING PIN	EACH	250	----	----	250
TEMPORARY GLARE SCREEN	LIN. FT.	4000	----	----	4000
TRAFFIC CONTROL	LUMP SUM	0.34	0.33	0.33	1
RAISED PAVEMENT MARKER TEMP. (WHITE)	EACH	80	----	----	80
MEDIAN BARRIER DELINEATOR (WHITE)	EACH	----	175	5	180
MEDIAN BARRIER DELINEATOR (YELLOW)	EACH	175	----	5	180
4" SOLID LINE WHITE-PAINT	LIN. FT.	3870	5650	2200	11720
4" SOLID LINE YELLOW-PAINT	LIN. FT.	6250	6250	----	12500
4" BROKEN LINE WHITE-PAINT	LIN. FT.	----	2180	900	3080
8" BROKEN LINE WHITE-PAINT	LIN. FT.	800	----	----	800
8" SOLID LINE WHITE-PAINT	LIN. FT.	----	150	----	150
REMOVABLE PREFORMED PLASTIC MASK (BLACK)	LIN. FT.	105	----	----	105
REMOVABLE PREFORMED PLASTIC MARKING (WHITE)	LIN. FT.	----	----	50	50
REMOVABLE PREFORMED PLASTIC MARKING (YELLOW)	LIN. FT.	----	----	220	220

NOTE: THE PROVISIONS OF Mn/DOT 1903 ARE MODIFIED SUCH THAT NO PRICE ADJUSTMENT WILL BE MADE IN THE EVENT OF INCREASED OR DECREASED QUANTITIES OF SEPARATE TRAFFIC CONTROL DEVICES

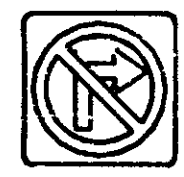

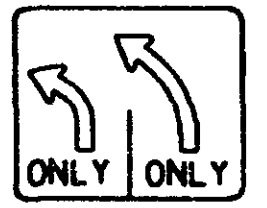
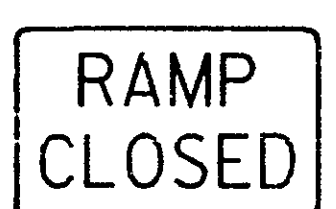
TRAFFIC CONTROL SHEET NO. 2	TITLE: PAY ITEM TABULATION
CERTIFIED BY <u>Charles J. Hudelick</u> PROFESSIONAL ENGINEER	REG NO 11940 JAN 22 19 98
STATE PROJ NO 2783-9340	SHEET NO 35 OF 61 SHEETS

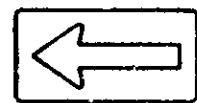







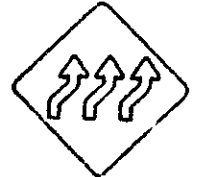
1-30-98










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METRO DIVISION - TRAFFIC

TRAFFIC CONTROL TABULATION SHEET

"R" SERIES			
SIGN	SIGN NO.	COLOR	SIZE
	R3-1	BLACK RED WHITE	24" X 24"
	R3-2	BLACK RED WHITE	24" X 24"
	R3-8F	BLACK ON WHITE	36" X 30"
	R11-2	BLACK ON WHITE	48" X 30"

"W" SERIES			
SIGN	SIGN NO.	COLOR	SIZE
	W1-6	BLACK ON ORANGE	48" X 24"
	W4-2R	BLACK ON ORANGE	48" X 48"
	W20-1	BLACK ON ORANGE	48" X 48"
	W20-100P	BLACK ON ORANGE	36" X 24"
	W20-X3	BLACK ON ORANGE	48" X 48"
	W20-X6	BLACK ON ORANGE	48" X 48"
	W21-XL	BLACK ON ORANGE	48" X 48"
	W21-X5R	BLACK ON ORANGE	48" X 48"
	SPEC SIGN SEE TC 25	BLACK ON ORANGE	48" X 48"


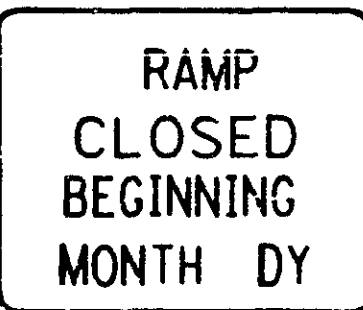
"M" SERIES			
SIGN	SIGN NO.	COLOR	SIZE
	M1-1	WHITE RED BLUE	30" X 24"
	M3-1A	WHITE ON BLUE	24" X 12"
	M3-3A	WHITE ON BLUE	24" X 12"
	M4-8	BLACK ON ORANGE	24" X 12"
	M4-10	BLACK ON ORANGE	48" X 18"
	M5-1AL	WHITE ON BLUE	21" X 15"
	M5-1AR	WHITE ON BLUE	21" X 15"
	M6-1A	WHITE ON BLUE	21" X 15"
	M6-3A	WHITE ON BLUE	21" X 15"


METRO DIVISION - TRAFFIC


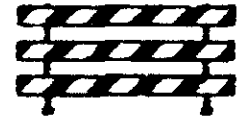
TRAFFIC CONTROL SHEET NO. 3	TITLE TRAFFIC CONTROL TABULATION SHEET <i>1-30-98</i>
CERTIFIED BY <i>Charles H. Hedrick</i> PROFESSIONAL ENGINEER	REG NO 11940 JAN 22 19 98
STATE PROJ NO 2783-9340	SHEET NO 36 OF 61 SHEETS




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TRAFFIC CONTROL TABULATION SHEET

"G" SERIES			
SIGN	SIGN NO.	COLOR	SIZE
	G20-2A	BLACK ON ORANGE	48" X 24"
	G20-X1	BLACK ON ORANGE	84" X 60"

"E" SERIES			
SIGN	SIGN NO.	COLOR	SIZE
	E5-1	WHITE ON GREEN	72" X 60"

DEVICES			
ITEM	SIGN NO.	COLOR	SIZE
	DLC	WHITE ON ORANGE	18" X 36" MIN.
	TYPE III	WHITE ON ORANGE	8' MIN.
ARROW BOARD	TYPE C	----	4' X 8'

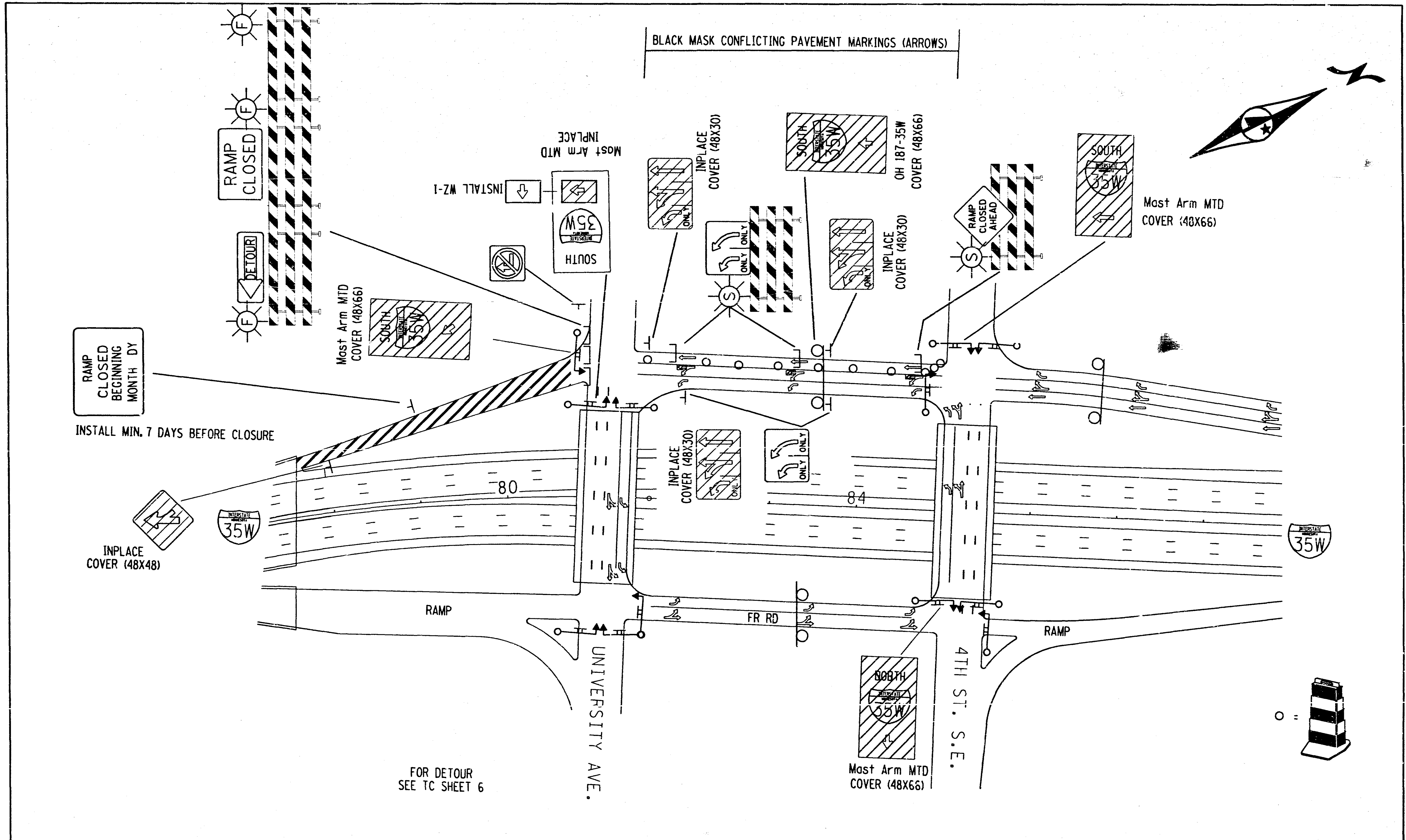
"X" SERIES			
	X4-2	YELLOW	18" X 18"
	X4-4L	ORANGE ON BLACK	18" X 36"
	X4-4R	ORANGE ON BLACK	18" X 36"

METRO DIVISION - TRAFFIC

TRAFFIC CONTROL SHEET NO. 4	TITLE: TRAFFIC CONTROL TABULATION SHEET <i>1-30-98</i>
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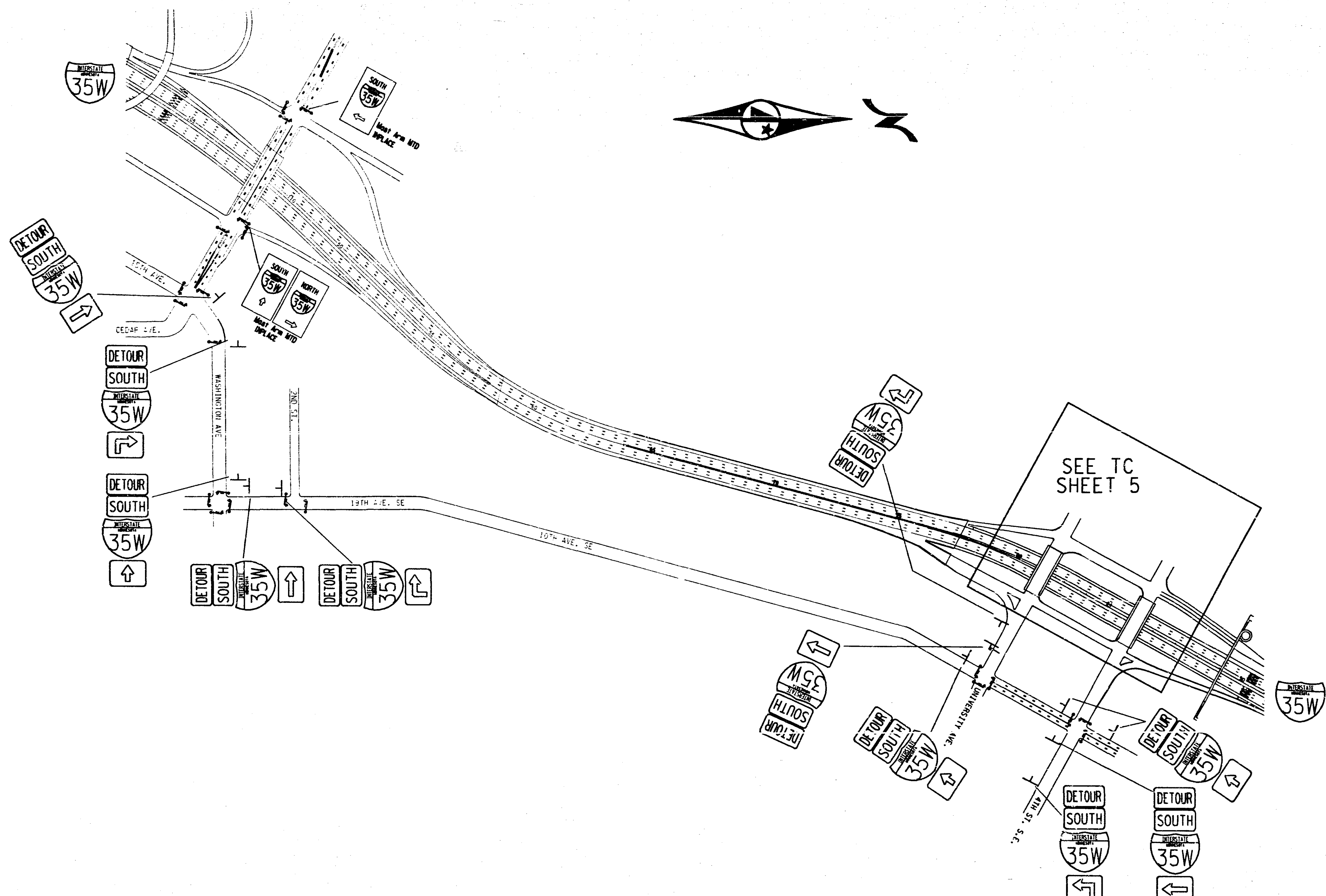
CERTIFIED BY <u><i>Charles J. Handlik</i></u> <small>PROFESSIONAL ENGINEER</small>	REG NO <u>11940</u> JAN 22 19 <u>98</u>	STATE PROJ NO <u>2783-9340</u>	SHEET NO <u>37</u> OF <u>61</u> SHEETS
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TRAFFIC CONTROL SHEET NO. 5		TITLE: UNIVERSITY AV TO SB 35W CLOSURE / DETOUR 1-30-98	
CERTIFIED BY <i>Charles Hurdick</i> PROFESSIONAL ENGINEER	REG NO 11940 JAN 16 19 98	STATE PROJ NO 2783-9340	SHEET NO 38 OF 61 SHEETS

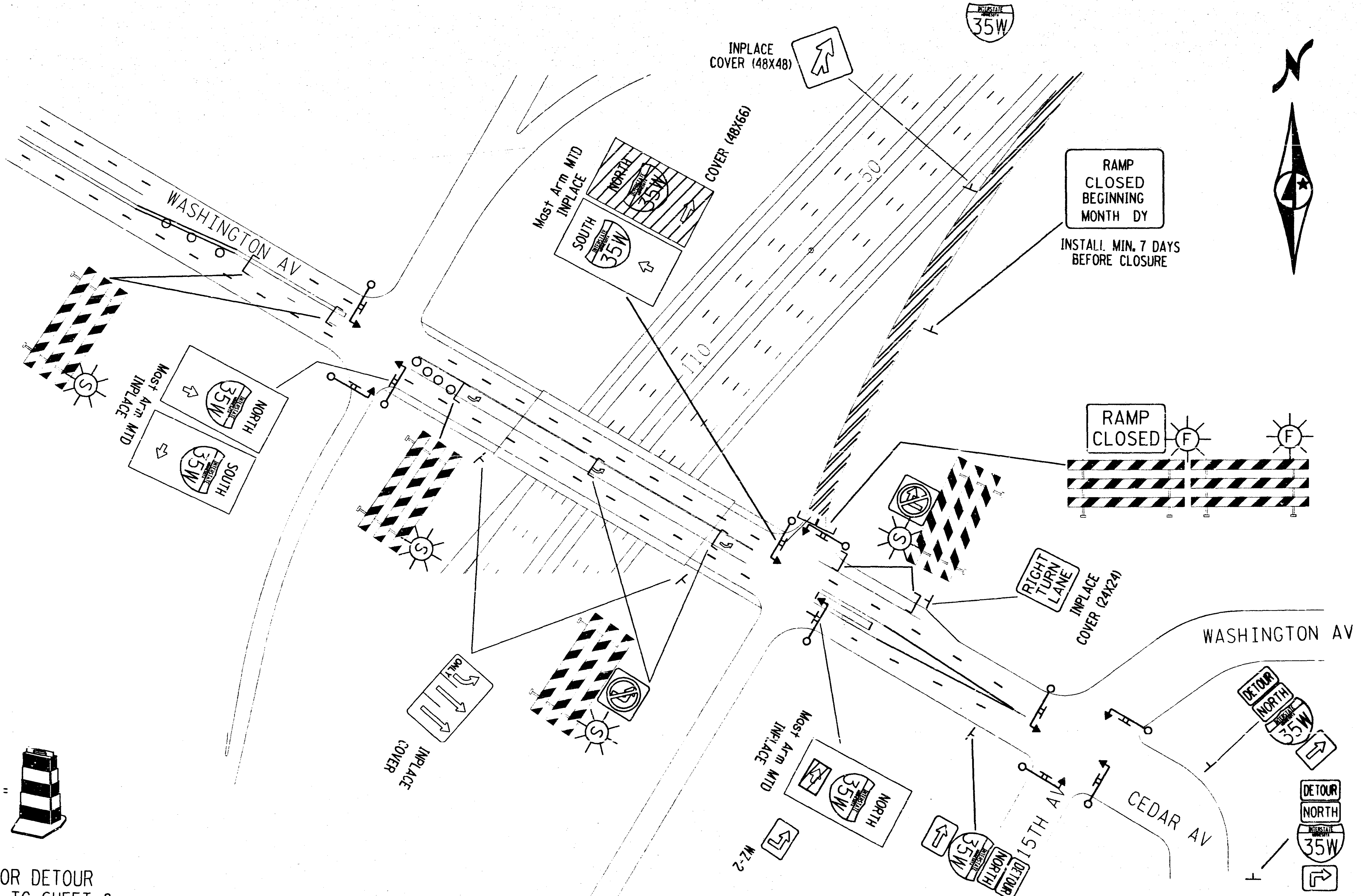
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EXACT LOCATION OF SIGNING TO BE DETERMINED BY THE ENGINEER.

TRAFFIC CONTROL SHEET NO. 6	TITLE UNIVERSITY AV TO SB 35W DETOUR 1-30-98
CERTIFIED BY <i>Charles J. Hudelob</i> PROFESSIONAL ENGINEER	REG NO 11940 JAN 16 19 98
STATE PROJ NO 2783-9340	SHEET NO 39 OF 61 SHEETS

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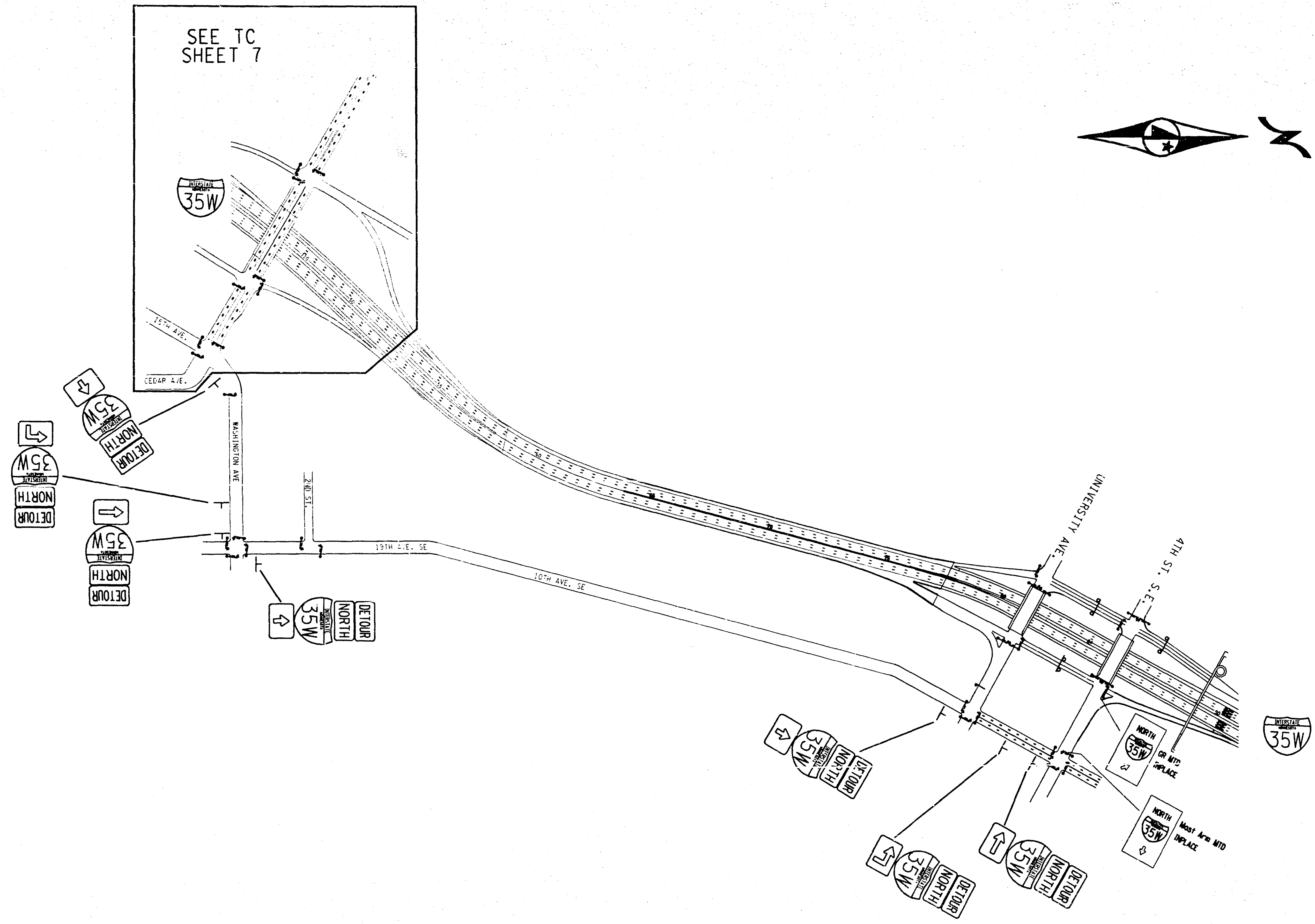
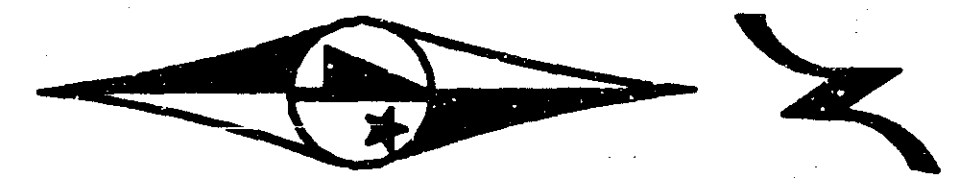
FOR DETOUR
SEE TC SHEET 8

TRAFFIC CONTROL SHEET NO. 7	TITLE WASHINGTON AV TO NB 35W CLOSURE / DETOUR	DATE 1-30-98
CERTIFIED BY <i>Charles H. Haddad</i> PROFESSIONAL ENGINEER	REG NO 11940 JAN 16 19 98	STATE PROJ NO 2783-9340
		SHEET NO 40 OF 61 SHEETS

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METRO DIVISION - TRAFFIC

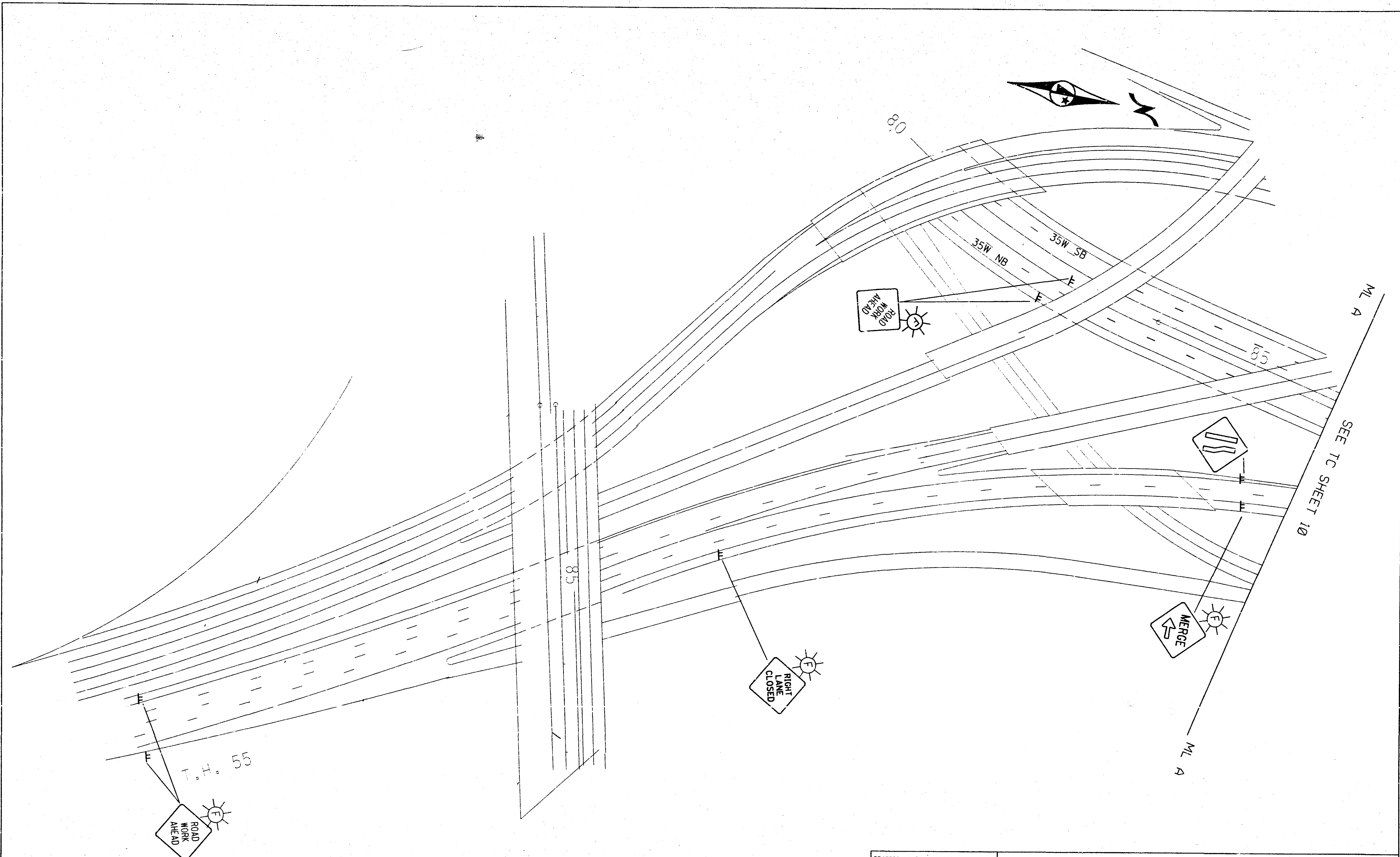
SEE TC SHEET 7



EXACT LOCATION OF SIGNING TO BE DETERMINED BY THE ENGINEER.

TRAFFIC CONTROL SHEET NO. 8	TITLE WASHINGTON AV TO NB 35W DETOUR	1-30-98
CERTIFIED BY <i>Charles Handelik</i> PROFESSIONAL ENGINEER	REG NO 11940 JAN 16 19 98	STATE PROJ NO 2783-9340
		SHEET NO 41 OF 61 SHEETS

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TRAFFIC CONTROL SHEET NO. 9	TITLE STAGE 1 - STAGE 2 TRAFFIC CONTROL	1-30-98
STATE PROJ NO 2783-9340	SHEET NO 42 OF 61 SHEETS	

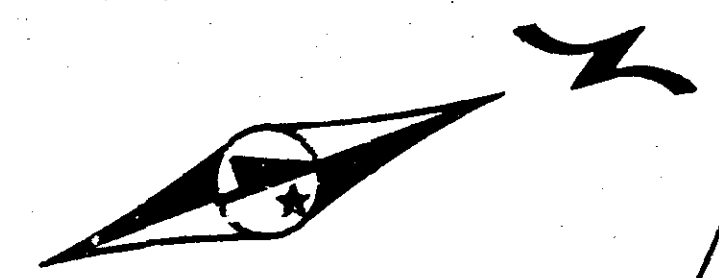
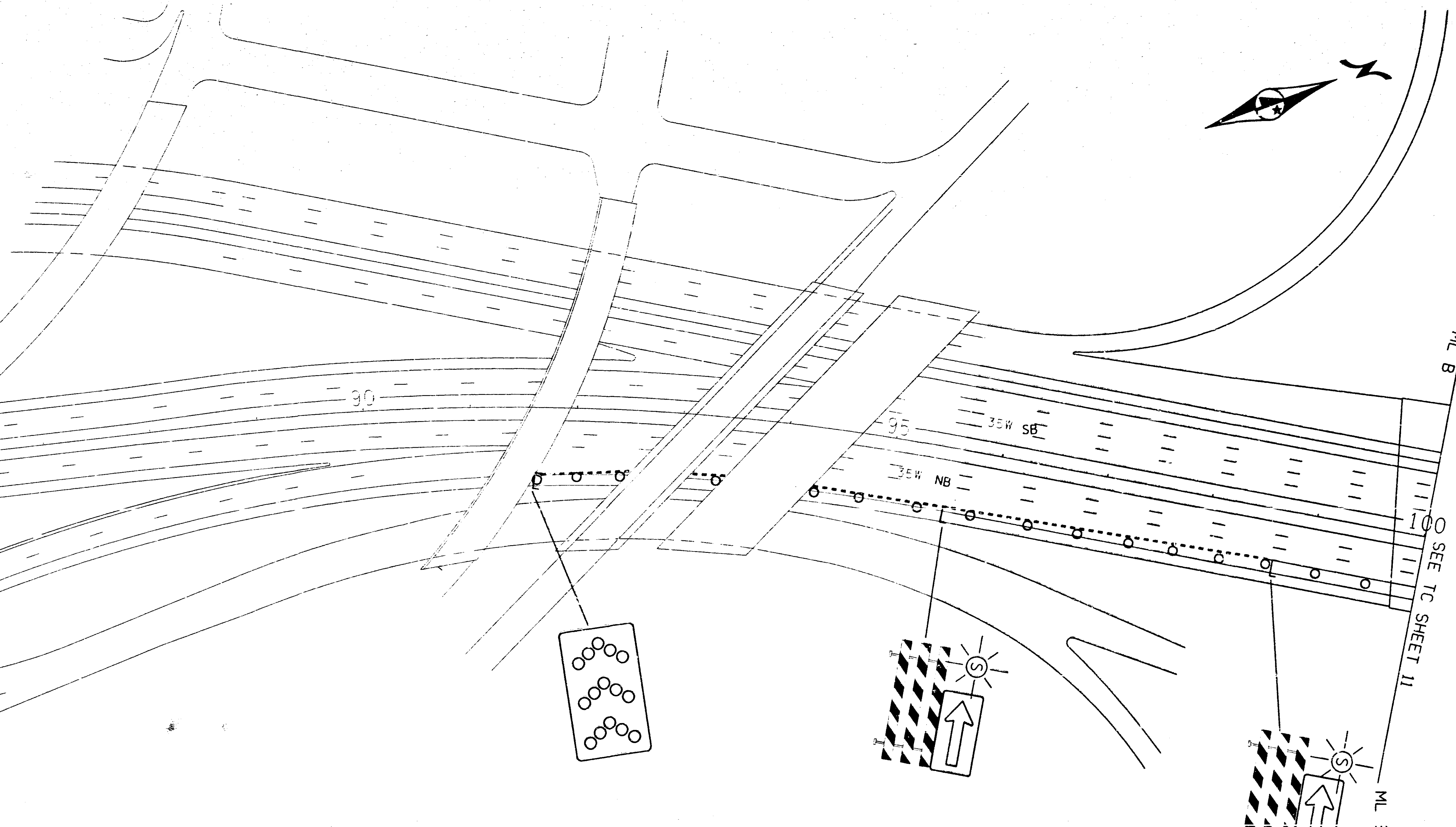
CERTIFIED BY Charles J. Hurdalik REG NO 11940 JAN 22 19 98
PROFESSIONAL ENGINEER

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ML A

SEE TC SHEET 9

ML A



ML B

SEE TC SHEET 11

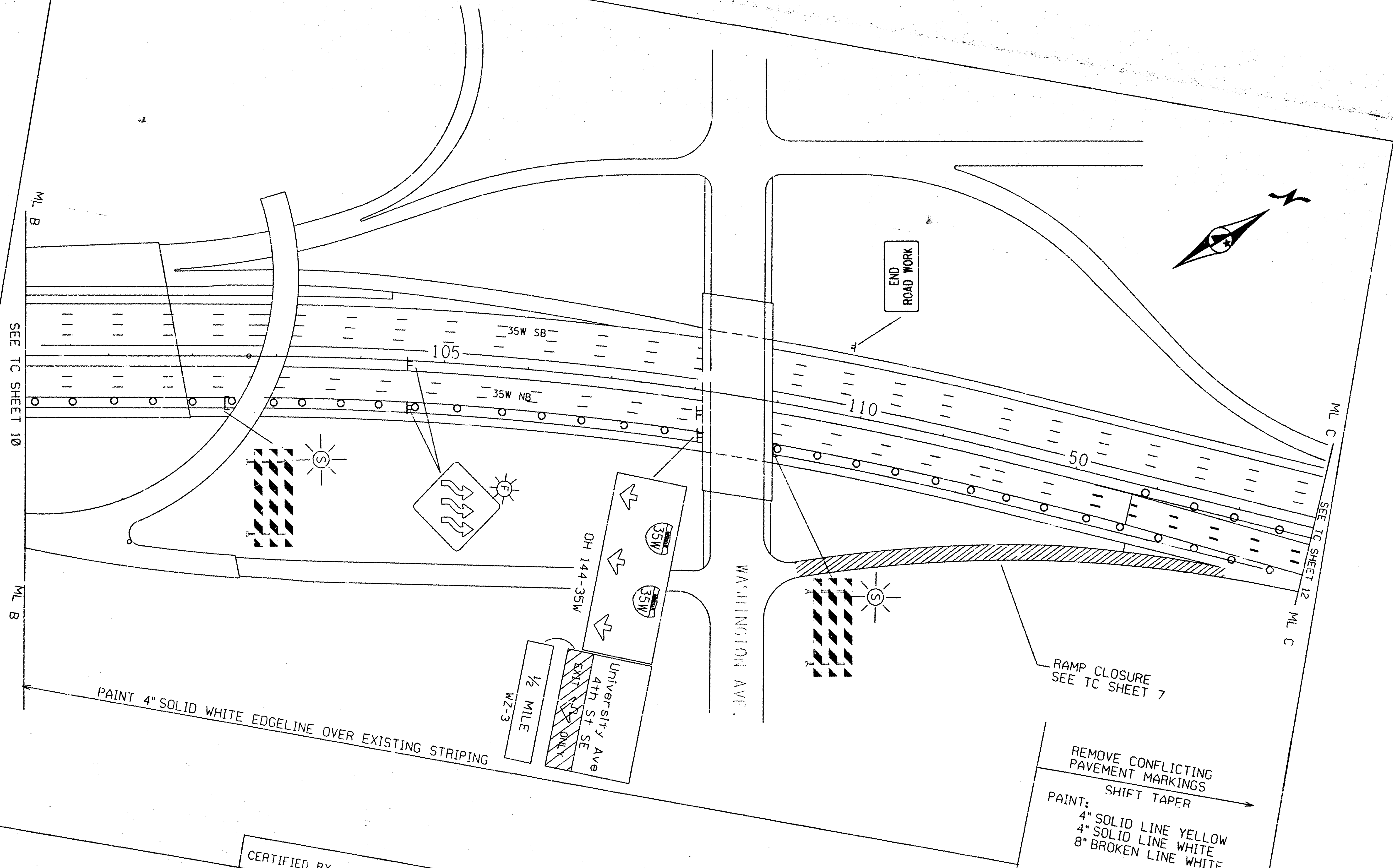
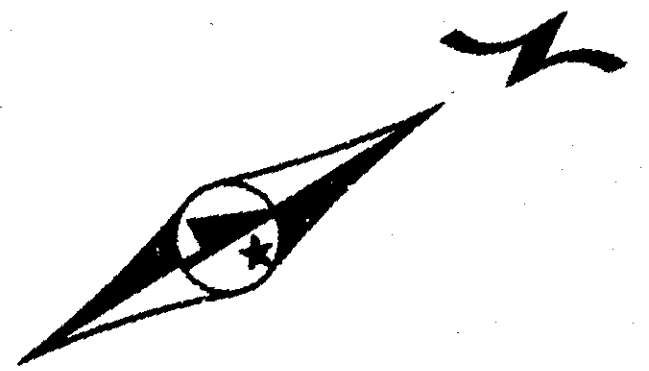
ML 3

REMOVE CONFLICTING PAVEMENT MARKINGS

PAINT EDGELINE OVER EXISTING STRIPING

TRAFFIC CONTROL SHEET NO. 10	TITLE: STAGE 1 - STAGE 2 TRAFFIC CONTROL	1-30-98
CERTIFIED BY <i>Charles J. Hurdick</i> PROFESSIONAL ENGINEER	REG NO 11940 JAN 22 19 98	STATE PROJ NO 2783-9340
		SHEET NO 43 OF 61 SHEETS

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ML B
SEE TC SHEET 10
ML B

ML C
SEE TC SHEET 12
ML C

PAINT 4" SOLID WHITE EDGELINE OVER EXISTING STRIPING

RAMP CLOSURE
SEE TC SHEET 7

REMOVE CONFLICTING
PAVEMENT MARKINGS
SHIFT TAPER
PAINT:
4" SOLID LINE YELLOW
4" SOLID LINE WHITE
8" BROKEN LINE WHITE

CERTIFIED BY Charles H. Hurdick
PROFESSIONAL ENGINEER

REG NO 11940 JAN 22 19 98

TRAFFIC CONTROL SHEET NO.
11

TITLE:

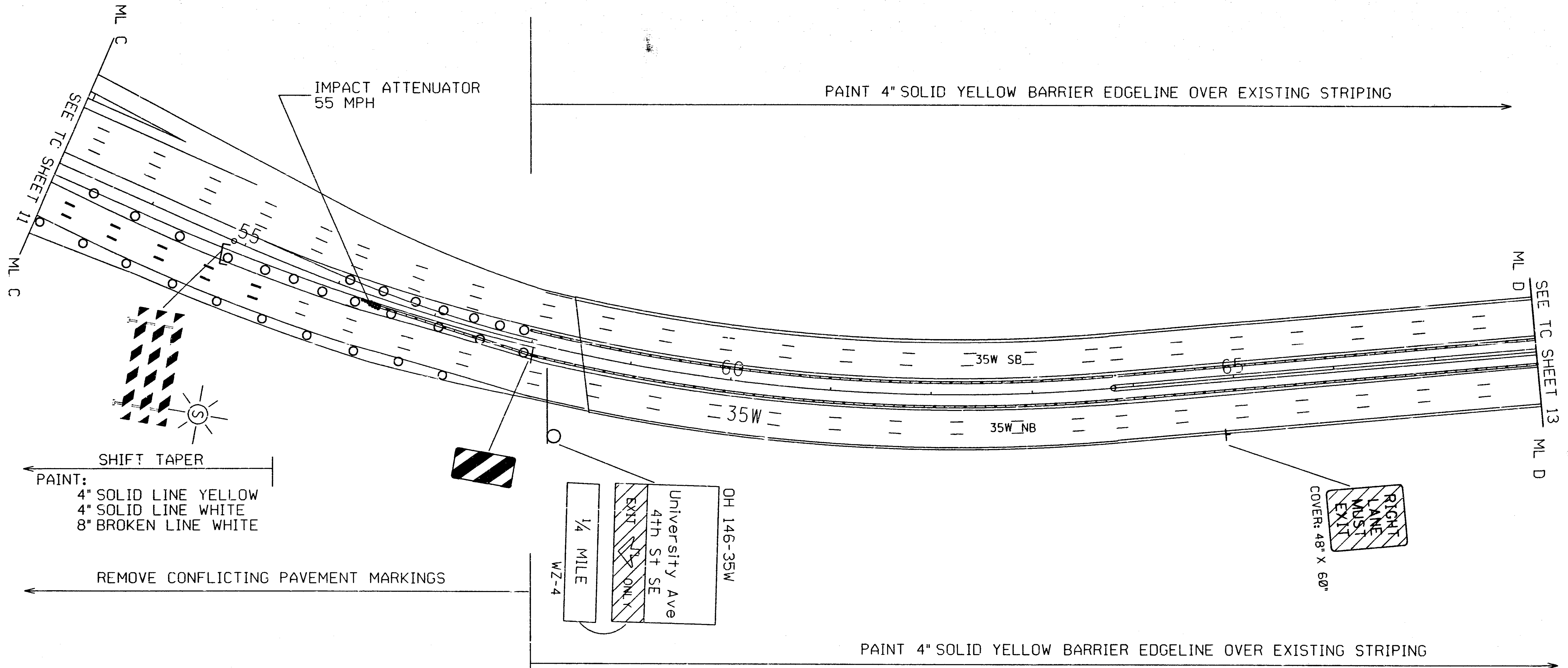
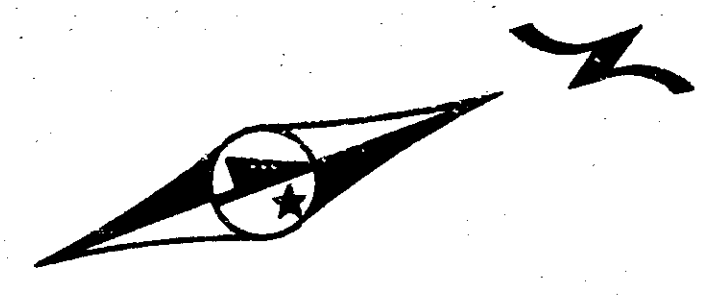
STATE PROJ NO 2783-9340

STAGE 1
TRAFFIC CONTROL

1-30-98

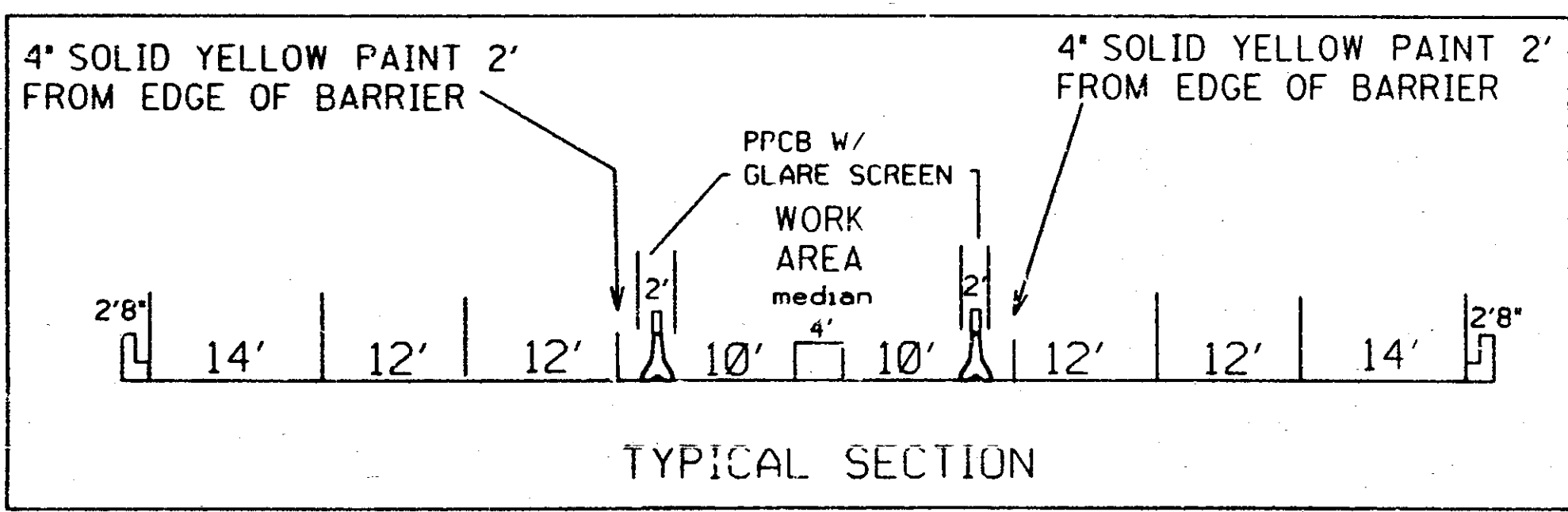
SHEET NO 44 OF 61 SHEETS

ADJACENT DOCUMENT WAS SUPPLIED BY AGENCY NAMED
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TO NATIONAL BUREAU OF SURVEYING
PROCEDURES



SHIFT TAPER
 PAINT:
 4" SOLID LINE YELLOW
 4" SOLID LINE WHITE
 8" BROKEN LINE WHITE

REMOVE CONFLICTING PAVEMENT MARKINGS



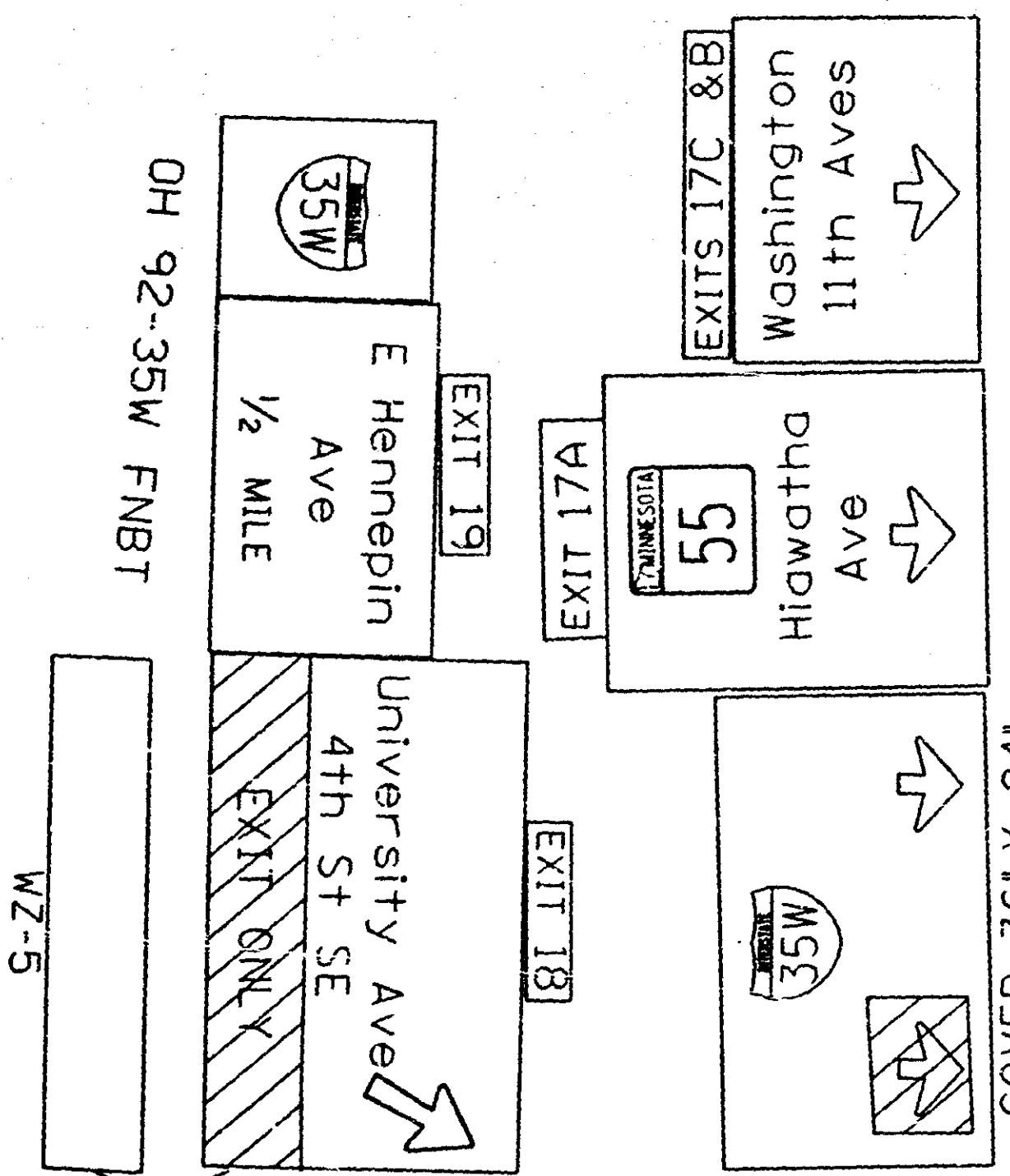
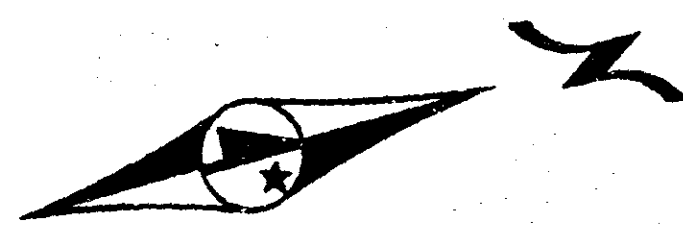
TRAFFIC CONTROL SHEET NO. 12	TITLE: STAGE 1 TRAFFIC CONTROL
STATE PROJ NO 2783-9340	SHEET NO 45 OF 61 SHEETS

CERTIFIED BY Charles J. Hendrick REG NO 11940 JAN 22 19 98
PROFESSIONAL ENGINEER

1-30-98

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PAINT 4" SOLID YELLOW BARRIER EDGELINE OVER EXISTING STRIPING



REMOVE CONFLICTING PAVEMENT MARKINGS

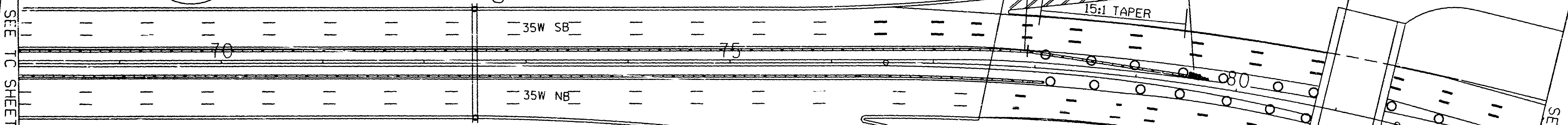
PAINT:
 4" SOLID LINE YELLOW
 4" SOLID LINE WHITE
 8" BROKEN LINE WHITE

SHIFT TAPER
 RAMP CLOSURE
 SEE TC SHEET 5

IMPACT ATTENUATOR
 60 MPH



15:1 TAPER



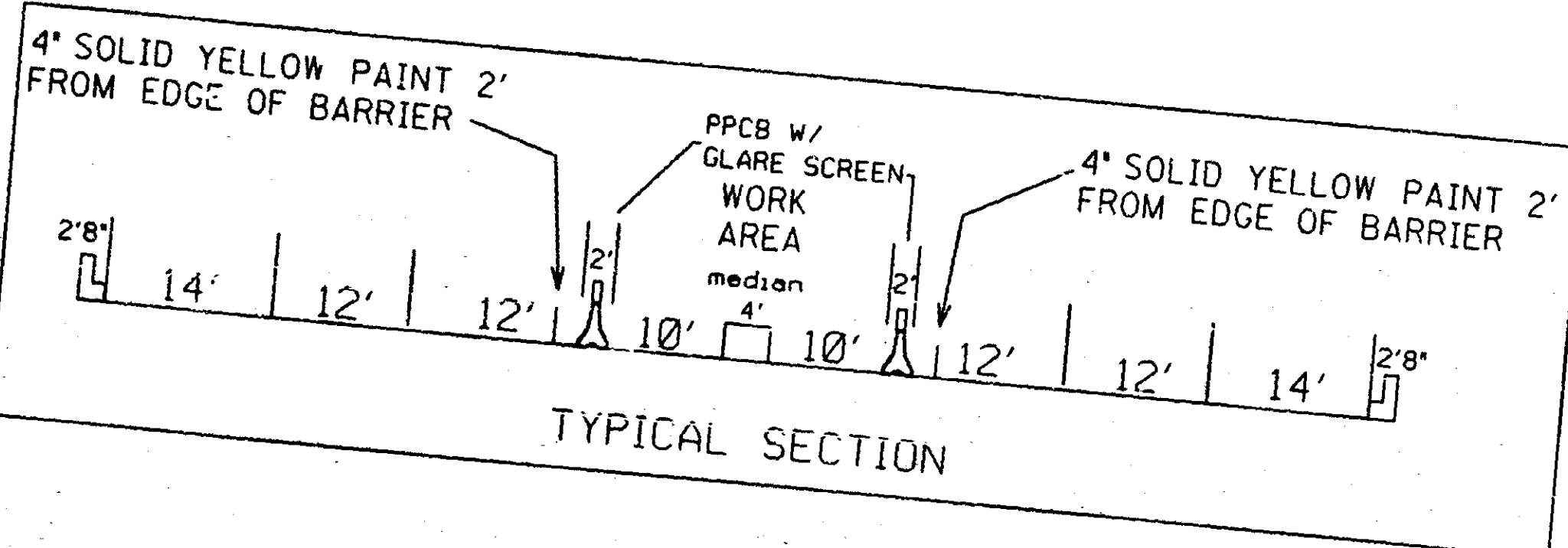
SEE TC SHEET 12

SEE TC SHEET 14

PAINT 4" SOLID YELLOW BARRIER EDGELINE OVER EXISTING STRIPING

REMOVE CONFLICTING PAVEMENT MARKINGS

PAINT:
 4" SOLID LINE YELLOW
 4" SOLID LINE WHITE
 8" BROKEN LINE WHITE



CERTIFIED BY Charles J. Hudak
 PROFESSIONAL ENGINEER

REG NO 11940 JAN 22 19 98

TRAFFIC CONTROL SHEET NO.
 13

TITLE:

STATE PROJ NO 2783-9340

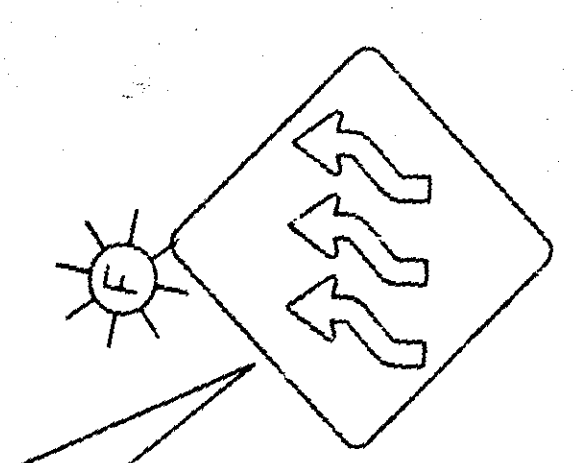
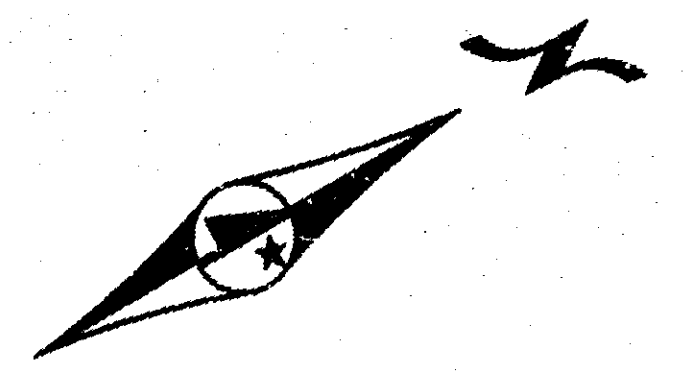
STAGE 1
 TRAFFIC CONTROL

SHEET NO 46 OF 61 SHEETS

1-30-98

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REMOVE CONFLICTING
PAVEMENT MARKING



PAINT:
4" SOLID LINE YELLOW
4" SOLID LINE WHITE
8" BROKEN LINE WHITE
SHIFT TAPER

ML E
SEE TC SHEET 13
ML E

ML F
SEE TC SHEET 15
ML F

4TH ST. S.E.

END
ROAD
WORK

90

35W SB

35W NB

95

CERTIFIED BY

Charles J. Hurdlik
PROFESSIONAL ENGINEER

REG NO 11940 JAN 22 19 98

TRAFFIC CONTROL SHEET NO.
14

TITLE:

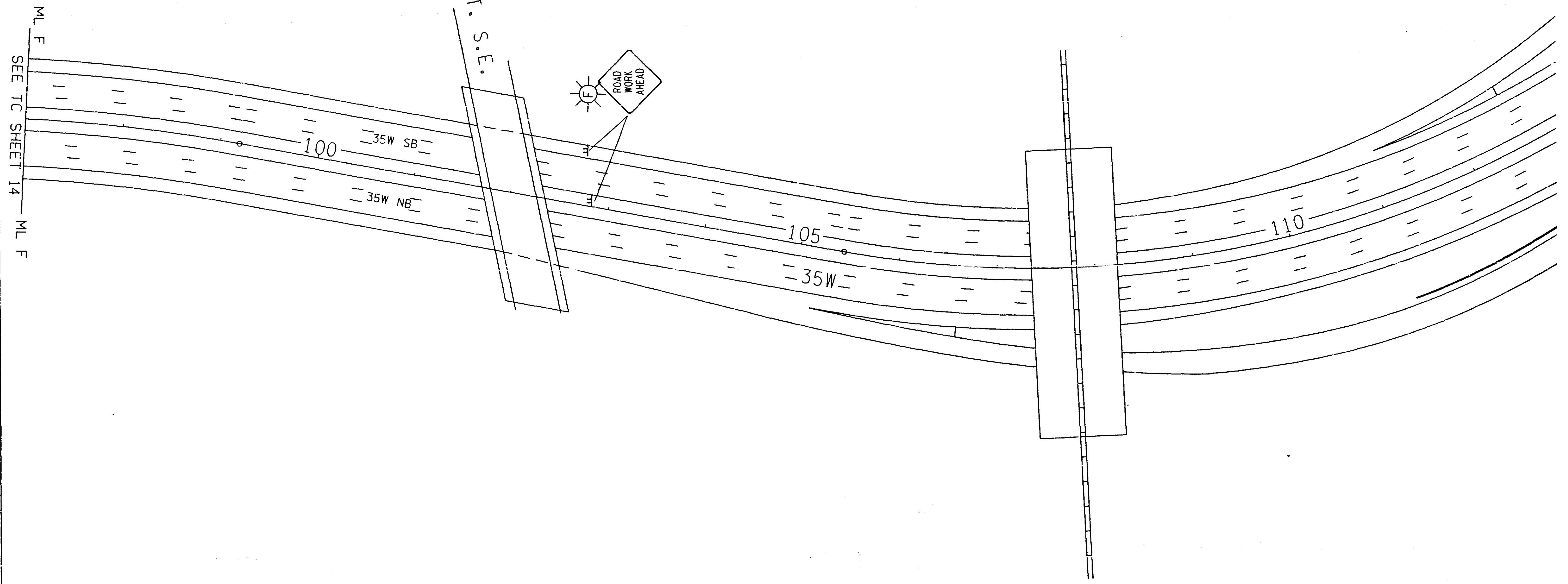
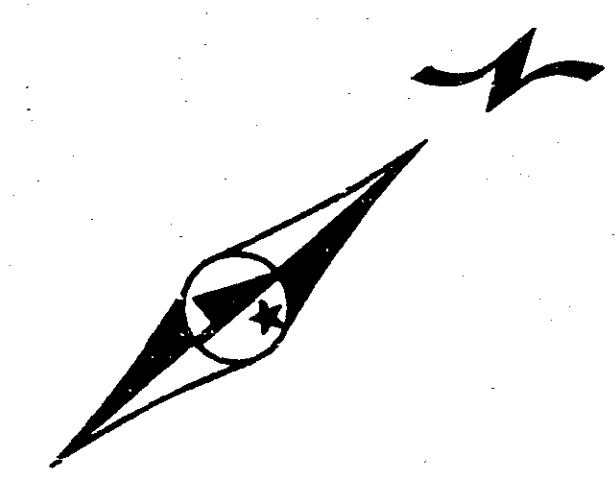
STATE PROJ NO 2783-9340

STAGE 1
TRAFFIC CONTROL

1-30-98

SHEET NO 47 OF

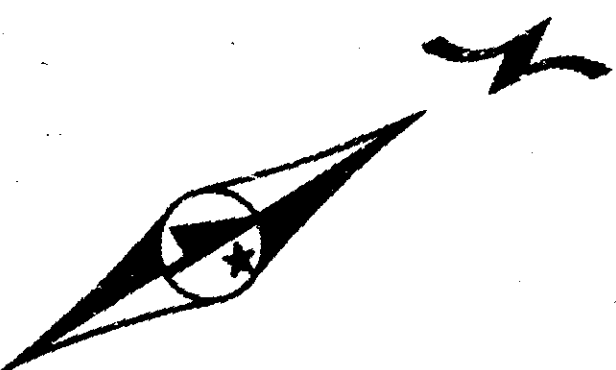
ADJACENT DOCUMENT WAS SUPPLIED BY AGENCY NAME
OF BUSINESS, TO BE FILMED BY STATE
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PROCEDURES FOR



TRAFFIC CONTROL SHEET NO. 15	TITLE: STAGE 1 TRAFFIC CONTROL
STATE PROJ NO 2783-9340	SHEET NO 48 OF 61 SHEETS

CERTIFIED BY Charles J. Hudak REG NO 11940 JAN 22 19 98
PROFESSIONAL ENGINEER

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END ROAD WORK

SB_35W
110
NB_35W
50

RAMP CLOSURE
SEE TC SHEET 7

REMOVE CONFLICTING
PAVEMENT MARKINGS
PAINT:
4" SOLID LINE YELLOW
4" SOLID LINE WHITE
4" BROKEN LINE WHITE

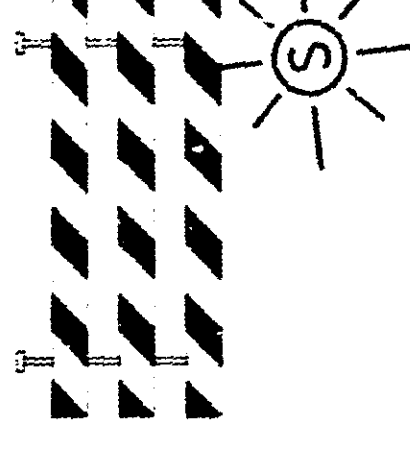
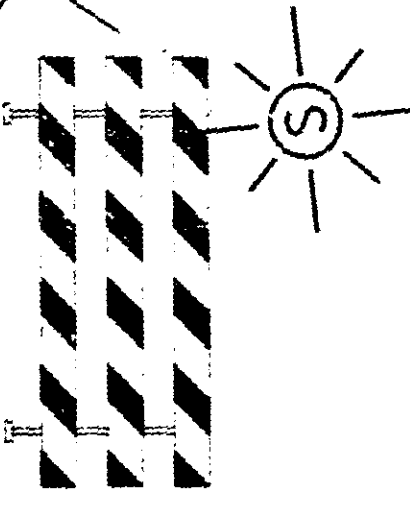
WASHINGTON AVE.

OH 144-35W

1/2 MILE
WZ-3

University Ave
4th St SE
ENT ONLY

105



ML B

SEE TC SHEET 10

ML B

ML CC

SEE TC SHEET 17

ML CC

CERTIFIED BY Charles J. Hudalik
PROFESSIONAL ENGINEER

REG NO 11940 JAN 22 19 98

TRAFFIC CONTROL SHEET NO.
16

TITLE:

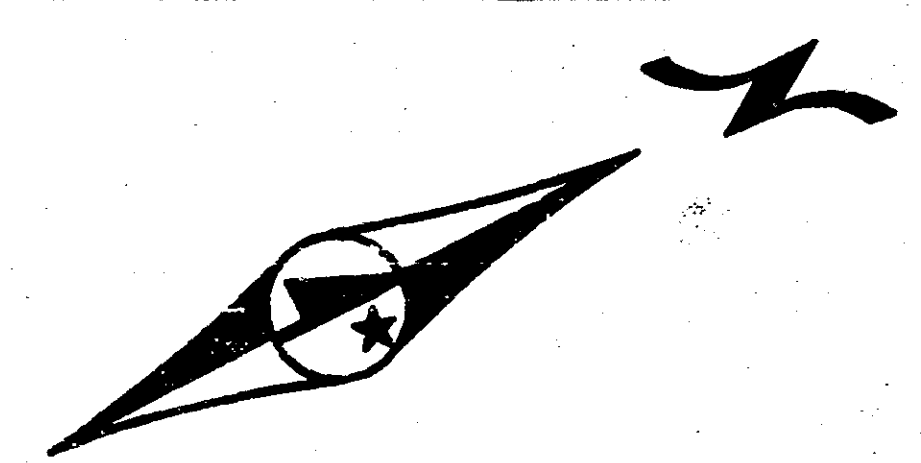
STATE PROJ NO 2783-9340

STAGE 2
TRAFFIC CONTROL

1-30-98

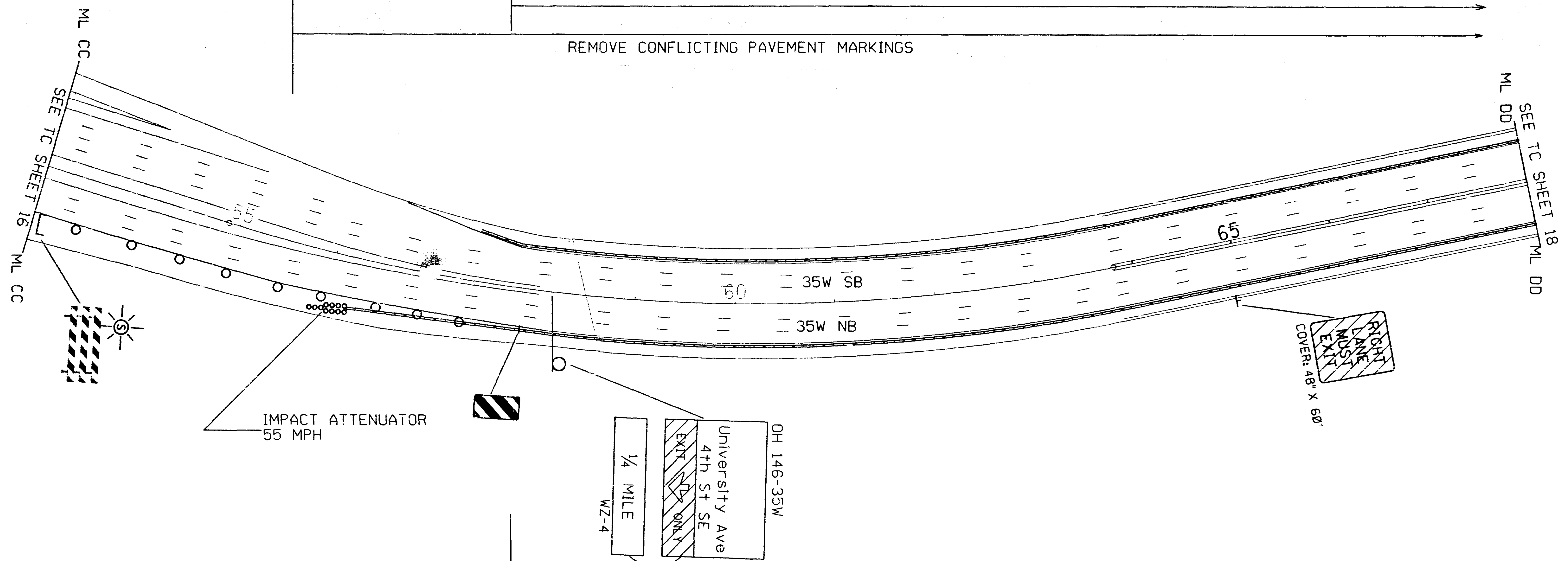
SHEET NO 49 OF 61 SHEETS

ADJACENT DOCUMENT WAS SUPPLIED BY AGENCY NAME
OF BUSINESS, TO BE FILMED BY STATE
TO NATIONAL BUREAU OF SURVEYING
PROCEDURES FOR



PAINT 4" SOLID WHITE BARRIER EDGELINE OVER EXISTING STRIPING

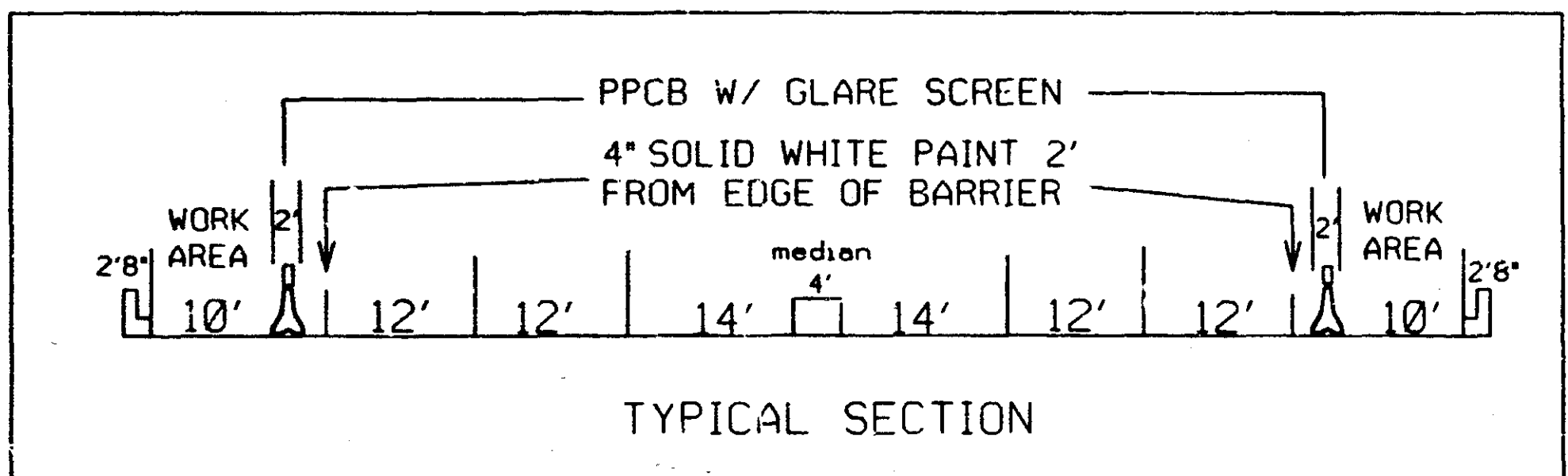
REMOVE CONFLICTING PAVEMENT MARKINGS



PAINT 4" SOLID WHITE BARRIER EDGELINE OVER EXISTING STRIPING

REMOVE CONFLICTING PAVEMENT MARKINGS

PAINT:
 4" SOLID LINE YELLOW
 4" SOLID LINE WHITE
 4" BROKEN LINE WHITE



CERTIFIED BY Charles J. Hendrich REG NO 11940 JAN 22 19 98

TRAFFIC CONTROL SHEET NO. 17	TITLE STAGE 2 TRAFFIC CONTROL
STATE PROJ NO 2783-9340	SHEET NO 50 OF 61 SHEETS

1-30-98

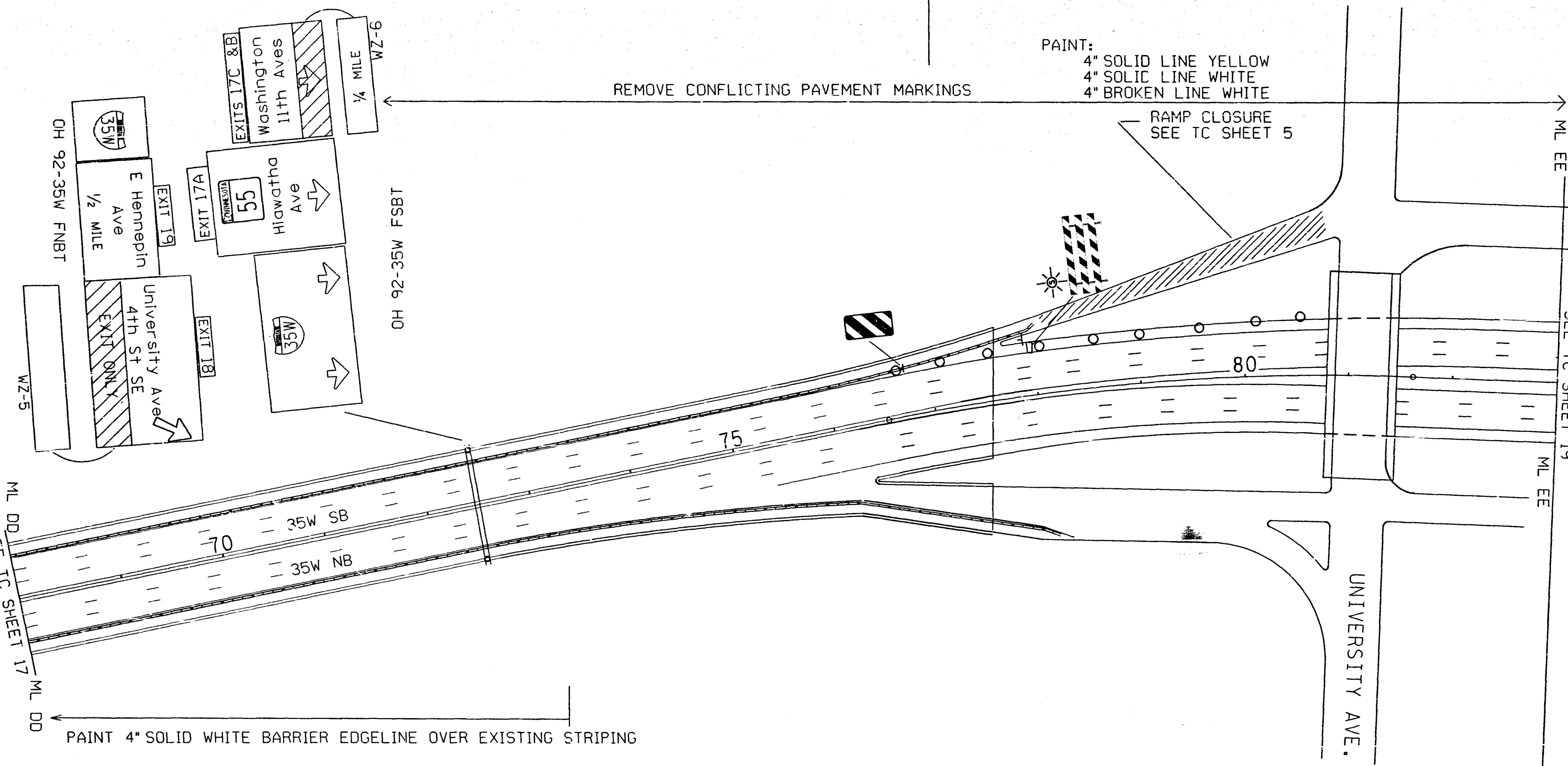
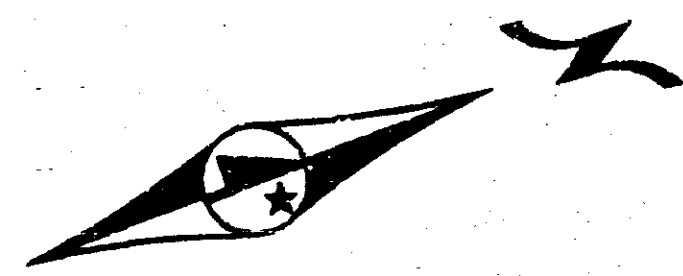
ADJACENT DOCUMENT WAS SUPPLIED BY AGENCY NAMED BELOW. DURING THE REGULAR COURSE OF BUSINESS, TO BE FILMED BY STATE OF MINNESOTA MICROGRAPHIC SERVICES UNIT ACCORDING TO NATIONAL BUREAU OF STANDARDS REQUIREMENTS FOR PERMANENT MICROFILM AND ACCORDING TO PROCEDURES FOR THE DOCUMENT SERIES.

PAINT 4" SOLID WHITE BARRIER EDGELINE OVER EXISTING STRIPING

REMOVE CONFLICTING PAVEMENT MARKINGS

PAINT:
4" SOLID LINE YELLOW
4" SOLIC LINE WHITE
4" BROKEN LINE WHITE

RAMP CLOSURE
SEE TC SHEET 5

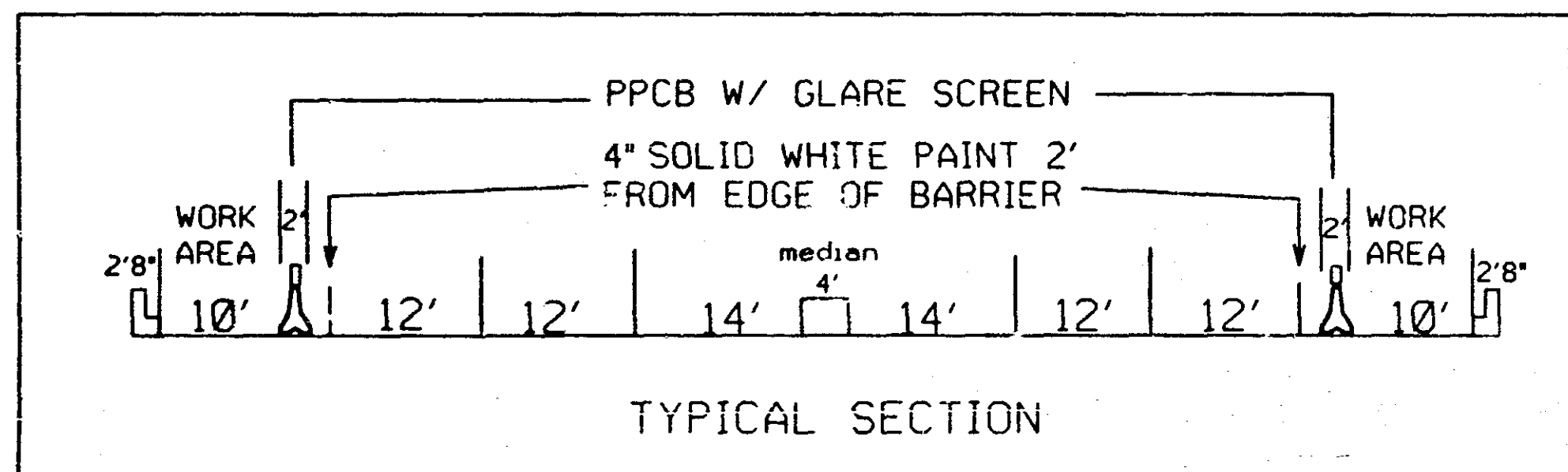


PAINT 4" SOLID WHITE BARRIER EDGELINE OVER EXISTING STRIPING

REMOVE CONFLICTING PAVEMENT MARKINGS

PAINT:
4" SOLID LINE YELLOW
4" SOLID LINE WHITE
4" BROKEN LINE WHITE

1-30-98



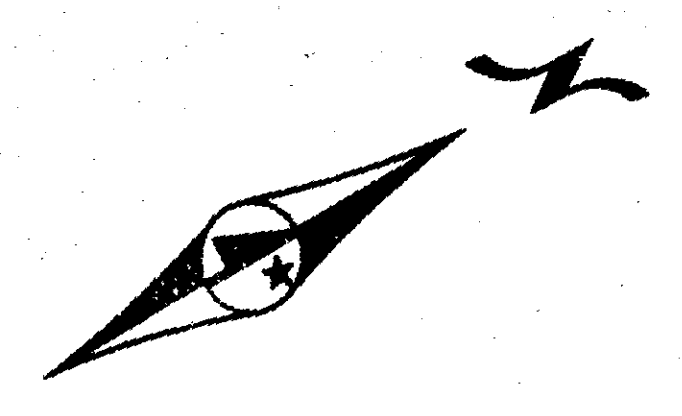
TRAFFIC CONTROL SHEET NO. 18	TITLE STAGE 2 TRAFFIC CONTROL
STATE PROJ NO 2783-9340	SHEET NO 51 OF 61 SHEETS

CERTIFIED BY Charles J. Hendrich REG NO 11940 JAN 22 19 98
PROFESSIONAL ENGINEER

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REMOVE CONFLICTING
PAVEMENT MARKINGS

PAINT:
4" SOLID LINE WHITE
4" SOLID LINE YELLOW
4" BROKEN LINE WHITE



ML EE
SEE TC SHEET 18

ML EE

4TH ST. S.E.

END
ROAD WORK

90 35W SB
95 35W NB

ML FF
SEE TC SHEET 20
ML FF

CERTIFIED BY Charles J. Hurdick
PROFESSIONAL ENGINEER

REG NO 11940 JAN 22 19 98

TRAFFIC CONTROL SHEET NO. 19

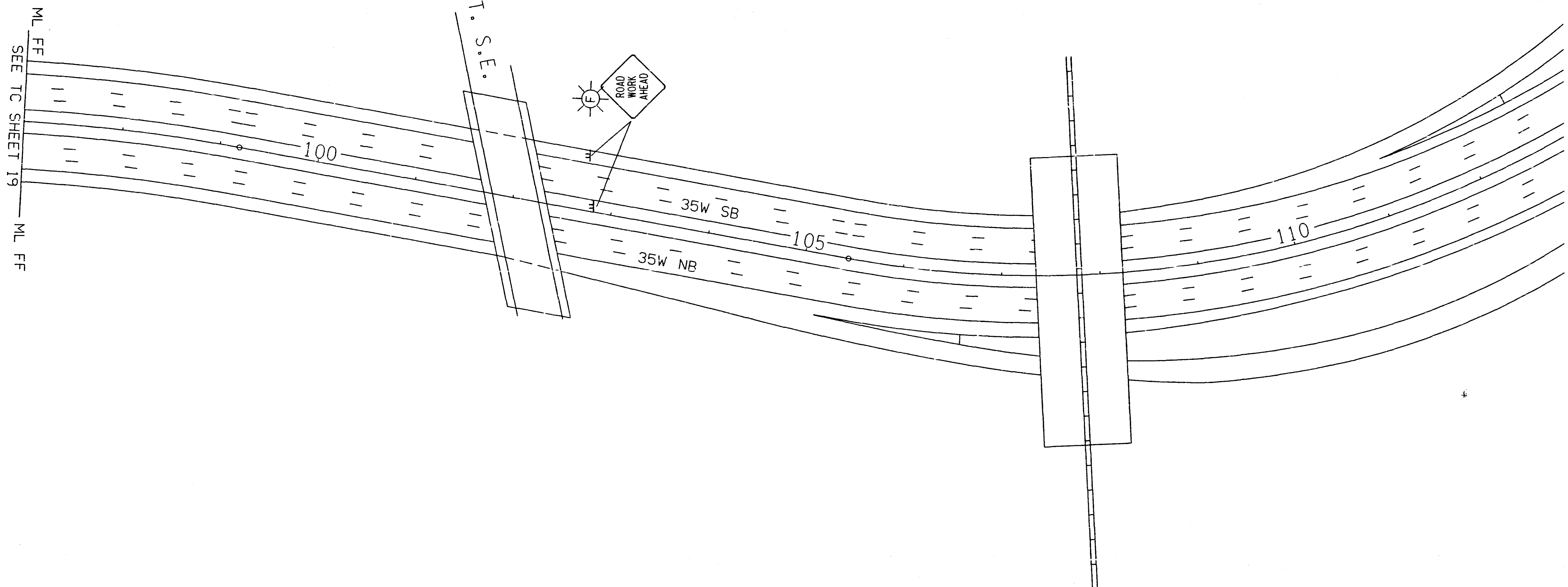
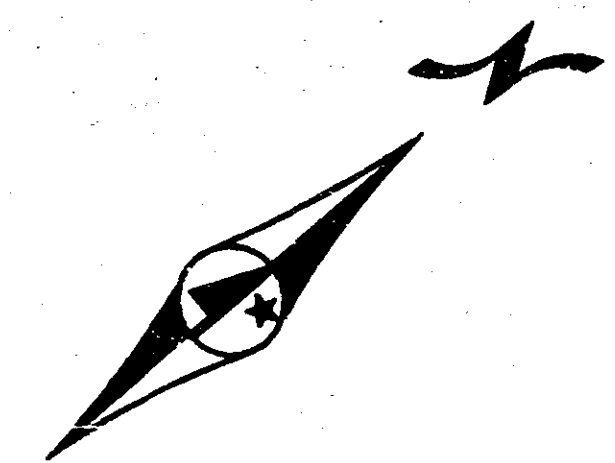
STATE PROJ NO 2783-9340

STAGE 2
TRAFFIC CONTROL

SHEET NO 52

1-30-98

ADJACENT DOCUMENT WAS SUPPLIED BY AGENCY
OF BUSINESS, TO BE FILMED BY
TO NATIONAL BUREAU
PROCEDURE

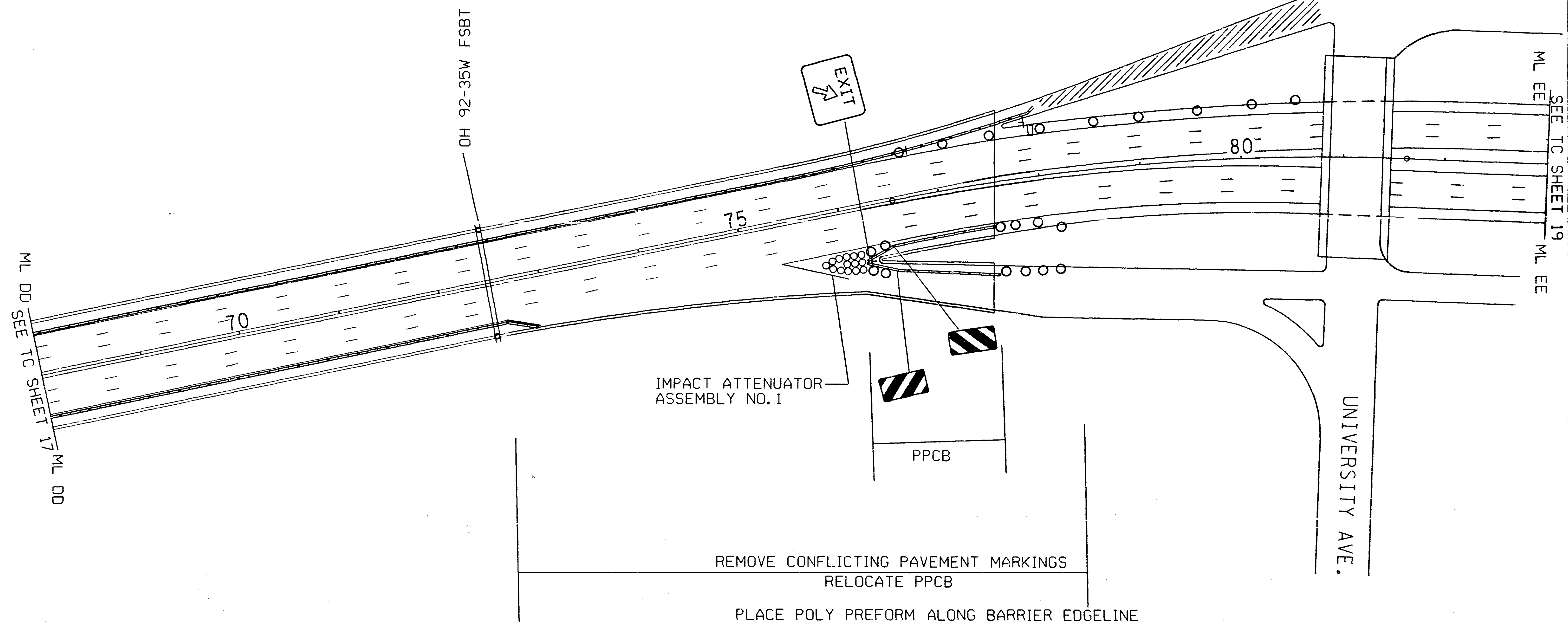
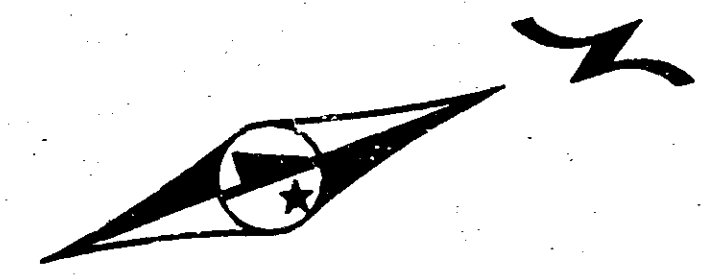


1-30-98

CERTIFIED BY <u>Charles J. Hudelick</u> PROFESSIONAL ENGINEER	REG NO <u>11940</u> <u>JAN 22 19 98</u>	TRAFFIC CONTROL SHEET NO. 20	TITLE: STAGE 2 TRAFFIC CONTROL
		STATE PROJ NO <u>2783-9340</u>	SHEET NO <u>53</u> OF <u>61</u> SHEETS

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RETAIN STAGE 2 TRAFFIC CONTROL UNLESS NOTED/SHOWN OTHERWISE

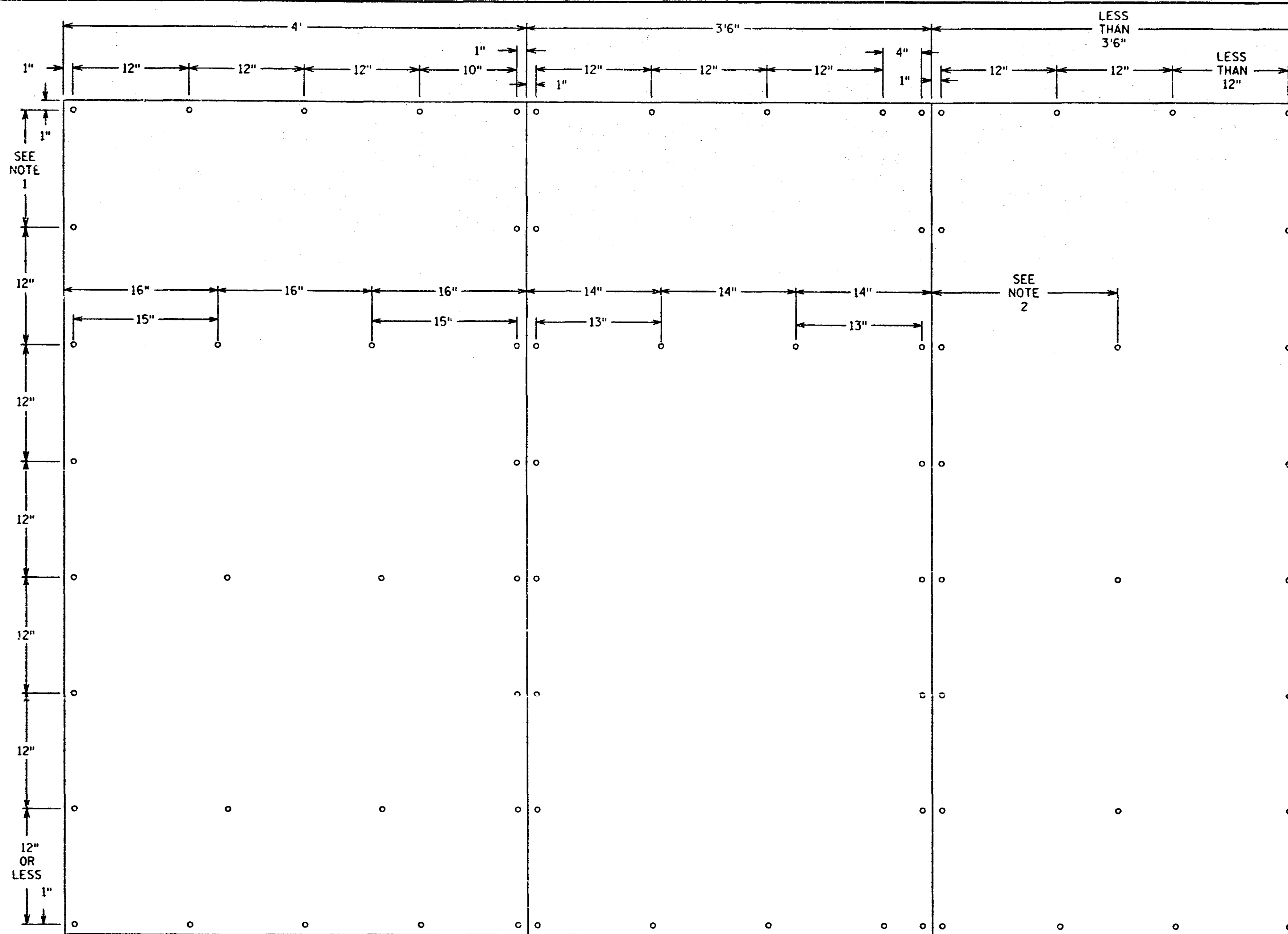


1-30-98

TRAFFIC CONTROL SHEET NO. 21	TITLE STAGE 2A TRAFFIC CONTROL
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CERTIFIED BY Charles Hudelick REG NO 11940 JAN 22 19 98 STATE PROJ NO 2783-9340 SHEET NO 54 OF 61 SHEETS

ADJACENT DOCUMENT WAS SUPPLIED BY AGENCY NAMED BELOW. DURING THE REGULAR COURSE OF BUSINESS, TO BE FILMED BY STATE OF MINNESOTA MICROGRAPHIC SERVICES UNIT ACCORDING TO NATIONAL BUREAU OF STANDARDS REQUIREMENTS FOR PERMANENT MICROFILM AND ACCORDING TO PROCEDURES FOR THE DOCUMENT SERIES.



TEMPORARY CONSTRUCTION SIGN PANEL OVERLAY COVERING A COMPLETE EXTRUDED SIGN PANEL

OVERLAY ASSEMBLY STEPS:

1. DRILL 13/64" HOLES ON THE SHEET ALUMINUM OVERLAYS IN ACCORDANCE WITH HOLE SPACING ON DIAGRAM. OUTSIDE HOLES SHALL NOT BE SPACED MORE THAN 12" APART.
2. ATTACH ONE PLASTIC WASHER (1/8" THICK, 3/8" I.D. AND 7/8" O.D.), WITH DOUBLE FACED TAPE, CENTERED BEHIND EACH DRILLED HOLE.
3. POSITION THE FAR LEFT SHEET ALUMINUM OVERLAY PANEL WITH THE BOTTOM FLUSH WITH THE INPLACE EXTRUDED SIGN PANEL AND THE LOWER LEFT EDGE OF THE OVERLAY PANEL LINED UP WITH THE LOWER LEFT EDGE OF THE BOTTOM INPLACE EXTRUDED PANEL SECTION.
4. DRILL ALL OUTSIDE HOLES THROUGH THE INPLACE EXTRUDED SIGN PANEL AND ATTACH OVERLAY PANEL WITH 3/16" POP RIVETS MEETING THE REQUIREMENTS ON Mn/DOT 3352.A7a
5. DRILL THE INNER HOLES THROUGH THE INPLACE EXTRUDED SIGN PANEL AND ATTACH WITH RIVETS AS SPECIFIED IN STEP 4.
6. ABUT THE NEXT OVERLAY PANEL TO THE FIRST ATTACHED OVERLAY PANEL AND PERFORM THE SAME WORK AS SPECIFIED IN STEPS 4 AND 5.
7. INSTALL EACH ADDITIONAL OVERLAY PANEL AS SPECIFIED IN STEP 6.

NOTES:

1. IF TOP EXTRUDED PANEL IS 6" HIGH, THIS VERTICAL SPACE IS 6"; IF TOP EXTRUDED PANEL IS 12" HIGH, THIS VERTICAL SPACE IS 12".
2. SHEET ALUMINUM PANEL RIVET SPACING SHALL BE 1/2 THE PANEL'S WIDTH.

CERTIFIED BY

Charles J. Hendelich
PROFESSIONAL ENGINEER

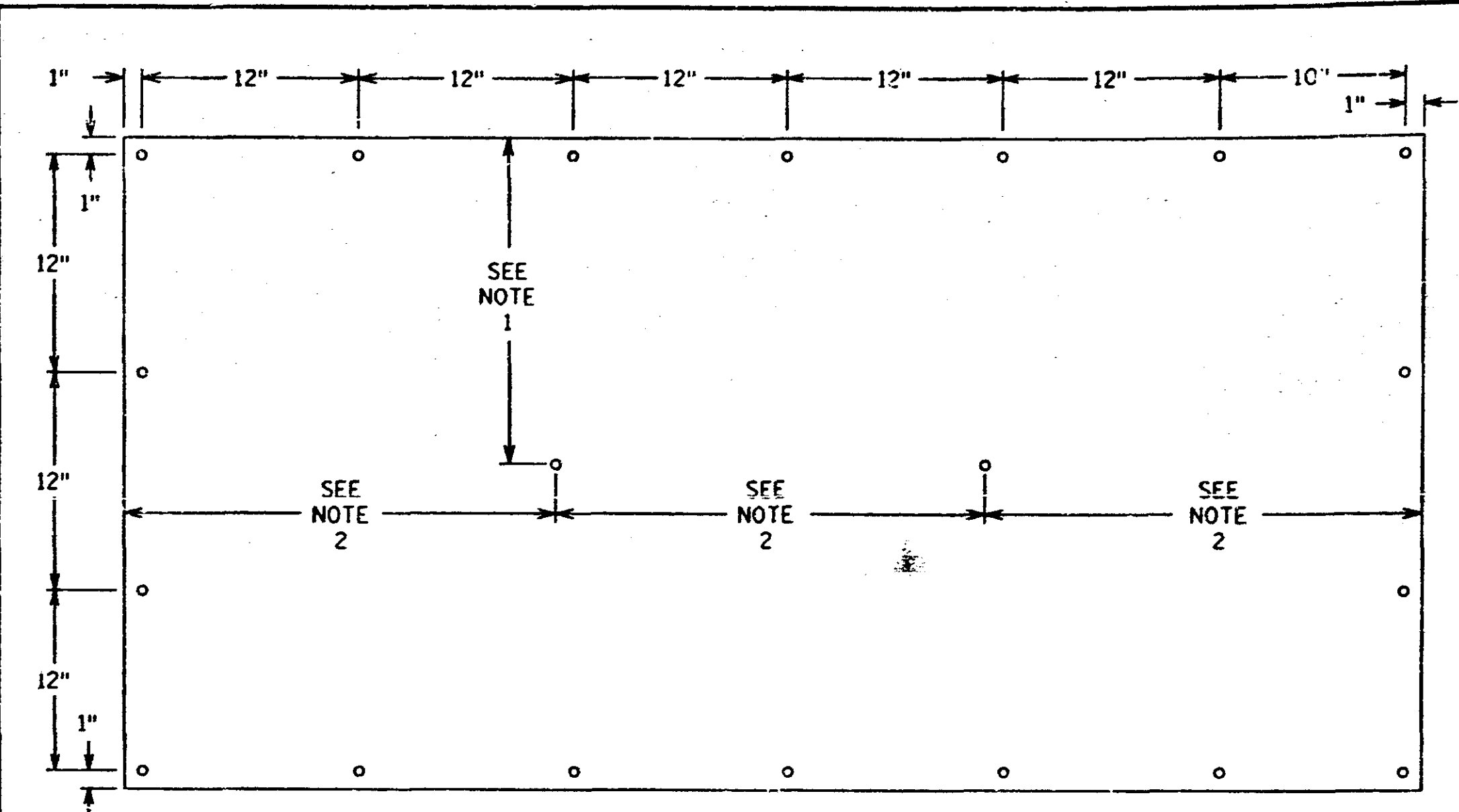
REG NO 11940 JAN 22 19 98

TRAFFIC CONTROL SHEET NO.
22

TITLE
TEMPORARY CONSTRUCTION SIGN PANEL
OVERLAY COVERING
OF AN EXTRUDED SIGN PANEL TYPICAL

STATE PROJ NO 2783-9340

SHEET NO 55 OF 61 SHEETS



TEMPORARY CONSTRUCTION SIGN PANEL OVERLAY COVERING A PORTION OF AN EXTRUDED SIGN PANEL

OVERLAY ASSEMBLY STEPS:

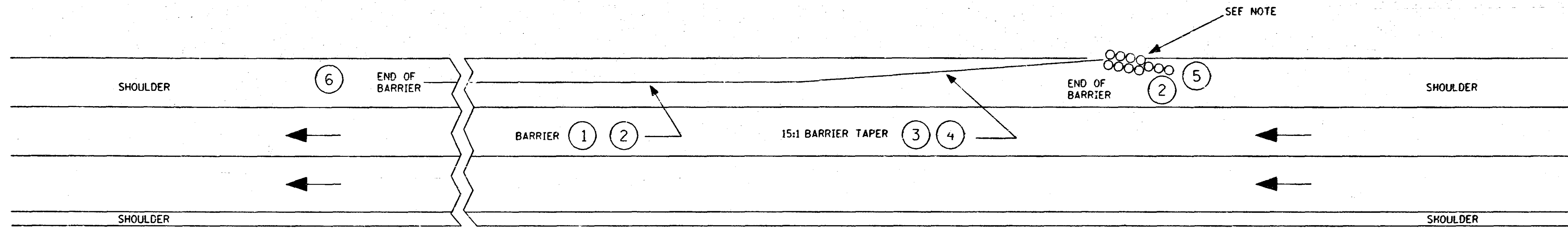
1. DRILL 13/64" HOLES ON THE SHEET ALUMINUM OVERLAYS IN ACCORDANCE WITH HOLE SPACING ON DIAGRAM. OUTSIDE HOLES SHALL NOT BE SPACED MORE THAN 12" APART.
2. ATTACH ONE PLASTIC WASHER (1/8" THICK, 3/8" I.D., AND 7/8" O.D.), WITH DOUBLE FACED TAPE, CENTERED BEHIND EACH DRILLED HOLE.
3. POSITION THE OVERLAY PANEL, ON THE INPLACE EXTRUDED SIGN PANEL, MAKING SURE THE MOUNTING HOLES ON THE OVERLAY PANEL DO NOT LINE UP WITH ANY HORIZONTAL EXTRUDED ALUMINUM PANEL JOINTS.
4. DRILL ALL OUTSIDE HOLES THROUGH THE INPLACE EXTRUDED SIGN PANEL AND ATTACH OVERLAY PANEL WITH 3/16" POP RIVETS MEETING THE REQUIREMENTS ON Mn/DOT 3352.A7a.
5. DRILL THE INNER HOLES THROUGH THE INPLACE EXTRUDED SIGN PANEL AND ATTACH WITH THE SAME RIVETS AS SPECIFIED IN STEP 4.

NOTES:

1. VERTICAL SPACING FOR INNER MOUNTING HOLES IS 1/2 THE PANEL HEIGHT. IF THE PANEL IS LESS THAN 24" HIGH, THERE SHALL BE NO INNER HOLES.
2. HORIZONTAL SPACING FOR INNER MOUNTING HOLES SHALL NOT BE LESS THAN 15", NOR MORE THAN 24".

1-30-98

PORTABLE CONCRETE BARRIER PLACEMENT



① IT IS DESIRABLE TO MAINTAIN FULL SHOULDER WIDTH WHENEVER POSSIBLE. IF NOT POSSIBLE, MINIMUM DESIRABLE LATERAL OFFSETS ARE BASED ON THE FOLLOWING POSTED SPEEDS:

- 65 MPH - 10 FEET
- 60 MPH - 8 FEET
- 50 MPH - 6.5 FEET
- 40 MPH - 5 FEET

FOR RESTRICTED CONDITIONS, LESSER OFFSETS MAY BE USED. THE OFFSETS SHOULD BE A MINIMUM OF 2 FEET UNLESS THE CONDITIONS ARE EXTREME. LATERAL OFFSETS ARE MEASURED TO THE BOTTOM OF THE BARRIER. BARRIER OFFSET FROM EDGE OF THRU LANE SHOULD NOT EXCEED 15 FEET.

② DESIRABLE TREATMENTS FOR EXPOSED BARRIER ENDS ARE; A CONNECTION TO EXISTING BARRIER; IMPACT ATTENUATOR; TAPER AWAY TO THE EDGE OF THE CLEAR ZONE; AND EXTENDING THROUGH A PLATE BEAM GUARDRAIL BY REMOVING A PANEL.

FOR POSTED SPEEDS 30 MPH OR LESS, THE TAPERING AWAY FROM THE TRAFFIC IS DESIRABLE AND USE OF IMPACT ATTENUATOR ARE OPTIONAL

③ A 10:1 TAPER MAY BE USED WHEN POSTED SPEED LIMIT IS 35 MPH OR LESS.

④ IF THE BARRIER IS TO BE EXTENDED BEYOND THE SHOULDER, ADDITIONAL FILL WILL BE NEEDED IN ORDER TO PROVIDE A FLAT (10:1) APPROACH AREA TO THE BARRIER. FILL WILL BE INCIDENTAL TO BARRIER AND/OR IMPACT ATTENUATOR. (SEE SHOULDER FILL DETAIL BELOW)

⑤ THE IMPACT ATTENUATOR SHOULD BE OFFSET A MINIMUM OF 2 FT. FROM THE EDGE OF THE THRU LANE (SEE SAND BARREL OFFSET DETAIL). THE IMPACT ATTENUATOR SHOULD BE ORIENTED TO ACCOMMODATE THE PROBABLE IMPACT ANGLE OF AN ENCREACHING VEHICLE. FOR MOST ROADSIDE CONDITIONS, AN ANGLE APPROXIMATELY 10 DEGREES, AS MEASURED BETWEEN THE HIGHWAY AND THE IMPACT ATTENUATOR LONGITUDINAL CENTERLINE, IS CONSIDERED APPROPRIATE (SEE SHOULDER FILL DETAIL). FOR SAND BARREL ARRANGEMENT SEE DETAIL BELOW.

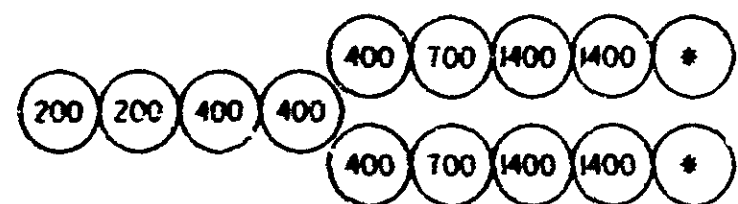
⑥ FOR TWO-LANE TWO-WAY TRAFFIC BOTH ENDS OF THE BARRIER SHOULD BE TREATED IN THE SAME MANNER AS DESCRIBED IN ②

NOTE:

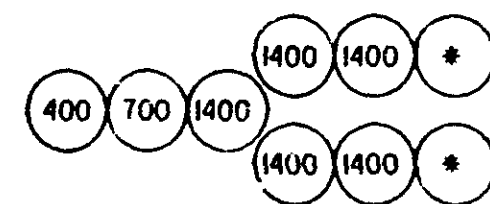
AT THE DIRECTION OF THE ENGINEER, OTHER APPROVED IMPACT ATTENUATORS CAN BE SUBSTITUTED IN LIEU OF THE SAND BARRELS ESPECIALLY WHERE REDIRECTION IS DESIRED OR AT WIDTH RESTRICTED AREAS.

SAND FILLED BARREL ARRANGEMENT

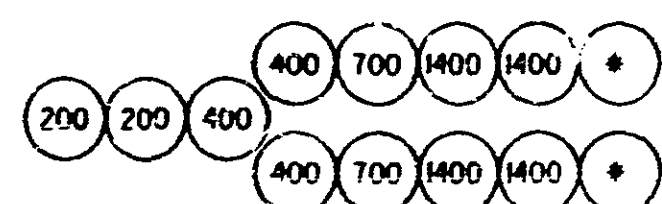
POSTED SPEED: 65 MPH



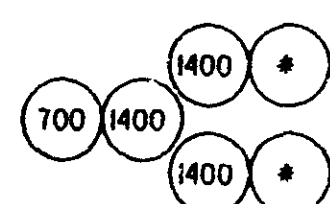
POSTED SPEED: 35-40 MPH



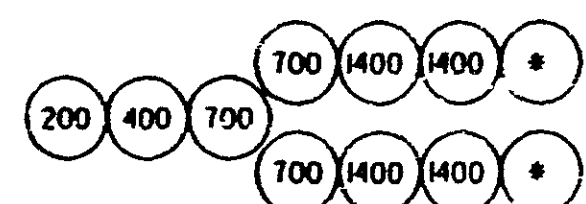
POSTED SPEED: 55-60 MPH



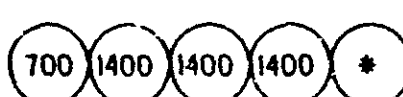
POSTED SPEED: 30 MPH (OPTIONAL)



POSTED SPEED: 45-50 MPH



POSTED SPEED: 30 MPH RESTRICTED SPACE ONLY (OPTIONAL)

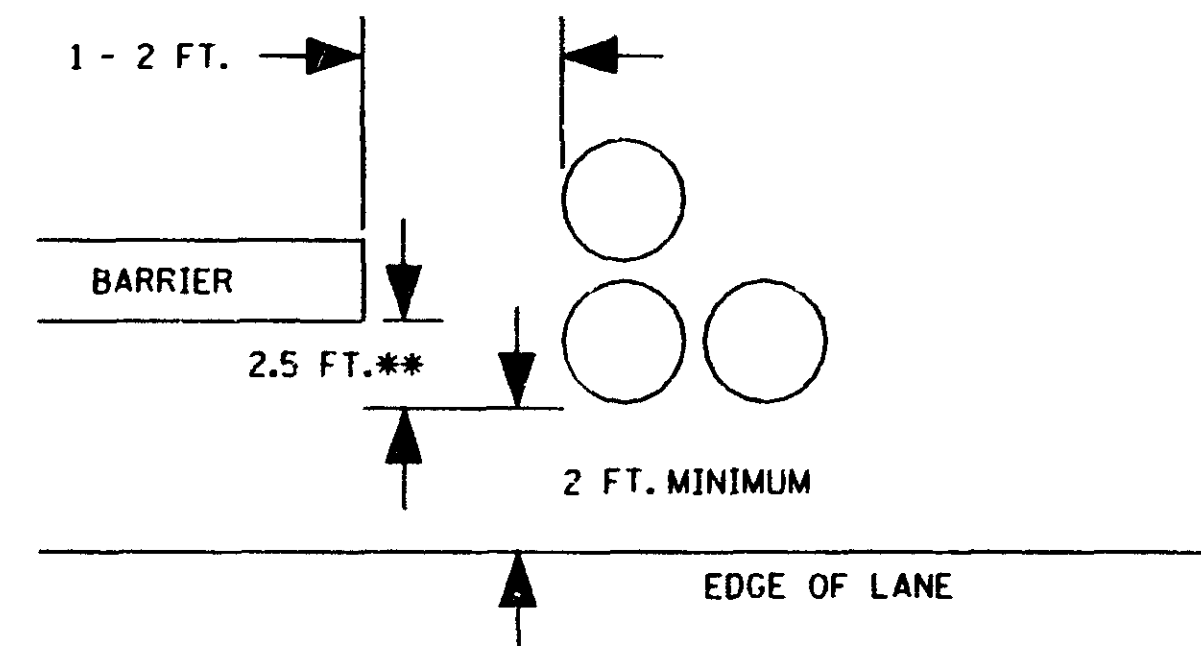


* USE A 2100 POUND DRUM FOR ENERGITE SYSTEM AND A 1400 POUND DRUM FOR A FITCH SYSTEM.

NOTE:

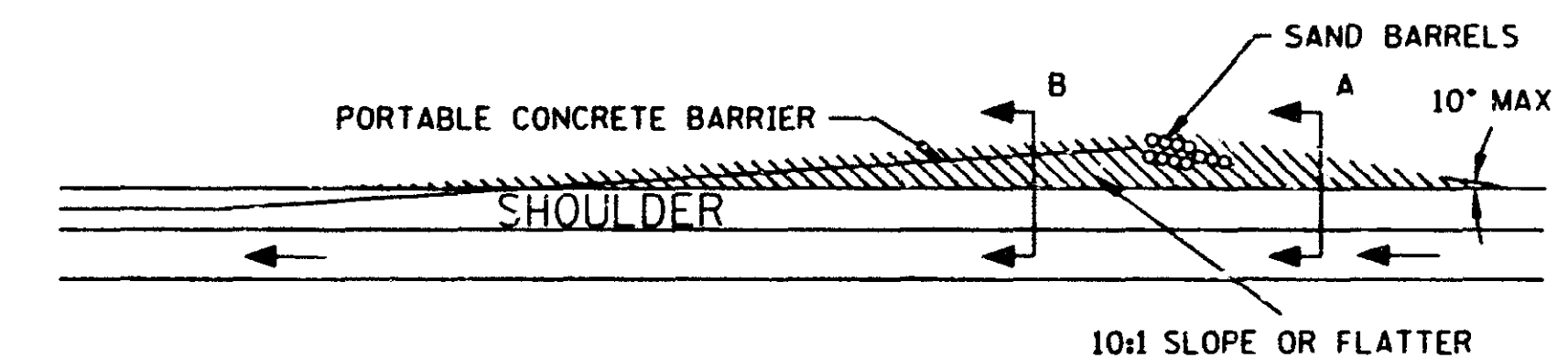
NUMBERS INDICATE STANDARD MODULE WEIGHTS IN POUNDS.

SAND FILLED BARREL OFFSET

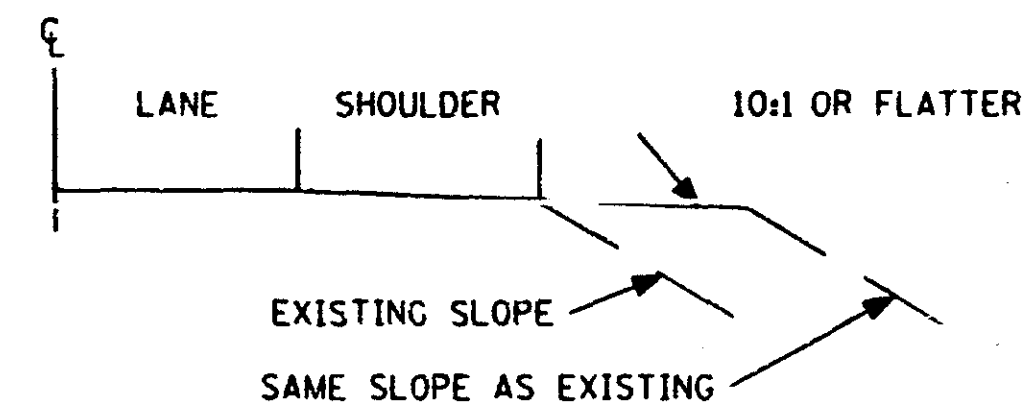


** DISTANCE MAY BE REDUCED TO MINIMUM OF 15 IN. (1.25 FT.). THIS IS ACCEPTABLE ONLY WHERE A GREATER OFFSET WOULD CAUSE UNACCEPTABLE INTERFERENCE WITH TRAFFIC.

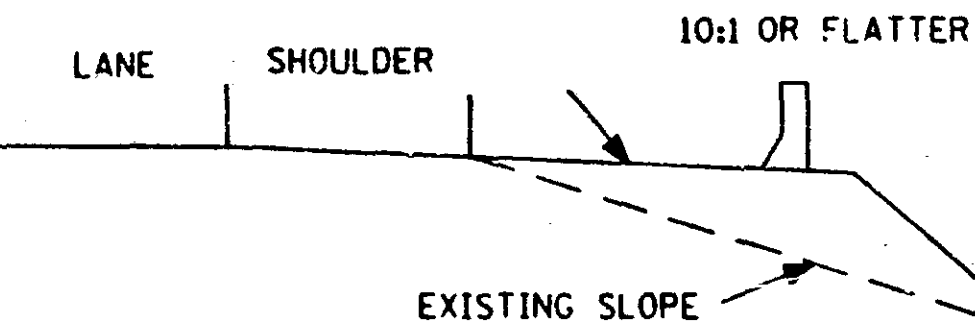
SHOULDER FILL



SECTION A



SECTION B



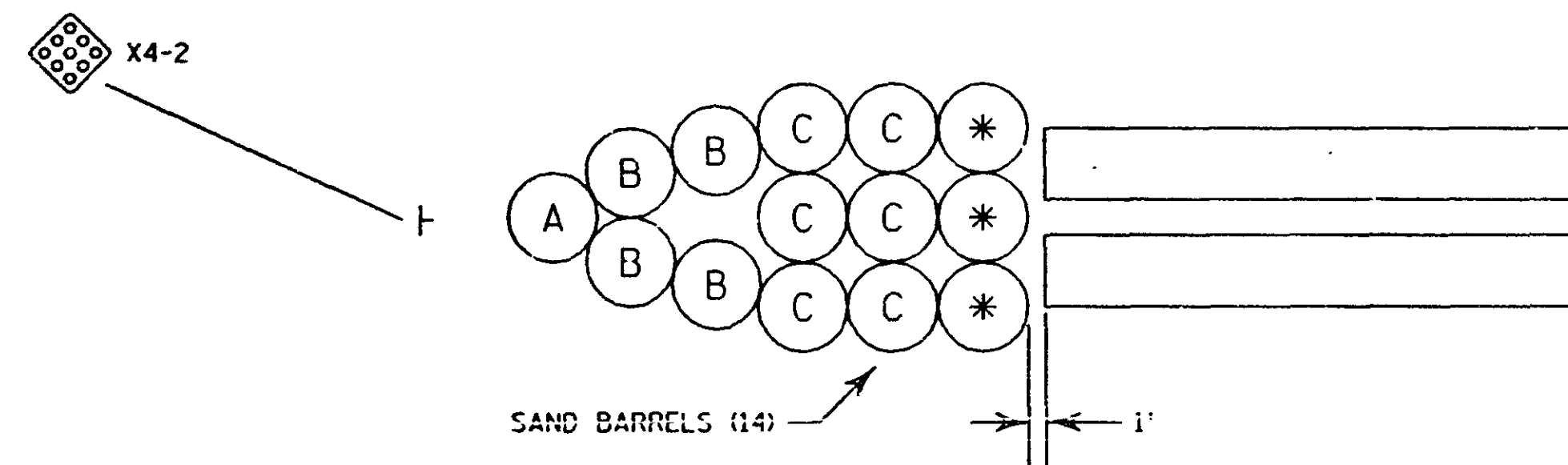
TRAFFIC CONTROL SHEET NO.	23	TITLE:	PORTABLE CONCRETE BARRIER END TREATMENT <i>1-30-98</i>
STATE PROJ NO	2783-9340	SHEET NO	56 OF 61 SHEETS

CERTIFIED BY Charles H. Hadlich REG NO 11940 JAN 22 19 98

METRO DIVISION - TRAFFIC

END TREATMENTS

ATTENUATOR ASSEMBLY NO.1



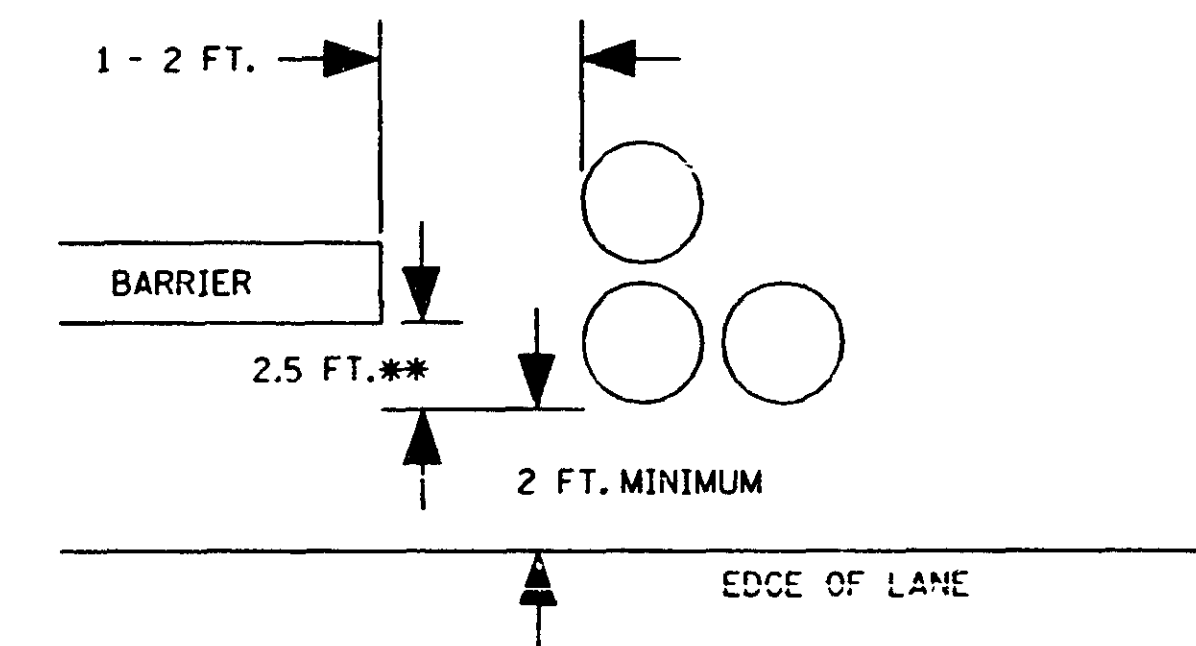
BARREL WT
 A = 400 LBS
 B = 700 LBS
 C = 1400 LBS
 * = 2100 LBS

⊛ = USE A 2100 POUND DRUM FOR A ENERGITE SYSTEM.
 ⊛ = USE A 1400 POUND DRUM FOR A FITCH SYSTEM.

NOTE:

1. ALIGN BARRELS PARALLEL TO APPROACHING TRAFFIC.
2. NUMBERS INDICATE STANDARD MODULE WEIGHTS IN POUNDS.

SAND BARREL OFFSET



** DISTANCE MAY BE REDUCED TO MINIMUM OF 15 IN. (1.25 FT.). THIS IS ACCEPTABLE ONLY WHERE A GREATER OFFSET WOULD CAUSE UNACCEPTABLE INTERFERENCE WITH TRAFFIC.

1-30-98

TRAFFIC CONTROL SHEET NO. 24		TITLE: PORTABLE CONCRETE BARRIER END TREATMENT	
CERTIFIED BY <i>Charles J. Hudelick</i> PROFESSIONAL ENGINEER	REG NO 11940 JAN 22 19 98	STATE PROJ NO 2783-9340	SHEET NO 57 OF 61 SHEETS

SPECIAL SIGN DETAILS

APPROVED	SIZE DIMENSION	48 X 48	
	RADIUS	3	
	MARGIN	.75	
DATE OF REV.	BORDER	1.25	
	a	2.8	
	b	12.5	
	c	13	
	d	11	
	e	24	
	f	7.8	
LANE SHIFT	g	.75	
	h	.6	
	i	1.9	
	j	4.5	
	k	5.6	
	l	4.5	
	m	1.9	
	n	7.1	
	o		
	p		
	q		
	r		
	s		
	t		
u			
SIGN NUMBER	v		
	w		
	x		
	y		
	z		
	NOTES: 1. All dimensions are in inches. 2. Color - Black legend and border on orange reflectorized background. 3. Sign to be designated right (R) or left (L). Right is shown.		

METRO DIVISION - TRAFFIC

1-30-98

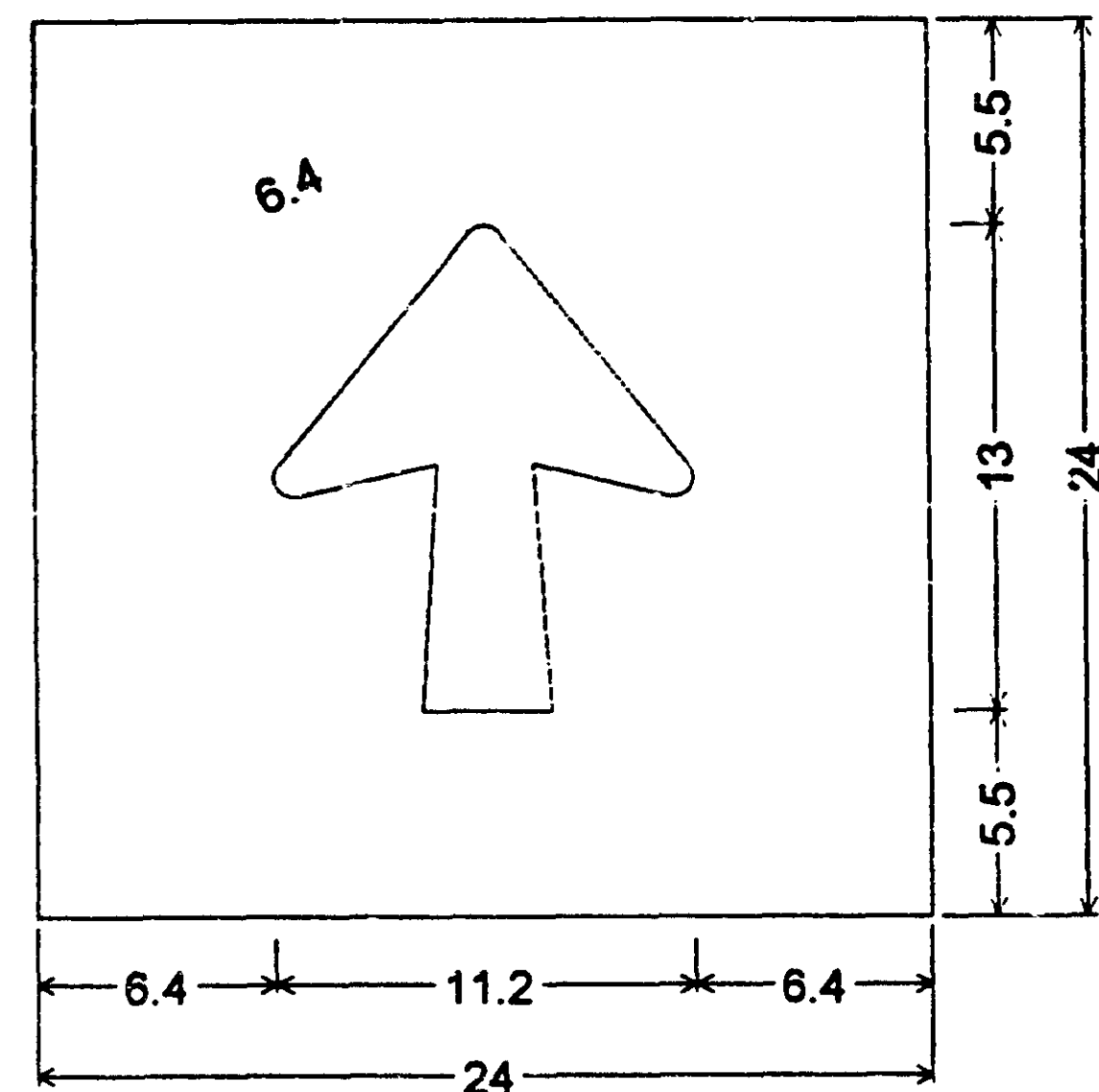
TRAFFIC CONTROL SHEET NO. 25	TITLE SPECIAL SIGN DETAILS
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CERTIFIED BY <u>Charles J. Hurdick</u> PROFESSIONAL ENGINEER	REG NO <u>11940</u> JAN 22 19 <u>98</u>	STATE PROJ NO <u>2783-9340</u>	SHEET NO <u>58</u> OF <u>61</u> SHEETS
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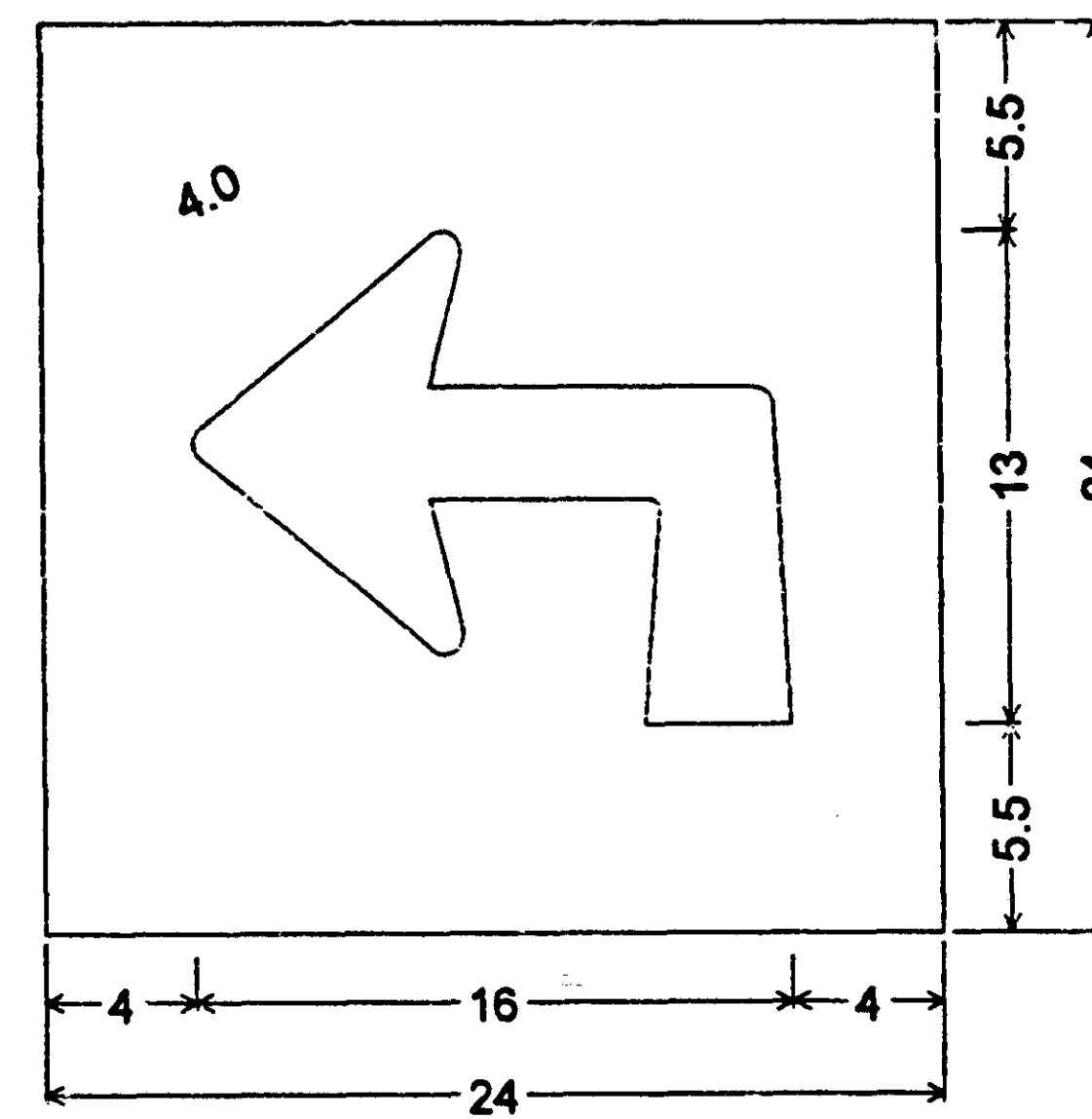
SPECIAL SIGN DETAILS

WZ-1



No border, Black on Orange;
Arrow 5 - 13.0" 90°;

WZ-2



No border, Black on Orange;
90 Deg Advanced Turn Arrow 16.0" X 13.0°;

METRO DIVISION - TRAFFIC

1-30-98

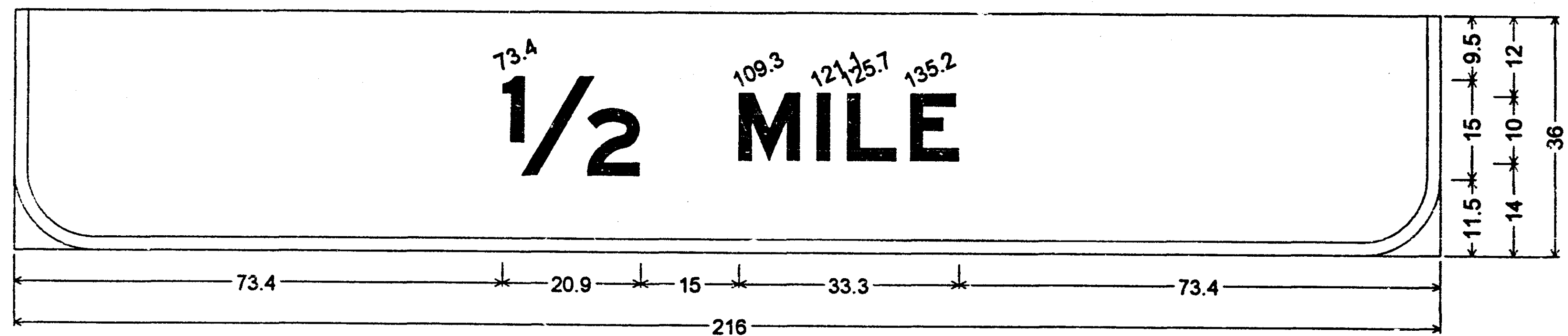
TRAFFIC CONTROL SHEET NO. 26	TITLE SPECIAL SIGN DETAILS
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CERTIFIED BY <u>Charles J. Hudelick</u> PROFESSIONAL ENGINEER	REG NO 11940 JAN 22 19 98	STATE PROJ NO 2783-9340	SHEET NO 59 OF 61 SHEETS
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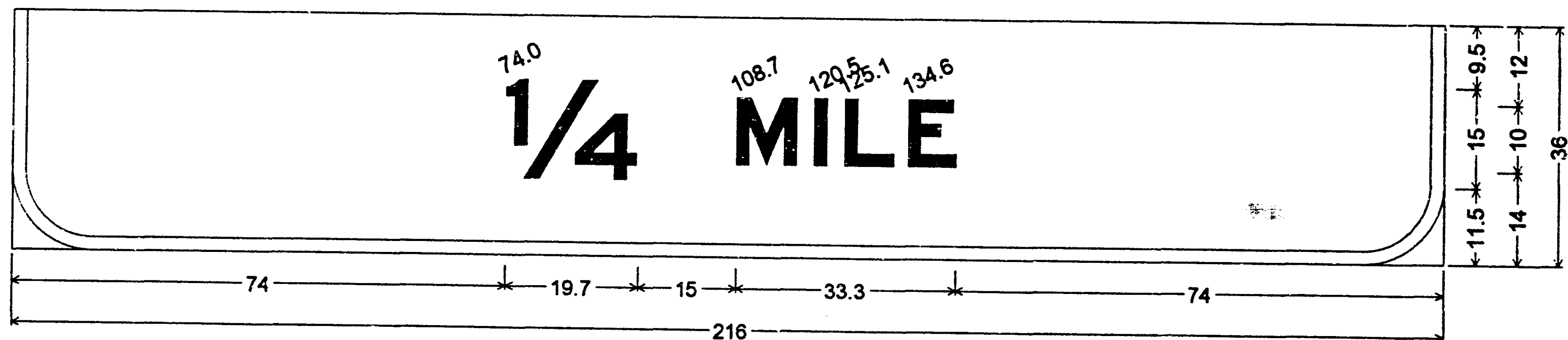
SPECIAL SIGN DETAILS

WZ-3



12.0" Radius, 2.0" Border, Black on Orange;
 "1/2" E Mod; "MILE" E Mod;

WZ-4



12.0" Radius, 2.0" Border, Black on Orange;
 "1/4" E Mod; "MILE" E Mod;

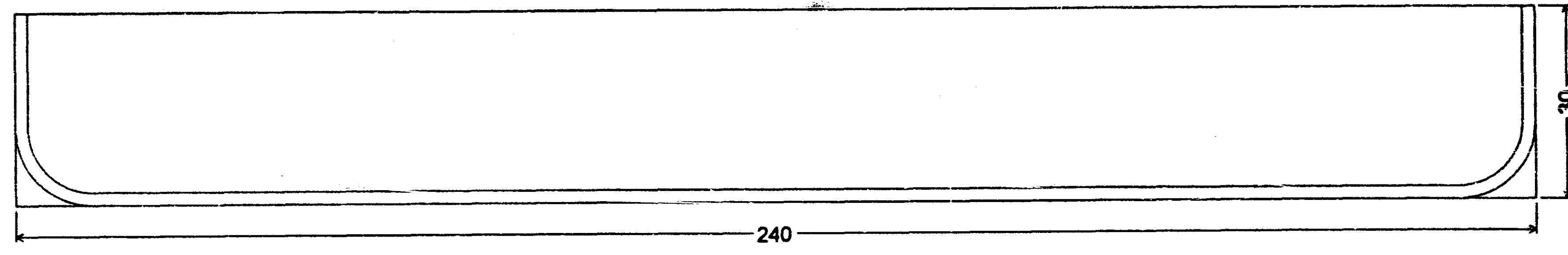
METRO DIVISION - TRAFFIC

1-30-98

TRAFFIC CONTROL SHEET NO. 27	TITLE SPECIAL SIGN DETAILS
CERTIFIED BY <u>Charles J. Hudelik</u> PROFESSIONAL ENGINEER	REG NO 11940 JAN 22 19 98 STATE PROJ NO 2783-9340 SHEET NO 60 OF 61 SHEETS

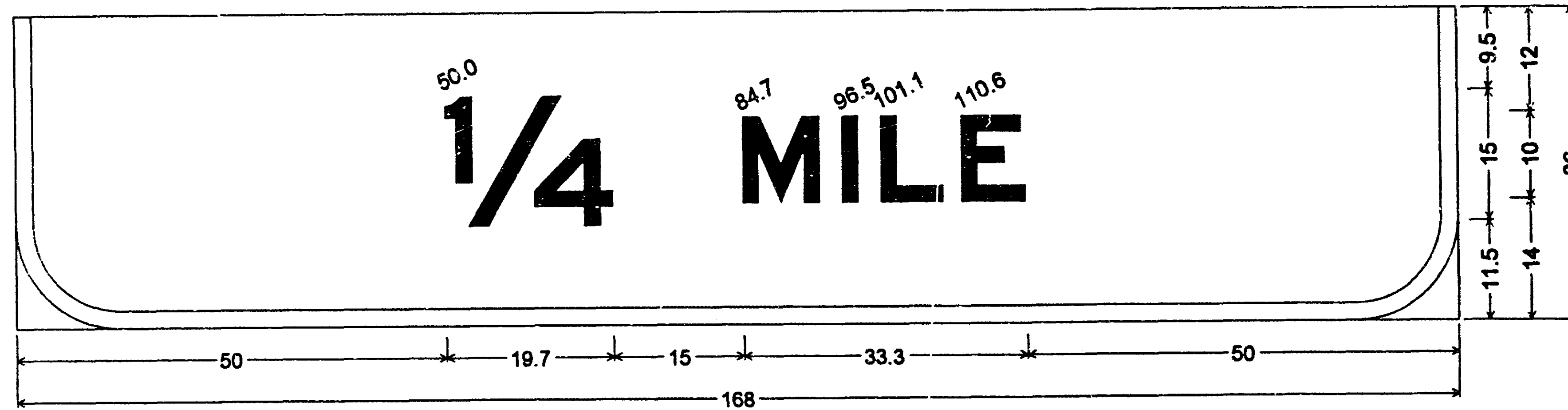
SPECIAL SIGN DETAILS

WZ-5



12.0" Radius, 2.0" Border, Black on Orange;

WZ-6



12.0" Radius, 2.0" Border, Black on Orange;
 "1/4 MILE" E Mod;

1-30-98

TRAFFIC CONTROL SHEET NO. 28	TITLE SPECIAL SIGN DETAILS
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CERTIFIED BY <u>Charles J. Hudelich</u> PROFESSIONAL ENGINEER	REG NO 11940 JAN 22 19 98	STATE PROJ NO 2783-9340	SHEET NO 61 OF 61 SHEETS
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