

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

# ERI-2-17.98 / 19.11

## HURON TOWNSHIP ERIE COUNTY

**PROJECT DESCRIPTION**

MINOR REPAIR AND PREVENTIVE MAINTENANCE ON THE ERI-2-1798L&R BRIDGES OVER MUD BROOK AND ERI-2-1911L&R BRIDGES OVER THE HURON RIVER

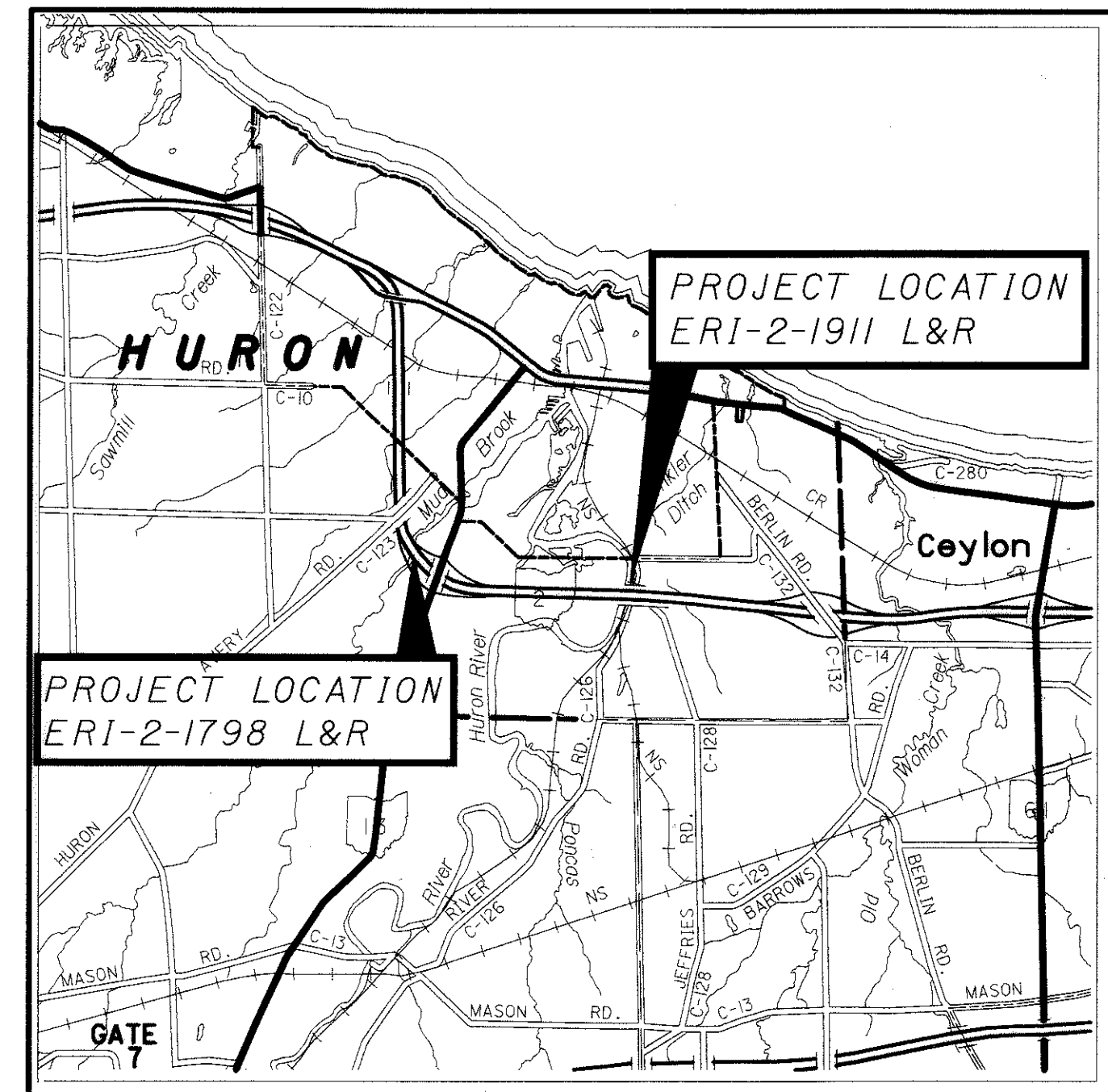
**LIMITED ACCESS**

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

**2002 SPECIFICATIONS**

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.



**LOCATION MAP**

ERI-2-1798 L&R  
LATITUDE: 41°22'28" LONGITUDE: 82°34'18"  
ERI-2-1911 L&R  
LATITUDE: 41°21'58" LONGITUDE: 82°32'54"



PORTION TO BE IMPROVED: \_\_\_\_\_  
INTERSTATE & DIVIDED HIGHWAY: \_\_\_\_\_  
UNDIVIDED STATE & FEDERAL ROUTES: \_\_\_\_\_  
OTHER ROADS: \_\_\_\_\_

**INDEX OF SHEETS:**

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**UNDERGROUND UTILITIES**  
TWO WORKING DAYS  
**BEFORE YOU DIG**  
CALL 1-800-362-2764 (TOLL FREE)  
OHIO UTILITIES PROTECTION SERVICE  
NON-MEMBERS  
MUST BE CALLED DIRECTLY

PLAN PREPARED BY:  
BURGESS & NIPLÉ  
100 WEST ERIE STREET  
PAINESVILLE, OH 44077

**ENGINEERS SEAL:**

SIGNED: *Stephen C. Tomasic*  
DATE: 12/18/00

STANDARD CONSTRUCTION DRAWINGS						SUPPLEMENTAL SPECIFICATIONS	
MT-95.30	4-19-02						
MT-98.12	4-19-02						
MT-98.13	4-19-02					843	4-18-03
MT-98.14	4-19-02					846	4-19-02
MT-98.15	4-19-02						
MT-98.16	4-19-02					954	9-9-97
DM-4.3	7-19-02					832	2-12-03
DM-4.4	7-19-02					833	2-12-03

APPROVED: *Thomas M. O'Leary*  
DATE 12-18-00 DISTRICT DEPUTY DIRECTOR

APPROVED: *Jordan Proctor*  
DATE 1-24-01 DIRECTOR, DEPARTMENT OF TRANSPORTATION

ERI - SR 2-17.98/19.11  
030562 PID - 21227  
Dist 3 11/19/2003

FEDERAL PROJECT NO. 6010 (147)  
PID NO. 21227  
CONSTRUCTION PROJECT NO.  
RAILROAD INVOLVEMENT  
ERI-2-17.98 / 19.11  
18

REFERENCE SHALL BE MADE TO SUPPLEMENTAL SPECIFICATIONS:

- 843 DATED 04-18-03
- 846 DATED 04-19-02
- 954 DATED 09-09-97

- 832 DATED 02-12-03
- 833 DATED 02-12-03

**PROPOSED WORK**

**ERI-1798 L&R OVER MUD BROOK**

1. SEAL DECKS WITH HMWM.
2. SEAL CONSTRUCTION JOINTS BETWEEN PARAPET AND DECK ONLY ON THE LOW SIDE OF THE STRUCTURES.
3. PATCH DELAMINATIONS ON PARAPETS.
4. SEAL TOP AND INSIDES OF PARAPETS, OUTSIDE OF PARAPETS, DECK OVERHANG, AND THE FASCIA PRESTRESSED CONCRETE I-BEAM EXTERIOR FACES AND BOTTOM FLANGES WITH EPOXY-URETHANE.
5. REMOVE AND REPLACE UNSOUND CONCRETE IN CLOSURE POUR AT OUTSIDE FACES OF THE FASCIA I-BEAMS PRIOR TO SEALING.
6. SEAL EXPOSED ABUTMENT SURFACES AND PIER CAPS TO INSIDE FACE OF THE FASCIA I-BEAM FLANGE WITH EPOXY-URETHANE.
7. REMOVE LOOSE CONCRETE FROM THE SPALLED PIER DIAPHRAGMS AND SEAL EXPOSED SURFACE AND REINFORCING STEEL WITH HIGH-BUILD EPOXY AND URETHANE TOPCOAT.
8. IMPROVE THE RIDEABILITY OF THE RIGHT BRIDGE NEAR THE FORWARD ABUTMENT BY GRINDING THE WEARING SURFACE.
9. REPLACE COMPRESSION JOINT SEALS.
10. STENCIL PIER NUMBERS ON THE INSIDE ENDS OF THE PIERS BETWEEN THE STRUCTURES.

**ERI-1911 L&R OVER HURON RIVER**

1. SEAL DECKS WITH HMWM
2. SEAL CONSTRUCTION JOINTS BETWEEN PARAPETS AND DECKS.
3. PATCH DELAMINATIONS ON PARAPETS.
4. SEAL TOP AND INSIDES OF PARAPETS, OUTSIDES OF PARAPETS, DECK OVERHANG, AND THE PRESTRESSED CONCRETE FASCIA I-BEAM EXTERIOR FACES AND BOTTOM FLANGES WITH EPOXY-URETHANE.
5. REMOVE AND REPLACE UNSOUND CONCRETE IN CLOSURE POUR AT THE OUTSIDE OF PRESTRESSED CONCRETE FASCIA BEAMS, PRIOR TO SEALING (UNITS 1 THROUGH 3).
6. REMOVE LOOSE CONCRETE FROM THE SPALLED PIER DIAPHRAGMS AND SEAL EXPOSED SURFACES AND REINFORCING STEEL WITH HIGH-BUILD EPOXY AND URETHANE TOPCOAT (UNITS 1 THROUGH 3).
7. PATCH DAMAGED PRESTRESSED I-BEAM ENDS (UNITS 1 THROUGH 3).
8. PAINT FOUR FEET OF THE STEEL GIRDER ENDS IN UNIT 4.
9. REPLACE COMPRESSION JOINT SEALS.
10. REHAB MISSING AND LOOSE ANCHOR BOLTS AT FIXED PIERS.
11. EXTEND SCUPPERS IN UNIT 4 TWO FEET.
12. SEAL INTERMEDIATE PIERS TO INSIDE FACE OF THE FASCIA BEAM FLANGE WITH EPOXY-URETHANE.
13. SEAL ALL EXPOSED ABUTMENT SURFACES.
14. SEAL PRESTRESSED CONCRETE I-BEAMS 4 FEET EACH WAY FROM JOINTS WITH EPOXY-URETHANE (UNITS 1 THROUGH 3).
15. SEAL ENTIRE PIER CAPS AT EXPANSION JOINTS WITH EPOXY-URETHANE.
16. PROVIDE SEISMIC RETROFITS.
17. RESTENCIL PIER NUMBERS ON THE INSIDE ENDS OF THE PIERS BETWEEN STRUCTURES.

**ITEM 614 - MAINTAINING TRAFFIC**

A MINIMUM OF ONE LANE MUST BE MAINTAINED IN EACH DIRECTION AT ALL TIMES ON EXISTING PAVEMENTS. LANE CLOSURES SHALL NOT BE PERMITTED DURING WEEKEND TRAFFIC WHICH SHALL BE DEFINED AS BETWEEN 3:00 PM FRIDAY AND 8:00 AM MONDAY.

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS	NEW YEARS
MEMORIAL DAY	FOURTH OF JULY
LABOR DAY	THANKSGIVING

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF THE WEEK	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY
MONDAY	12:00N FRIDAY THROUGH 6:00 AM TUESDAY
TUESDAY	12:00N MONDAY THROUGH 6:00 AM WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 6:00 AM THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY

NO EXTENSIONS OF TIME SHALL BE GRANTED FOR DELAYS IN MATERIAL DELIVERIES, UNLESS SUCH DELAYS ARE INDUSTRY-WIDE, OR FOR LABOR STRIKES, UNLESS SUCH STRIKES ARE AREA-WIDE.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES IN ACCORDANCE WITH 108.07.

IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

**LIMITATION OF OPERATIONS**

THE CONTRACTOR'S ACTIVITIES AND WORK SCHEDULE SHALL BE CONSTRAINED BY THE FOLLOWING SPECIAL LIMITATIONS AND ALL OTHERS LISTED ELSEWHERE:

1. NO CONCRETE PATCHING, CONCRETE OVERLAY, CONCRETE SEALING, OR STRUCTURAL STEEL COATING OPERATIONS SHALL BE PERFORMED DURING THE PERIOD BEGINNING NOVEMBER 1ST AND ENDING MARCH 31ST.
2. CONCRETE MUST BE IN PLACE AT LEAST 30 DAYS PRIOR TO SEALING.
3. CONCRETE SUBSTRUCTURE SEALER TOPCOAT SHALL NOT BE APPLIED UNTIL THE ABOVE AND ADJACENT STRUCTURAL STEEL HAS BEEN TOPCOATED.
4. HMWM MUST BE APPLIED ONLY WHEN THE DECK TEMPERATURE IS BETWEEN 40° AND 70° F AND AN INSPECTOR IS PRESENT.
5. ANY WORK TO THE SUPERSTRUCTURE OVER OR NEAR THE RAILROAD TRACKS MUST BE DONE WITH OUT FALSEWORK OR RIGGING EXTENDING BELOW THE BOTTOM FLANGE OF THE FASCIA GIRDERS, AND A MINIMUM VERTICAL CLEARANCE OF 23'-0" MAINTAINED.

**EXISTING STRUCTURE VERIFICATION:**

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FILED OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05 AND 105.02. CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

**EXISTING STRUCTURE PLANS:**

THE ORIGINAL DESIGN AND UPGRADING PLANS MAY BE EXAMINED BY PROSPECTIVE BIDDERS AT THE DEPARTMENT OF TRANSPORTATION, DISTRICT 3 OFFICE, 906 NORTH CLARK STREET, ASHLAND, OHIO THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE DRAWINGS.

**ITEM - 864 - SEALING CONCRETE SURFACES EPOXY-URETHANE**

THE URETHANE COLOR SHALL BE FEDERAL COLOR STANDARD NO. 1777B, NEUTRAL. THE URETHANE COLOR FOR THE PIER NUMBERS SHALL BE FEDERAL COLOR STANDARD NO. 37037, BLACK.

**ITEM 514 FIELD PAINTING OF EXISTING STEEL SYSTEM OZEU**

THE URETHANE TOP COAT COLOR SHALL BE FEDERAL COLOR STANDARD NO. 26120, BROWN.

**ITEM SPECIAL-SEALING OF CONCRETE SURFACES WITH HIGH BUILD EPOXY RESIN**

THIS ITEM OF WORK SHALL BE THE SEALING OF THE UNSOUND, DELAMINATED, SPALLED, OR DETERIORATED CONCRETE SURFACES OF THE PIER DIAPHRAGMS NOT INCLUDED IN PATCHING CONCRETE ITEMS. (SOUND CONCRETE AREAS SHALL NOT BE SEALED UNDER THIS ITEM OF WORK.)

THE SEALING SHALL BE AS PER ODOT PROPOSAL NOTE, ITEM SPECIAL - SEALING OF CONCRETE SURFACES, WITH THE FOLLOWING EXCEPTIONS:

A. THE MATERIAL TO BE USED SHALL BE A SOLVENT-FREE TWO PART EPOXY RESIN COATING. THE MATERIAL SHALL BE SIKAGUARD 62, EUCLID CHEMICAL EPOXY 452LV, POLYCARB MARK-65, THERMAL-CHEM PRODUCT NO. 901 OR DURA KOTE. A MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT AT THE JOB SITE DURING THE APPLICATION OF THE EPOXY COATING UNTIL SUCH TIME AS HE AND THE ENGINEER ARE SATISFIED THE CONTRACTOR IS QUALIFIED IN ALL ASPECTS OF APPLYING THE EPOXY COATING.

B. THE PREPARATION SHALL INCLUDE THE REMOVAL OF ALL LOOSE, DELAMINATED OR DETERIORATED CONCRETE IN SUCH A MANNER AND TO SUCH AN EXTENT AS TO EXPOSE A SOLID CONCRETE SURFACE. THE ENGINEER WILL SOUND THE AREA TO INSURE THAT ONLY SOLID CONCRETE REMAINS. THE CONTRACTOR SHALL LEAVE HIS LADDERS, PLATFORMS, OR SCAFFOLDS IN PLACE FOR A SUFFICIENT LENGTH OF TIME AND IN SUCH A MANNER TO PERMIT THE ENGINEER TO SOUND AND INSPECT THE CONCRETE. CONCRETE MAY BE REMOVED BY CHIPPING OR HAND DRESSING. NO PNEUMATIC EQUIPMENT SHALL BE PERMITTED. CARE SHALL BE TAKEN IN WORKING NEAR REINFORCING STEEL SO AS NOT TO DAMAGE OR DEBOND THE STEEL OR TO SHATTER THE CONCRETE AROUND IT. WHEN REMOVAL BECOMES EXTENSIVE THE ENGINEER MAY REQUIRE AN AREA TO BE REPAIRED AND PAID FOR UNDER SS 843. CLEANING SHALL PRECEDE THE COATING APPLICATION BY NOT MORE THAN 24 HOURS. THE SURFACES TO BE COATED AND ANY EXPOSED REINFORCING STEEL SHALL BE THOROUGHLY CLEANED BY ABRASIVE BLASTING FOLLOWED BY AN AIR BLAST. IT MAY BE NECESSARY TO USE HAND TOOLS TO REMOVE SCALE FROM THE REINFORCING STEEL. SURFACES SHALL BE MADE FREE FROM SPALLS, LAITANCE, DIRT, RUST, EFFLORESCENCE, OR OTHER FOREIGN MATERIALS AND BE OF SOUND MATERIAL.

C. APPLICATION SHALL BE TWO COATS APPLIED AT A MAXIMUM COVERAGE RATE OF 150 SQUARE FEET PER GALLON FOR EACH COAT. THE FIRST COAT SHALL BE TINTED TO APPEAR DIFFERENT IN COLOR THAN THE SECOND COAT. THE EPOXY SHALL BE APPLIED TO THE CONCRETE SURFACES UNDER CONDITIONS AND IN A MANNER SPECIFIED AND APPROVED BY THE ENGINEER AND MANUFACTURER'S REPRESENTATIVE.

PAYMENT SHALL BE MADE AT THE CONTRACT PRICE BID FOR ITEM SPECIAL-SEALING OF CONCRETE SURFACES WITH HIGH BUILD EPOXY RESIN. THIS PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN CONFORMANCE WITH THE REQUIREMENTS AND TO THE SATISFACTION OF THE ENGINEER.

**BURGESS & NIPLE**

DATE	10-31-00	REVIEWED	DWL	DRAWN	DCF
FILE NUMBER	2201036	CHECKED	SCF	DESIGNED	DCF
BRIDGE NO. ERI-2-1798L&R, STATE ROUTE 2 OVER MUD BROOK BRIDGE NO. ERI-2-1911L&R, STATE ROUTE 2 OVER HURON RIVER					
<b>STRUCTURE NOTES 1</b>					
ERI-2-17-98/19.11					
2 / 18					
2 / 18					

**ITEM 516 - ELASTOMERIC COMPRESSION SEAL, AS PER PLAN, OR ITEM 516 - STRUCTURAL JOINT OR JOINT SEALER, MISC.: REPLACEMENT OF LOCKING BOX SEALS**

THE WORK FOR THIS ITEM SHALL INCLUDE REMOVAL OF DEBRIS FROM THE JOINTS, REMOVAL OF THE EXISTING SEALS AND REPLACEMENT WITH NEW COMPATIBLE SEALS. NEW SEALS SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS.

EXISTING SEALS AT ERI-2-1798 BRIDGES ARE:  
WATSON BOWMAN WJ600 COMPRESSION SEALS

EXISTING SEALS AT ERI-2-1911 BRIDGES ARE:  
D.S. BROWN LOCKING BOX SEALS, PART NO. 3001

A MINIMUM LEAD TIME OF 30 DAYS SHALL BE PROVIDED TO THE MANUFACTURER WHEN ORDERING THE NEW JOINT SEALS.

PAYMENT FOR ALL OF THE ABOVE, INCLUDING LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 516 - ELASTOMERIC COMPRESSION SEAL, AS PER PLAN OR ITEM 516 - STRUCTURAL JOINT OR JOINT SEALER, MISC.: REPLACEMENT OF LOCKING BOX SEALS.

ESTIMATED QUANTITIES ERI-2-1798

ITEM	ITEM EXT.	LEFT TOTAL	RIGHT TOTAL	UNIT	DESCRIPTION	ERI-2-1798L			ERI-2-1798R			GENERAL	AS PER PLAN REFERENCE SHEET NO.
						SUPER-STRUCT.	ABUT.	PIERS	SUPER-STRUCT.	ABUT.	PIERS		
254	01010		320	SQ. YD.	PAVEMENT PLANING, PORTLAND CEMENT CONCRETE				320				
423	00100	50	56	POUND	CRACK SEALING, TYPE I	50			56				
SPECIAL	512 75500	76	71	SQ. YD.	SEALING MISC.: SEALING OF CONCRETE SURFACES WITH HIGH-BUILD EPOXY RESIN	76			71				
516	10901	52	59	FT.	ELASTOMERIC COMPRESSION SEAL, AS PER PLAN	52			59				3 / 18
621	00300	11	13	EACH	RPM REFLECTOR	11			13				
626	00200	14	16	EACH	BARRIER REFLECTOR, TYPE B	14			16				
642	00102	0.26	0.29	MILE	EDGE LINE, TYPE 2	0.26			0.29				
642	00202	0.26	0.29	MILE	LANE LINE, TYPE 2	0.26			0.29				
843	50001	18	21	SQ. FT.	PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR, AS PER PLAN*	18			21				15 / 18
846	73000	4332	4421	SQ. YD.	TREATING CONCRETE BRIDGE DECKS WITH HMWM RESIN	4332			4421				
864	10100	2953	3361	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	2755	114	84	3151	101	109		
614	11000	LUMP	LUMP		MAINTAINING TRAFFIC								LUMP
624	10000	LUMP	LUMP		MOBILIZATION								LUMP

\* ESTIMATED QUANTITY HAS BEEN INCREASED BY 200% TO ALLOW FOR ADDITIONAL DETERIORATION.

ESTIMATED QUANTITIES ERI-2-1911

ITEM	ITEM EXT.	LEFT TOTAL	RIGHT TOTAL	UNIT	DESCRIPTION	ERI-2-1911L			ERI-2-1911R			GENERAL	AS PER PLAN REFERENCE SHEET NO.
						SUPER-STRUCT.	ABUT.	PIERS	SUPER-STRUCT.	ABUT.	PIERS		
423	00100	39	39	POUND	CRACK SEALING, TYPE 1	39			39				
503	21300	LUMP	LUMP		UNCLASSIFIED EXCAVATION		LUMP			LUMP			
509	10000	1900	1902	POUND	EPOXY COATED REINFORCING STEEL		446	1454		447	1455		17 / 18
511	42501	5	5	CU. YD.	CLASS C CONCRETE, PIER CAP, AS PER PLAN			5			5		17 / 18
511	45501	7	7	CU. YD.	CLASS C CONCRETE, ABUTMENT, AS PER PLAN		7			7			17 / 18
SPECIAL	512 75000	5188	5188	FT.	SEALING, MISC.: SEALING JOINT WITH CAULKING COMPOUND	5188			5188				
SPECIAL	512 75500	142	145	SQ. YD.	SEALING MISC.: SEALING OF CONCRETE SURFACES WITH HIGH-BUILD EPOXY RESIN	142			145				
514	00050	1015	1015	SQ. FT.	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL	1015			1015				3 / 18
514	00056	1015	1015	SQ. FT.	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT, SYSTEM OZEU	1015			1015				
514	00060	1015	1015	SQ. FT.	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, SYSTEM OZEU	1015			1015				
514	00066	1015	1015	SQ. FT.	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, SYSTEM OZEU	1015			1015				
516	14600	100	100	FT.	STRUCTURAL JOINT OR JOINT SEALER, MISC.: REPLACEMENT OF LOCKING BOX SEALS	100			100				3 / 18
					AS PER PLAN								
516	46900	5	1	EACH	BEARING DEVICE, MISC.: ANCHOR BOLT RETROFIT	5			1				
518	12701	44	44	EACH	SCUPPER, VERTICAL EXTENSION, AS PER PLAN	44			44				15 / 18
SPECIAL	530 00400	26	26	EACH	STRUCTURE, MISC.: SEISMIC RETROFIT, TYPE A	26			26				
SPECIAL	530 00400	6	6	EACH	STRUCTURE, MISC.: SEISMIC RETROFIT, TYPE B	6			6				
621	00300	22	22	EACH	RPM REFLECTOR	22			22				
626	00200	52	52	EACH	BARRIER REFLECTOR, TYPE B	52			52				
642	00102	1.00	1.00	MILE	EDGE LINE, TYPE 2	1.00			1.00				
642	00202	0.50	0.50	MILE	LANE LINE, TYPE 2	0.50			0.50				
843	50001	42	60	SQ. FT.	PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR, AS PER PLAN*	42			60				15 / 18
846	73000	11191	11191	SQ. YD.	TREATING CONCRETE BRIDGE DECKS WITH HMWM RESIN	11191			11191				
864	10100	9777	9777	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)								
614	11000	LUMP	LUMP		MAINTAINING TRAFFIC						LUMP		
624	10000	LUMP	LUMP		MOBILIZATION						LUMP		

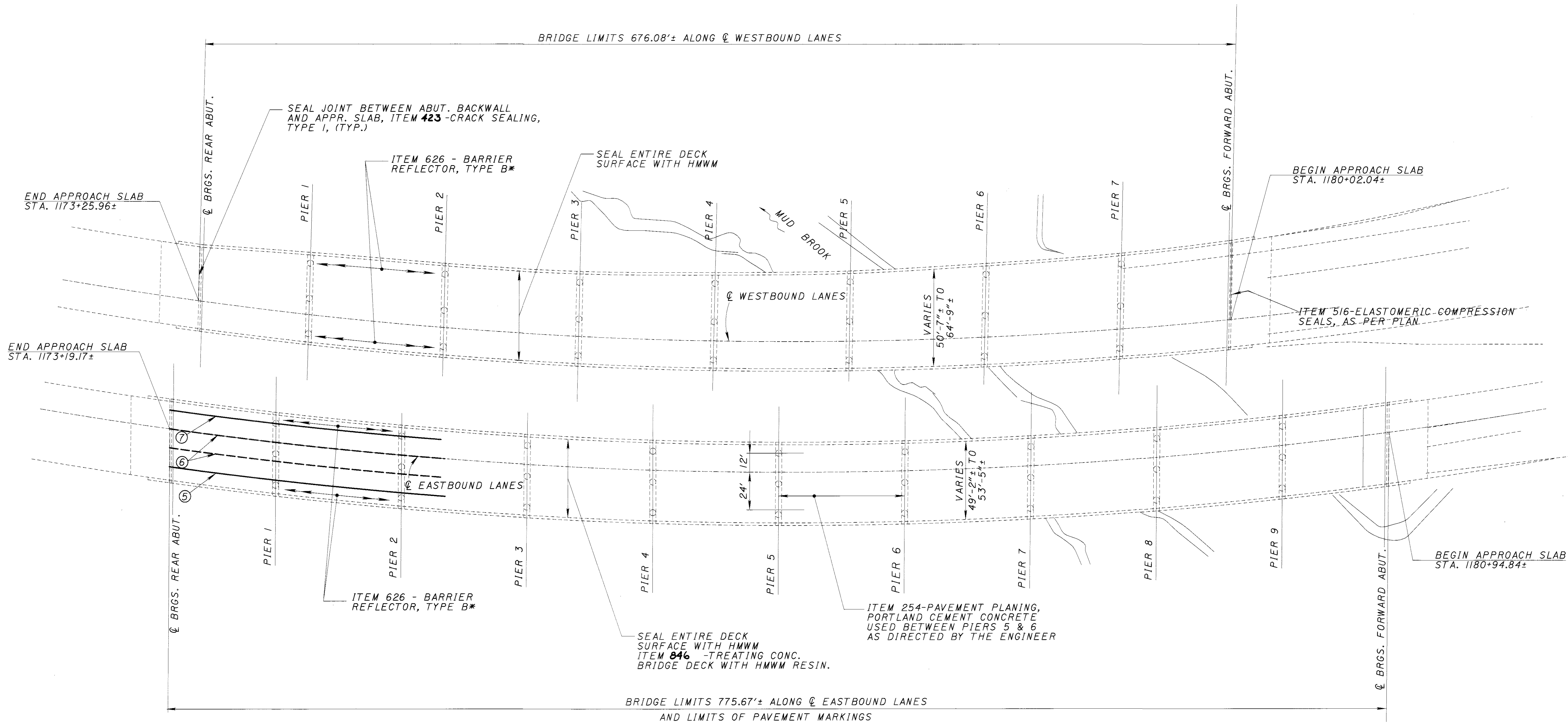
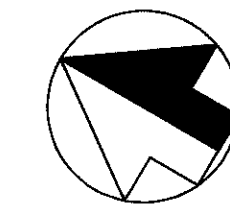
\* ESTIMATED QUANTITY HAS BEEN INCREASED BY 200% TO ALLOW FOR ADDITIONAL DETERIORATION.



DATE 10-31-00  
 REVIEWED DWL  
 DESIGNED DCF  
 CHECKED SCT  
 FILE NUMBER 22010038, 22010111, 22010338, 22010338

ESTIMATED QUANTITIES  
 BRIDGE NO. ERI-2-1798L&R, STATE ROUTE 2 OVER MUD BROOK  
 BRIDGE NO. ERI-2-1911L&R, STATE ROUTE 2 OVER HURON RIVER

ERI-2-17.98/19.11



**BURGESS & NIPLE**

DATE	11-1-00
REVISION	DWL
STRUCTURE FILE NUMBER	2201003, 2201011
DRAWN	DCF
CHECKED	SCT

**STRUCTURE PLAN**  
 BRIDGE NO. ERI-2-1798L&R  
 STATE ROUTE 2 OVER MUD BROOK

**ERI-2-17.98/19.11**

**NOTES:**

REMOVE EXISTING PRISMATIC RETROFLECTORS AND INSTALL NEW PRISMATIC RETROFLECTORS AFTER TREATING DECK WITH HMWM

\* EXISTING BARRIER REFLECTORS SHALL BE REMOVED, AND NEW REFLECTORS INSTALLED AT 100' MAX. SPACING AFTER SEALING OF THE BARRIERS IS COMPLETED (TYP. FULL LENGTH OF ALL BARRIERS)

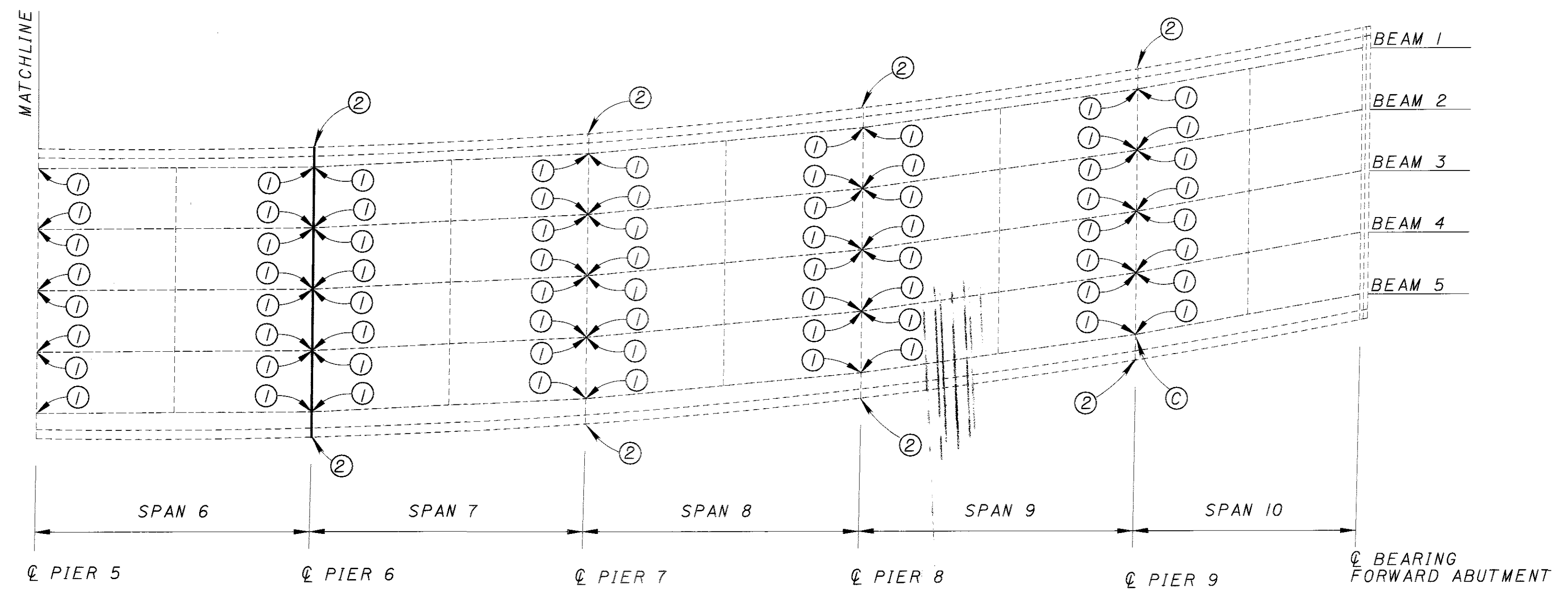
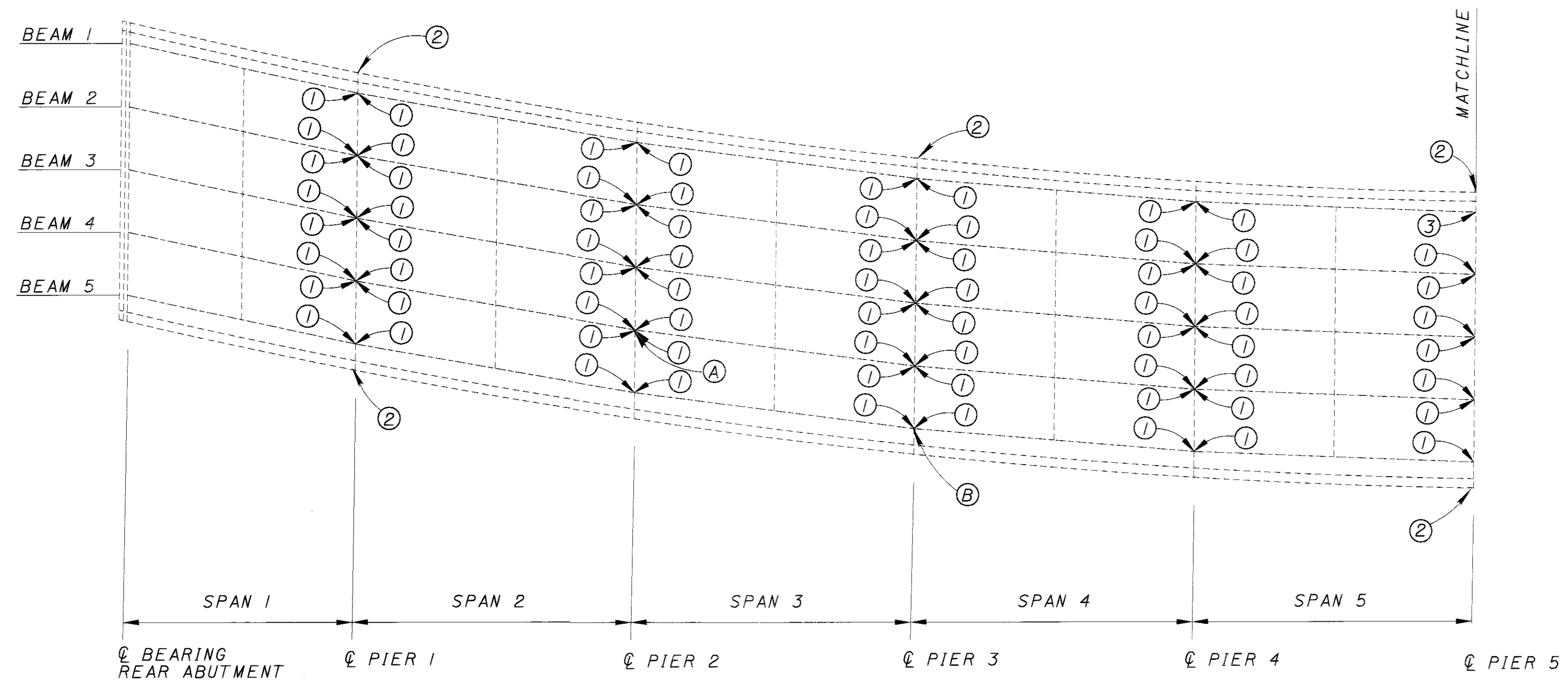
\*\* TYPICAL BOTH BRIDGES

**LEGEND**

ABUT. = ABUTMENT  
 BRGS. = BEARINGS  
 C.J. = CONSTRUCTION JOINT  
 CONC. = CONCRETE  
 HMWM = HIGH MOLECULAR WEIGHT METHACRYLATE  
 JT. = JOINT  
 MAX. = MAXIMUM  
 TYP. = TYPICAL

- ⑤ WHITE EDGE LINE, MATCH EXISTING \*\*
- ⑥ LANE LINE, MATCH EXISTING \*\* & PRISMATIC RETROFLECTOR \*\*
- ⑦ YELLOW EDGE LINE, MATCH EXISTING \*\*

P:\PR21518\CADD\176105EB.DGN



EASTBOUND STRUCTURE  
ERI-2-1798R

ROOSTING PREVENTION CAGES

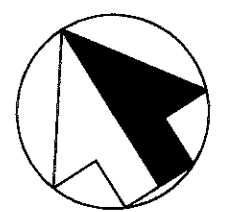
- (A) - 1 OF 4 CAGES MISSING
- (B) - 2 OF 4 CAGES MISSING
- (C) - 3 OF 4 CAGES MISSING
- (D) - 4 OF 4 CAGES MISSING

SUPERSTRUCTURE REPAIRS

- (1) - REPAIR SPALLED OR DELAMINATED CONCRETE DIAPHRAGM AT INTERFACE WITH BEAM WEB
- (2) - REPAIR UNSOUND CONCRETE IN CLOSURE POUR
- (3) - REPAIR SPALLED OR DELAMINATED BEAM END

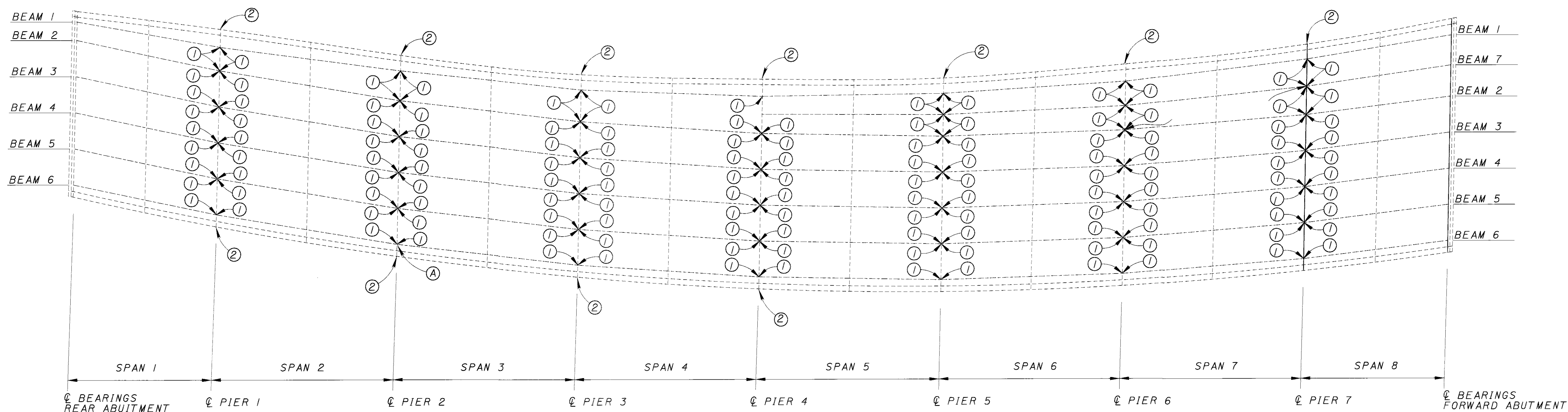
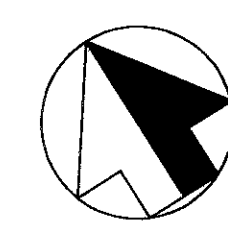
NOTES:

PLAN NOT TO SCALE, WIDTH EXAGGERATED  
SEE SHEET 15/18 FOR REPAIR DETAILS



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DESIGNED	DCP	CHECKED	SCT
DRAWN	DCF	REVIEWED	DCP
REVIEWED	DWL	DATE	10-31-00
STRUCTURE FILE NUMBER	2201003, 2201011		



WESTBOUND STRUCTURE  
ERI-2-1798L

ROOSTING PREVENTION CAGES

- (A) - 1 OF 4 CAGES MISSING
- (B) - 2 OF 4 CAGES MISSING
- (C) - 3 OF 4 CAGES MISSING
- (D) - 4 OF 4 CAGES MISSING


SUPERSTRUCTURE REPAIRS

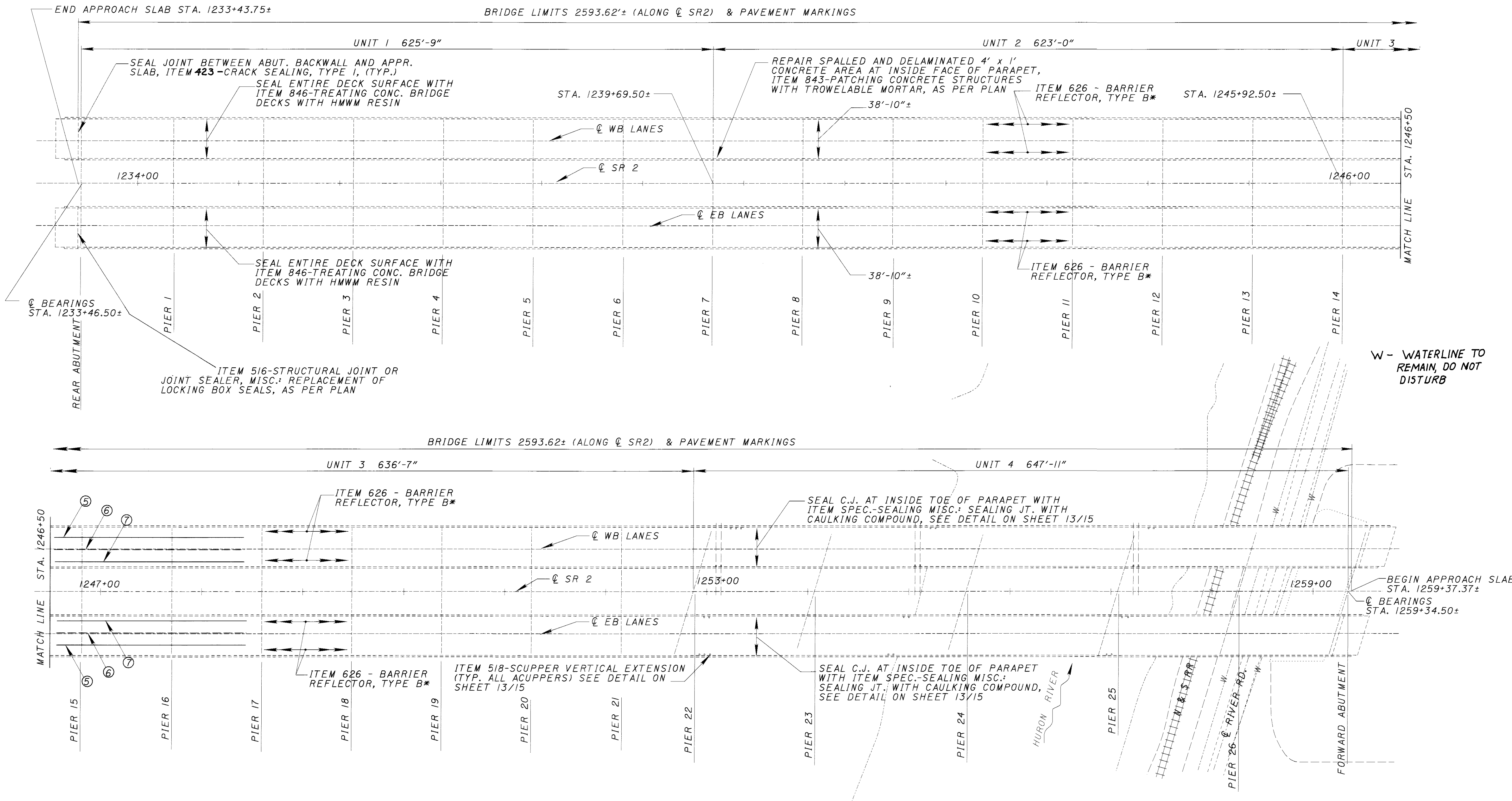
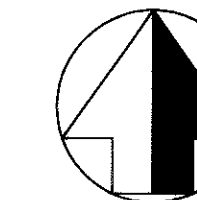
- (1) - REPAIR SPALLED OR DELAMINATED CONCRETE DIAPHRAGM AT INTERFACE WITH BEAM WEB
- (2) - REPAIR UNSOUND CONCRETE IN CLOSURE POUR
- (3) - REPAIR SPALLED OR DELAMINATED BEAM END

NOTE:

PLAN NOT TO SCALE, WIDTH EXAGGERATED  
SEE SHEET 15/18 FOR REPAIR DETAILS

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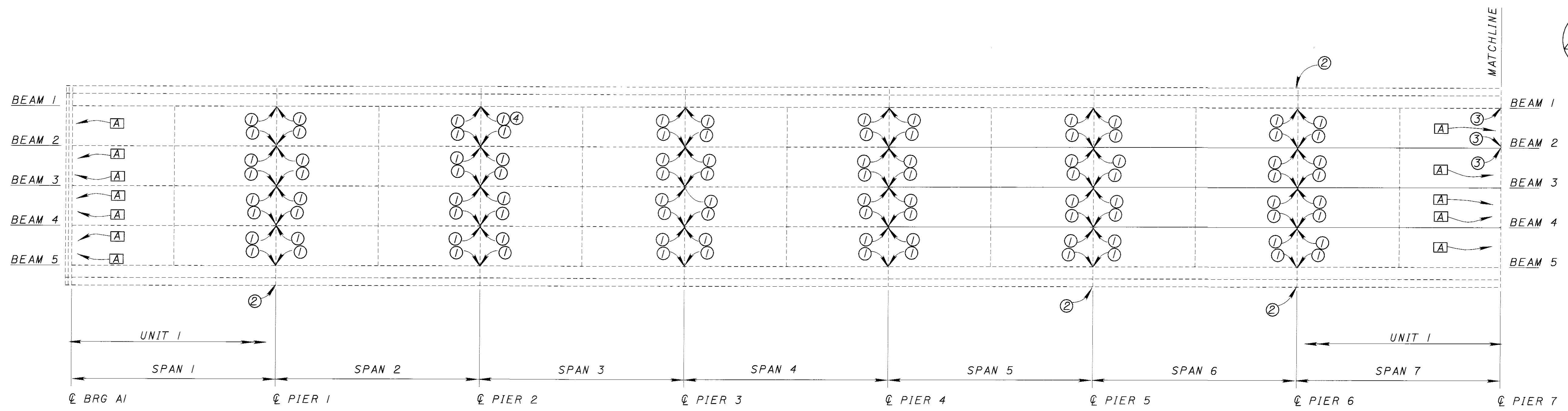
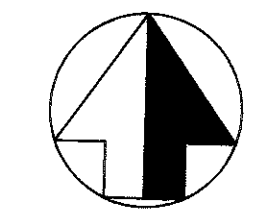
 BURGESS & NIPLE	
DESIGNED DCF CHECKED SCT	DRAWN DCF REVISED
REVERSED DWL STRUCTURE FILE NUMBER 2201003, 2201011	DATE 10-31-00
<b>WESTBOUND FRAMING PLAN</b> BRIDGE NO. ERI-2-1798L&R STATE ROUTE 2 OVER MUD BROOK	
<b>ERI-2-17.98/19.11</b>	
7 / 18	



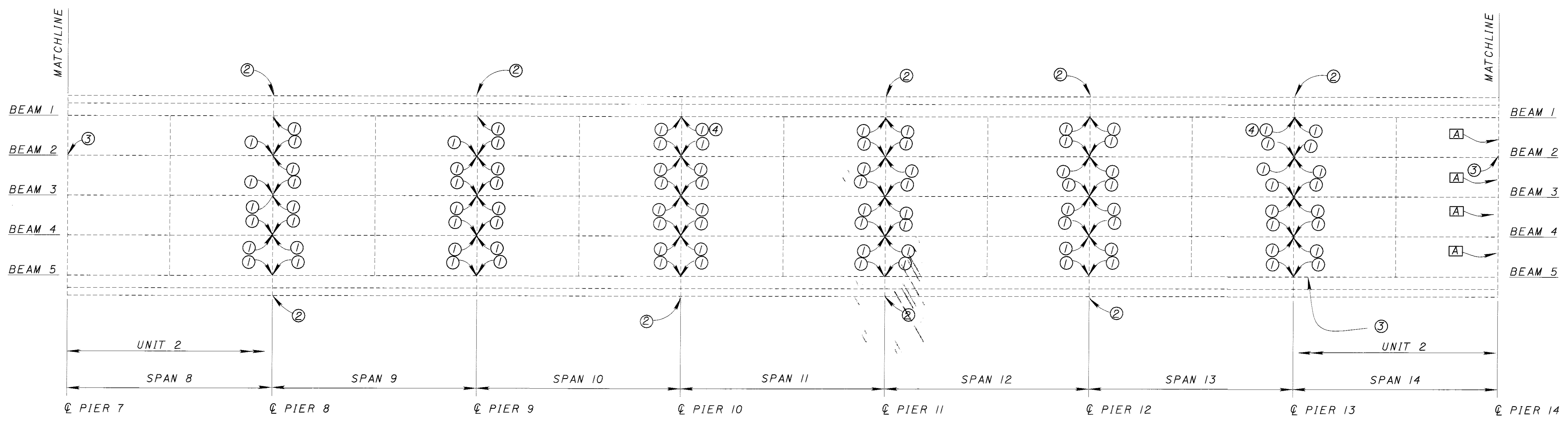
- ⑤ WHITE EDGE LINE, MATCH EXISTING
- ⑥ LANE LINE, MATCH EXISTING & PRISMATIC RETROREFLECTOR
- ⑦ YELLOW EDGE LINE, MATCH EXISTING

**NOTES:**  
 REMOVE EXISTING PRISMATIC RETROREFLECTORS AND INSTALL NEW PRISMATIC RETROREFLECTORS AFTER TREATING DECK WITH HMWM  
 \* EXISTING BARRIER REFLECTORS SHALL BE REMOVED, AND NEW REFLECTORS INSTALLED AT 100' MAX. SPACING AFTER SEALING OF THE BARRIERS IS COMPLETED (TYP. FULL LENGTH OF ALL BARRIERS)

**LEGEND**  
 ABUT. = ABUTMENT  
 ABUT. = BEARINGS  
 C.J. = CONSTRUCTION JOINT  
 HMWM = HIGH MOLECULAR WEIGHT METHACRYLATE  
 JT. = JOINT  
 MAX. = MAXIMUM  
 SPEC. = SPECIAL  
 TYP. = TYPICAL



EASTBOUND SPANS 1-7

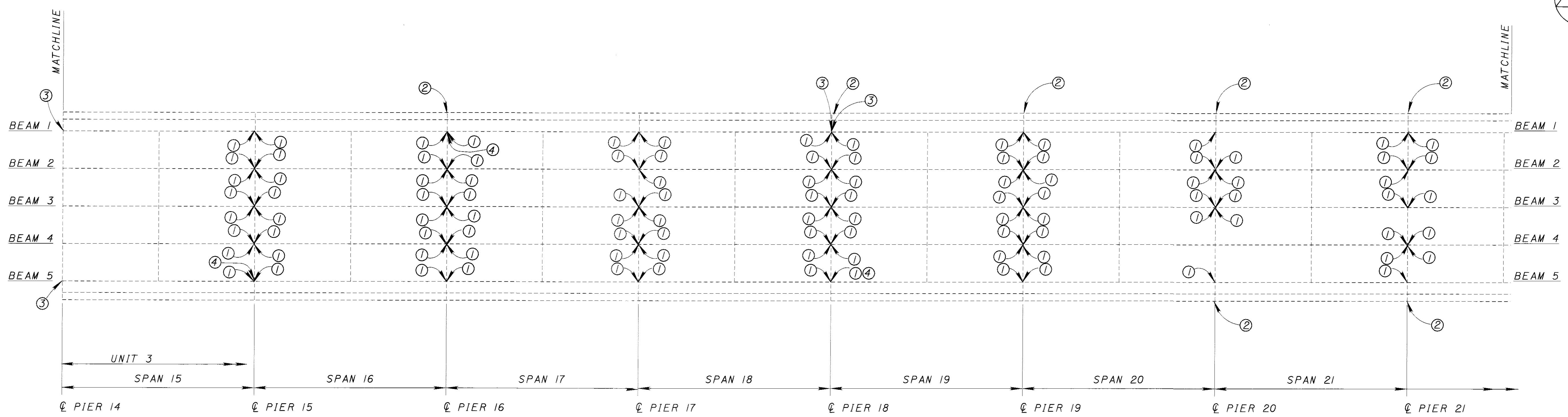
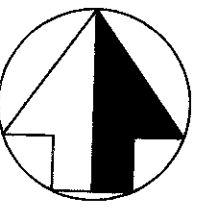


EASTBOUND SPANS 8 - 14

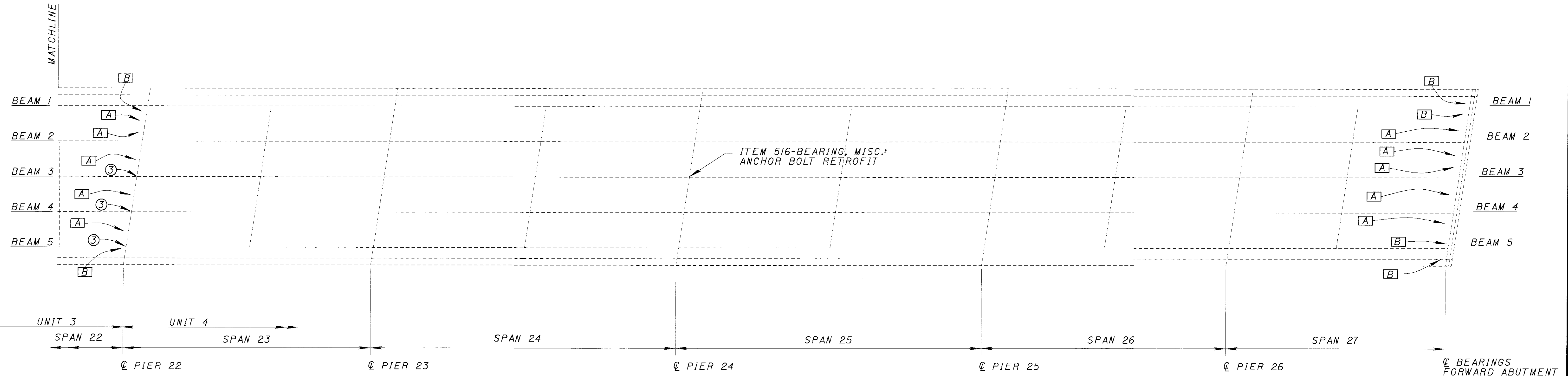
- SUPERSTRUCTURE REPAIRS**
- ① - REPAIR SPALLED OR DELAMINATED CONCRETE DIAPHRAGM AT INTERFACE WITH BEAM WEB
  - ② - REPAIR UNSOUND CONCRETE IN CLOSURE POUR
  - ③ - REPAIR SPALLED OR DELAMINATED BEAM END
  - ④ - REPAIR SPALLED OR DELAMINATED BEAM WEB
  - A - SEISMIC RETROFIT, TYPE A
  - B - SEISMIC RETROFIT, TYPE B

**NOTE:**  
 PLAN NOT TO SCALE, WIDTH EXAGGERATED  
 SEE SHEET 15/18 FOR REPAIR DETAILS  
 SEE SHEET 16/18 FOR SEISMIC RETROFITS  
 DRILLED HOLES FOR BOLTS TO SUPPORT SEISMIC RETROFITS AT JOINTS SHALL AVOID PRESTRESSED CONCRETE GIRDER FLANGES.

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EASTBOUND SPANS 15 - 21



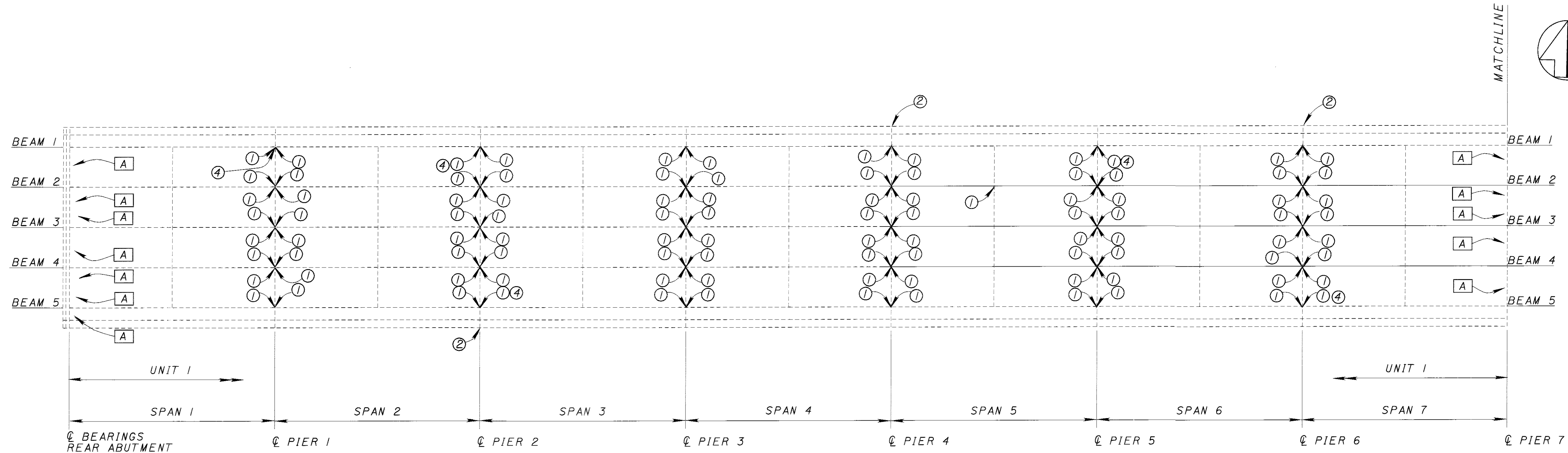
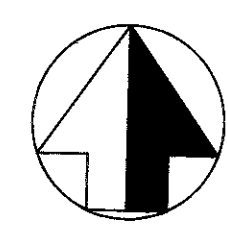
EASTBOUND SPANS 22 - 27

**SUPERSTRUCTURE REPAIRS**

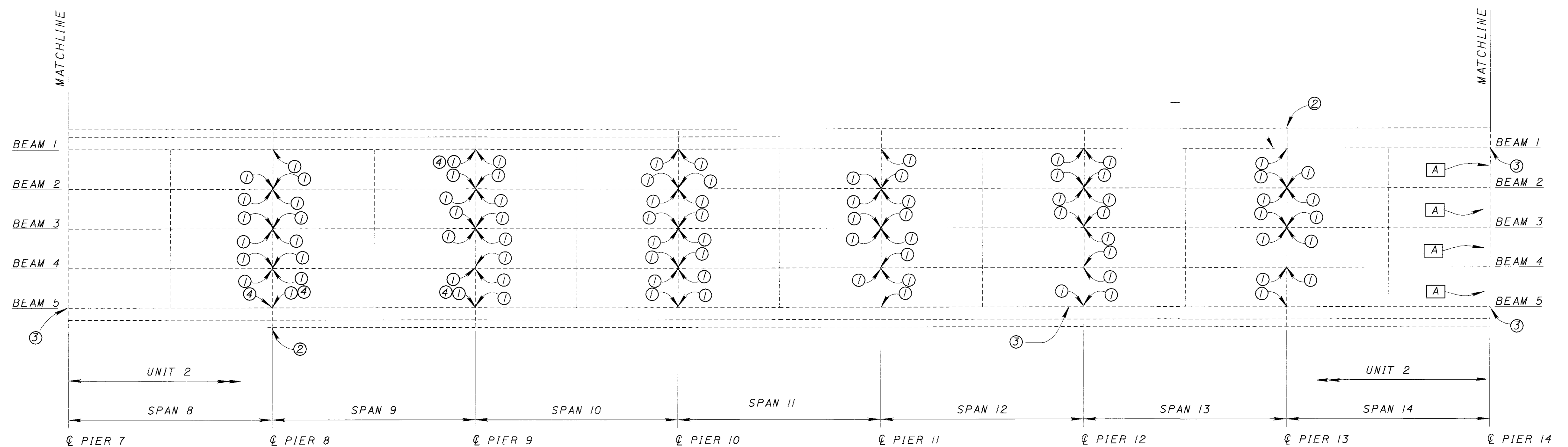
- ① - REPAIR SPALLED OR DELAMINATED CONCRETE DIAPHRAGM AT INTERFACE WITH BEAM WEB
- ② - REPAIR UNSOUND CONCRETE IN CLOSURE POUR
- ③ - REPAIR SPALLED OR DELAMINATED BEAM END
- ④ - REPAIR SPALLED OR DELAMINATED BEAM WEB
- [A] - SEISMIC RETROFIT, TYPE A
- [B] - SEISMIC RETROFIT, TYPE B

**NOTE:**  
 PLAN NOT TO SCALE, WIDTH EXAGGERATED  
 SEE SHEET 15/18 FOR REPAIR DETAILS  
 SEE SHEET 16/18 FOR SEISMIC RETROFITS  
 DRILLED HOLES FOR BOLTS TO SUPPORT SEISMIC RETROFITS AT JOINTS SHALL AVOID PRESTRESSED CONCRETE GIRDER FLANGES.

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WESTBOUND SPANS 1 - 7



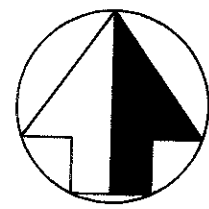
WESTBOUND SPANS 8 - 14

**SUPERSTRUCTURE REPAIRS**

- ① - REPAIR SPALLED OR DELAMINATED CONCRETE DIAPHRAGM AT INTERFACE WITH BEAM WEB
- ② - REPAIR UNSOUND CONCRETE IN CLOSURE POUR
- ③ - REPAIR SPALLED OR DELAMINATED BEAM END
- ④ - REPAIR SPALLED OR DELAMINATED BEAM WEB
- A - SEISMIC RETROFIT, TYPE A
- B - SEISMIC RETROFIT, TYPE B

**NOTE:**  
 PLAN NOT TO SCALE, WIDTH EXAGGERATED  
 SEE SHEET 15/18 FOR REPAIR DETAILS  
 SEE SHEET 16/18 FOR SEISMIC RETROFITS  
 DRILLED HOLES FOR BOLTS TO SUPPORT SEISMIC RETROFITS AT JOINTS SHALL AVOID PRESTRESSED CONCRETE GIRDER FLANGES.

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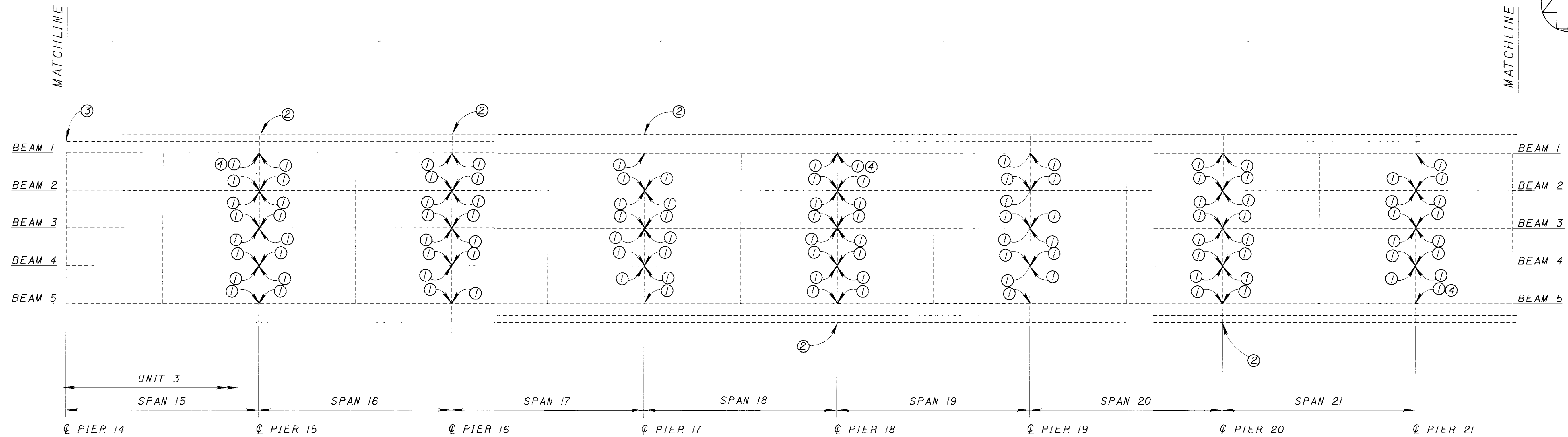
**BURGESS & NIPLÉ**

DATE	10-31-00
REVISED	DWF
ORGAN	DCF
DESIGNED	DCF
CHECKED	SCT
STRUCTURE FILE NUMBER	2201038, 2201046
REVISED	

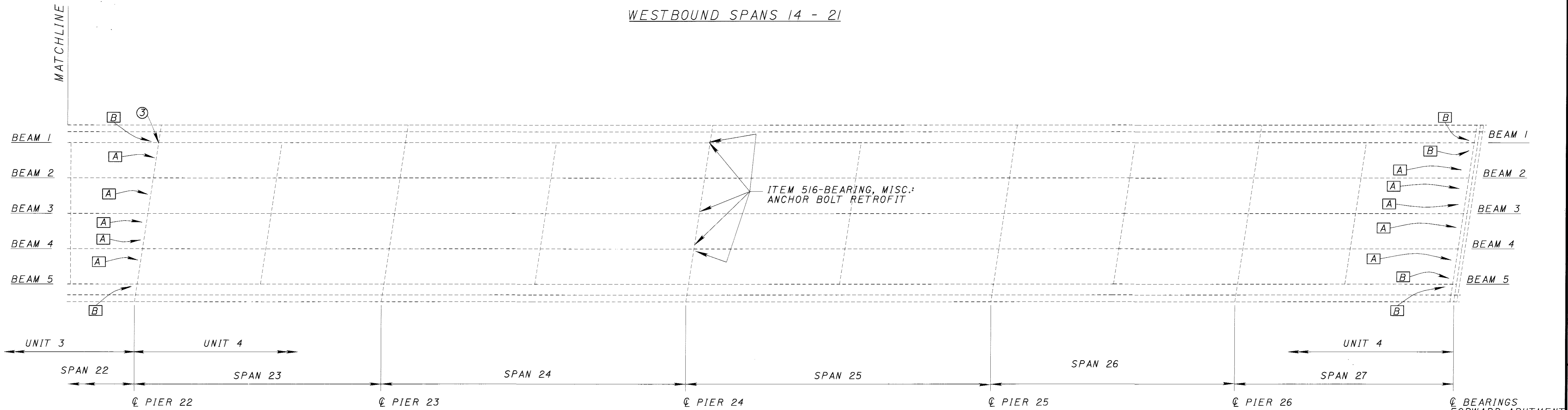
**WESTBOUND FRAMING PLAN, SPANS 15-27**  
 BRIDGE NO. ERI-2-1911L&R  
 STATE ROUTE 2 OVER HURON RIVER

**ERI-2-17.98/19.11**

12/18  
 12/18



WESTBOUND SPANS 14 - 21



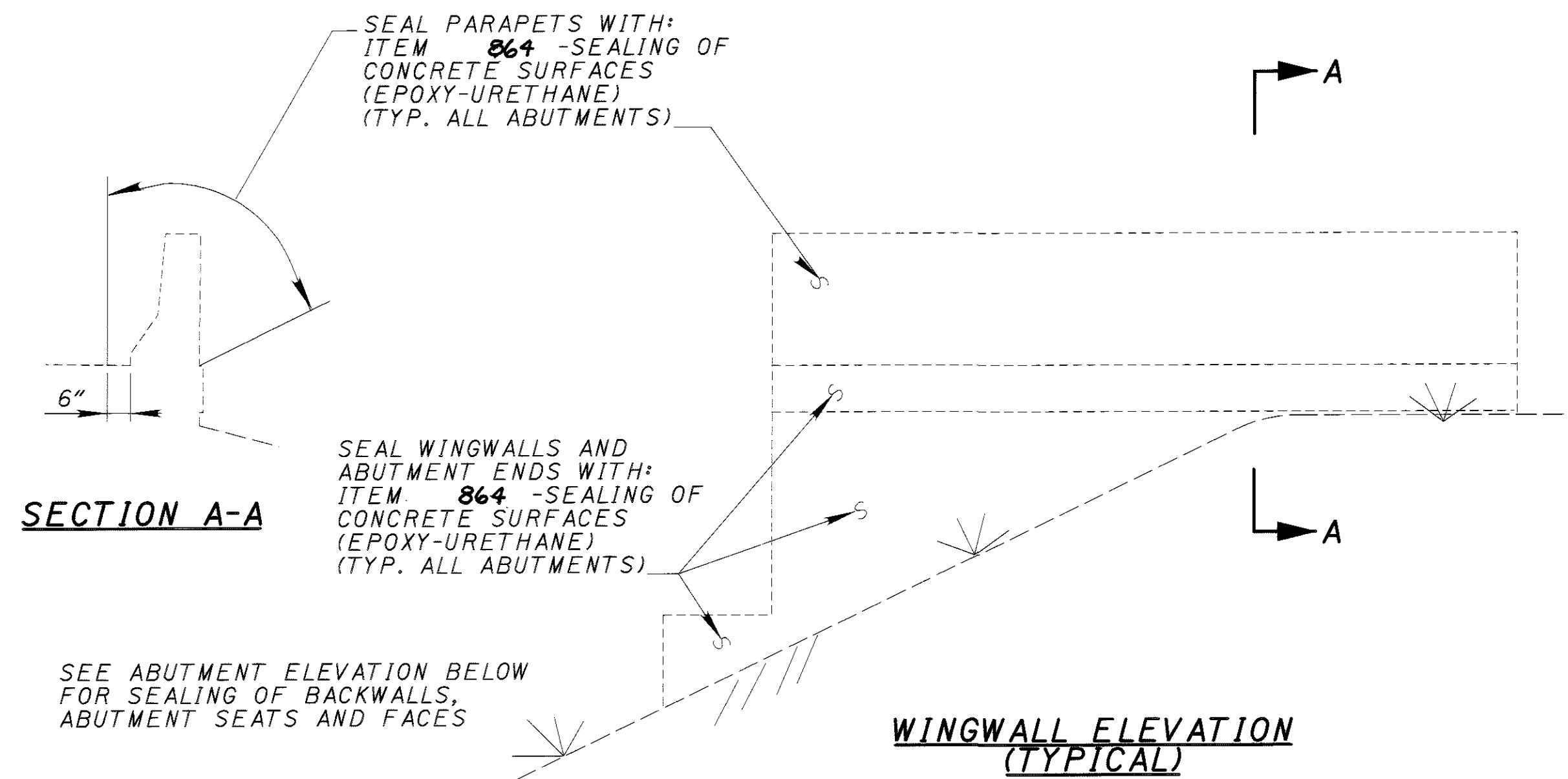
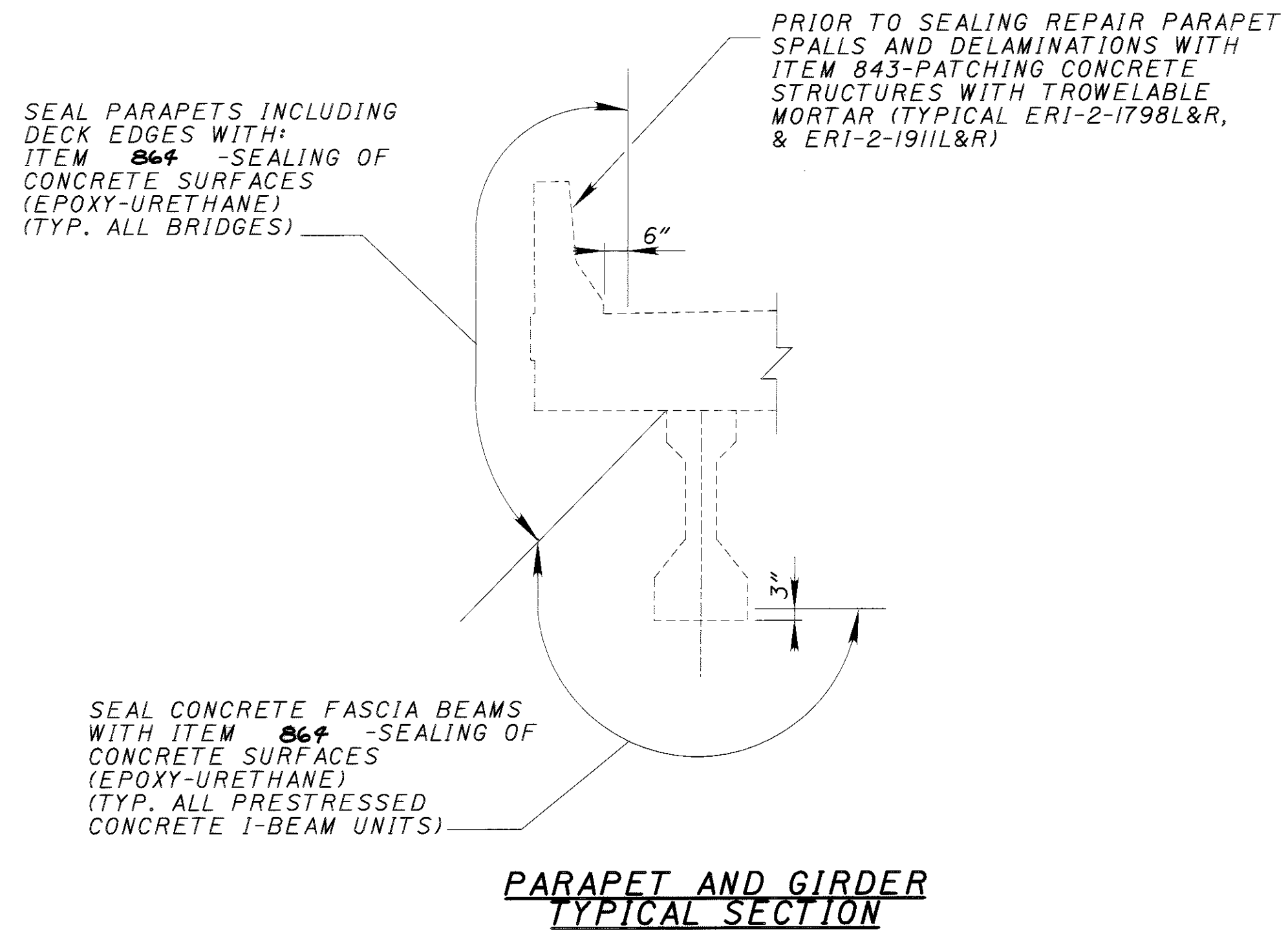
WESTBOUND SPANS 15 - 27

**SUPERSTRUCTURE REPAIRS**

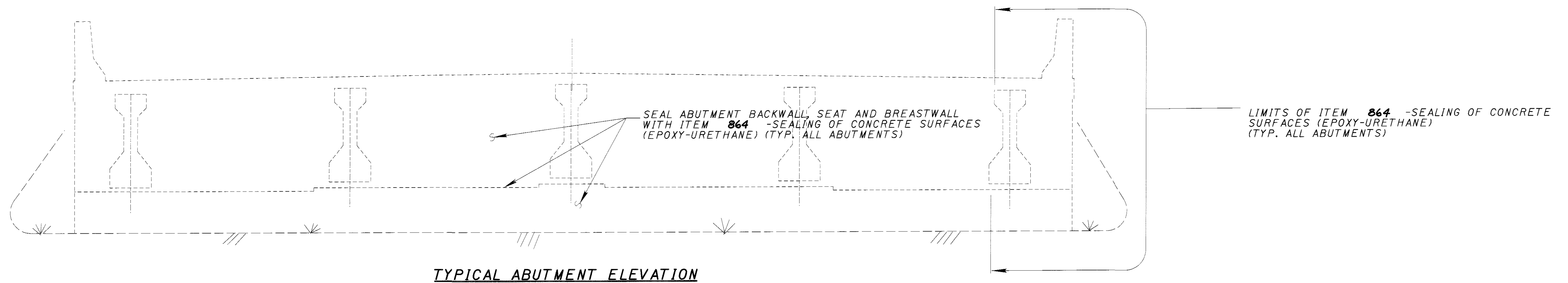
- ① - REPAIR SPALLED OR DELAMINATED CONCRETE DIAPHRAGM AT INTERFACE WITH BEAM WEB
- ② - REPAIR UNSOUND CONCRETE IN CLOSURE POUR
- ③ - REPAIR SPALLED OR DELAMINATED BEAM END
- ④ - REPAIR SPALLED OR DELAMINATED BEAM WEB
- [A] - SEISMIC RETROFIT, TYPE A
- [B] - SEISMIC RETROFIT, TYPE B

NOTE:  
 PLAN NOT TO SCALE, WIDTH EXAGGERATED  
 SEE SHEET 15/18 FOR REPAIR DETAILS  
 SEE SHEET 16/18 FOR SEISMIC RETROFITS  
 DRILLED HOLES FOR BOLTS TO SUPPORT SEISMIC RETROFITS AT JOINTS SHALL AVOID PRESTRESSED CONCRETE GIRDER FLANGES.

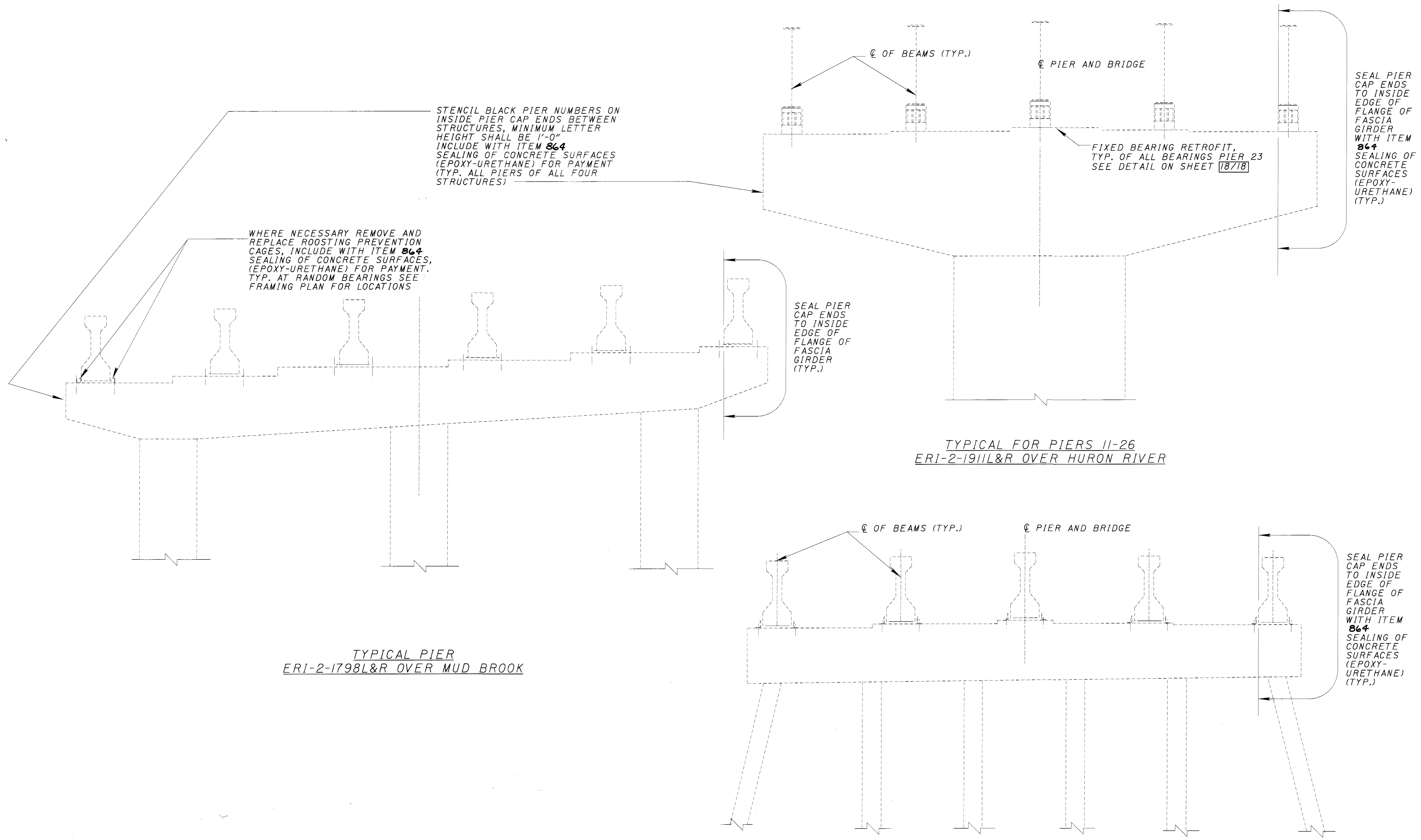
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SEALING QUANTITIES					
	ABUTMENTS	WINGWALLS	PARAPETS	FASCIA BEAMS	PIERS
ERI-2-1798L	110	4.0	1679	1076	84
ERI-2-1798R	97	4.0	1917	1234	109
ERI-2-1911L	85	9.0	6365	3096	222
ERI-2-1911R	85	9.0	6365	3096	222



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STENCIL BLACK PIER NUMBERS ON INSIDE PIER CAP ENDS BETWEEN STRUCTURES, MINIMUM LETTER HEIGHT SHALL BE 1'-0" INCLUDE WITH ITEM 864 SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) FOR PAYMENT (TYP. ALL PIERS OF ALL FOUR STRUCTURES)

WHERE NECESSARY REMOVE AND REPLACE ROOSTING PREVENTION CAGES, INCLUDE WITH ITEM 864 SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) FOR PAYMENT. TYP. AT RANDOM BEARINGS SEE FRAMING PLAN FOR LOCATIONS

FIXED BEARING RETROFIT, TYP. OF ALL BEARINGS PIER 23 SEE DETAIL ON SHEET 18718

SEAL PIER CAP ENDS TO INSIDE EDGE OF FLANGE OF FASCIA GIRDER WITH ITEM 864 SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) (TYP.)

SEAL PIER CAP ENDS TO INSIDE EDGE OF FLANGE OF FASCIA GIRDER (TYP.)

SEAL PIER CAP ENDS TO INSIDE EDGE OF FLANGE OF FASCIA GIRDER WITH ITEM 864 SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) (TYP.)

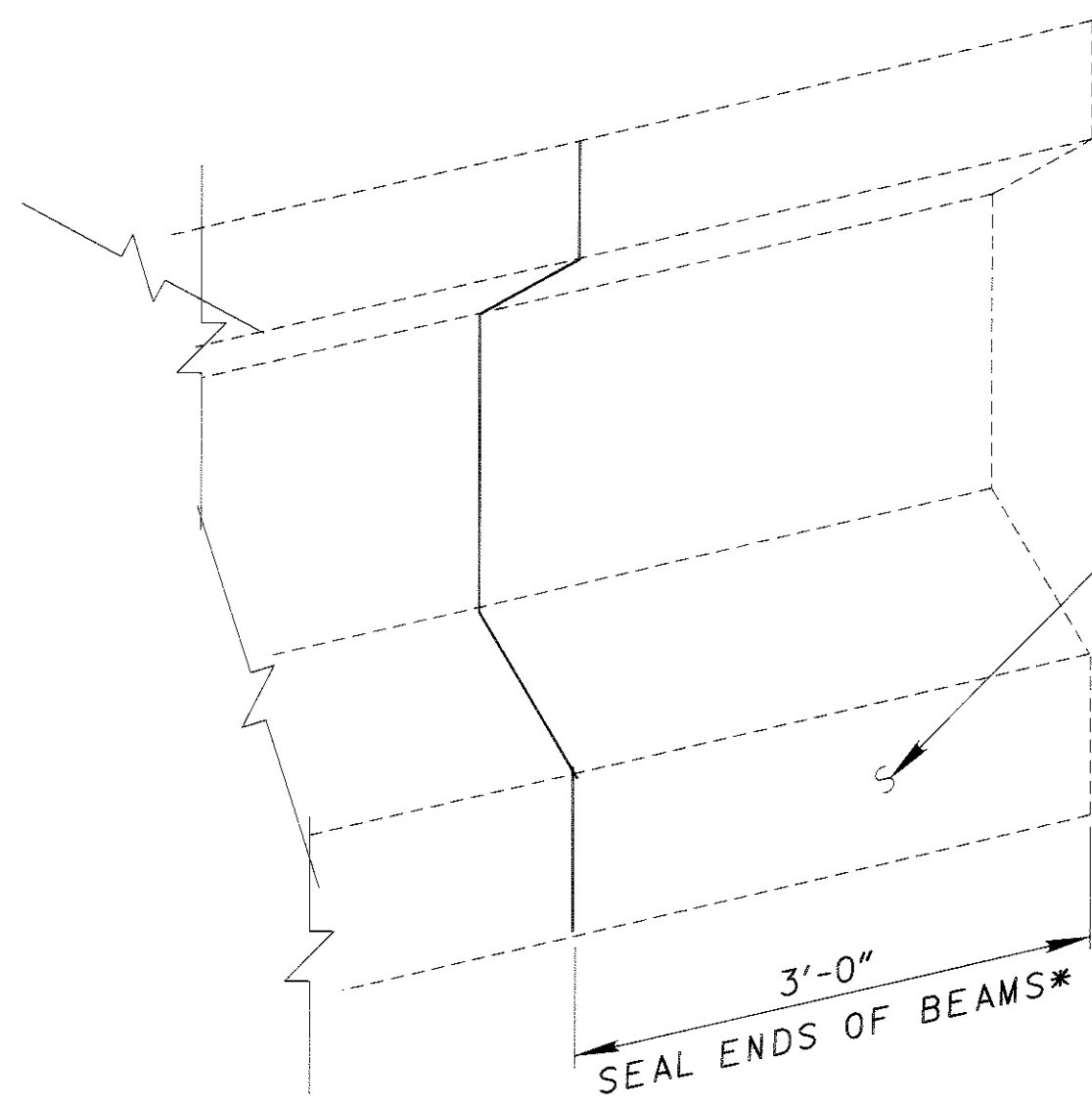
TYPICAL PIER  
ERI-2-1798L&R OVER MUD BROOK

TYPICAL FOR PIERS 11-26  
ERI-2-1911L&R OVER HURON RIVER

TYPICAL FOR PIERS 1-10  
ERI-2-1911L&R OVER HURON RIVER

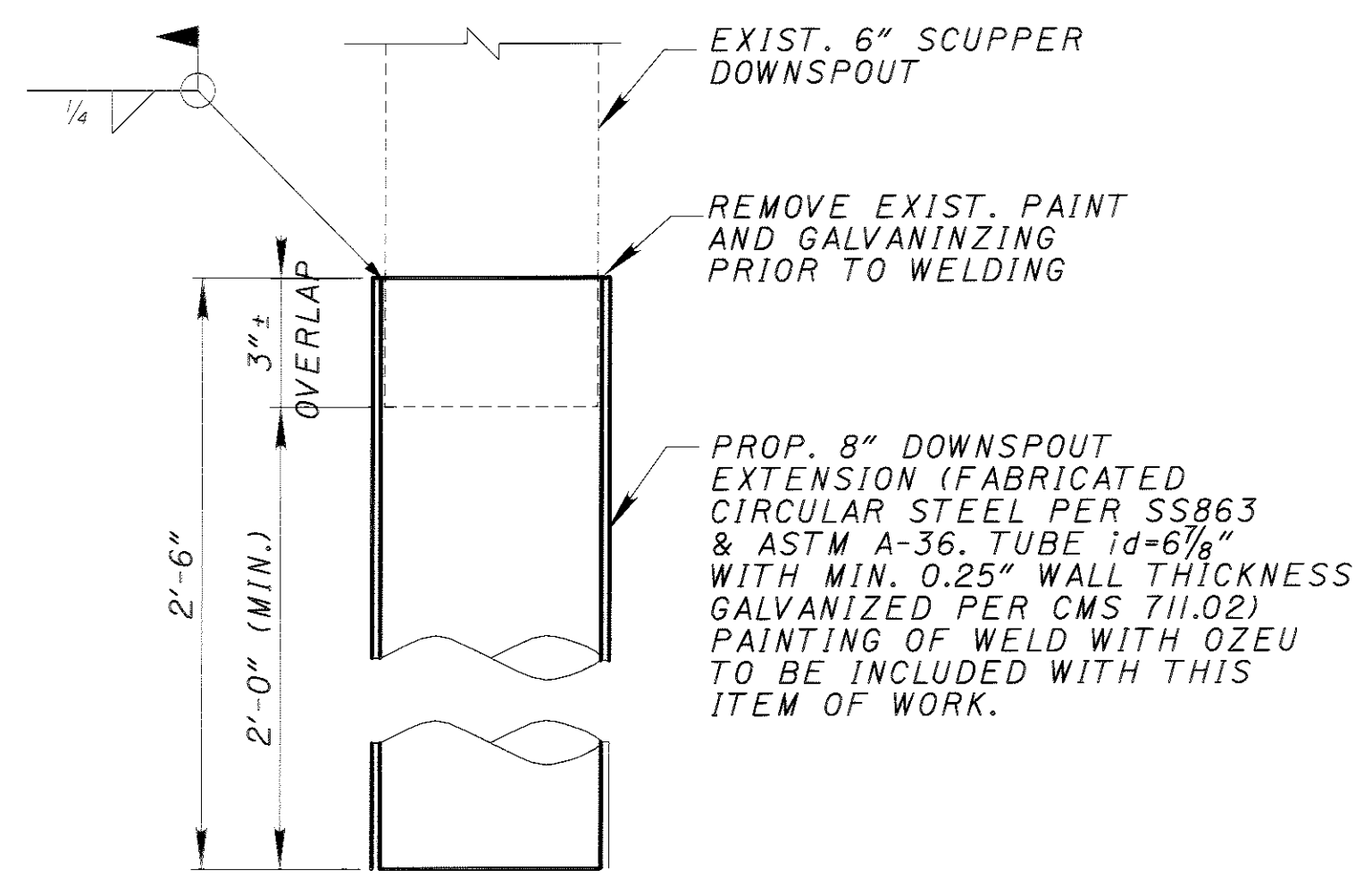
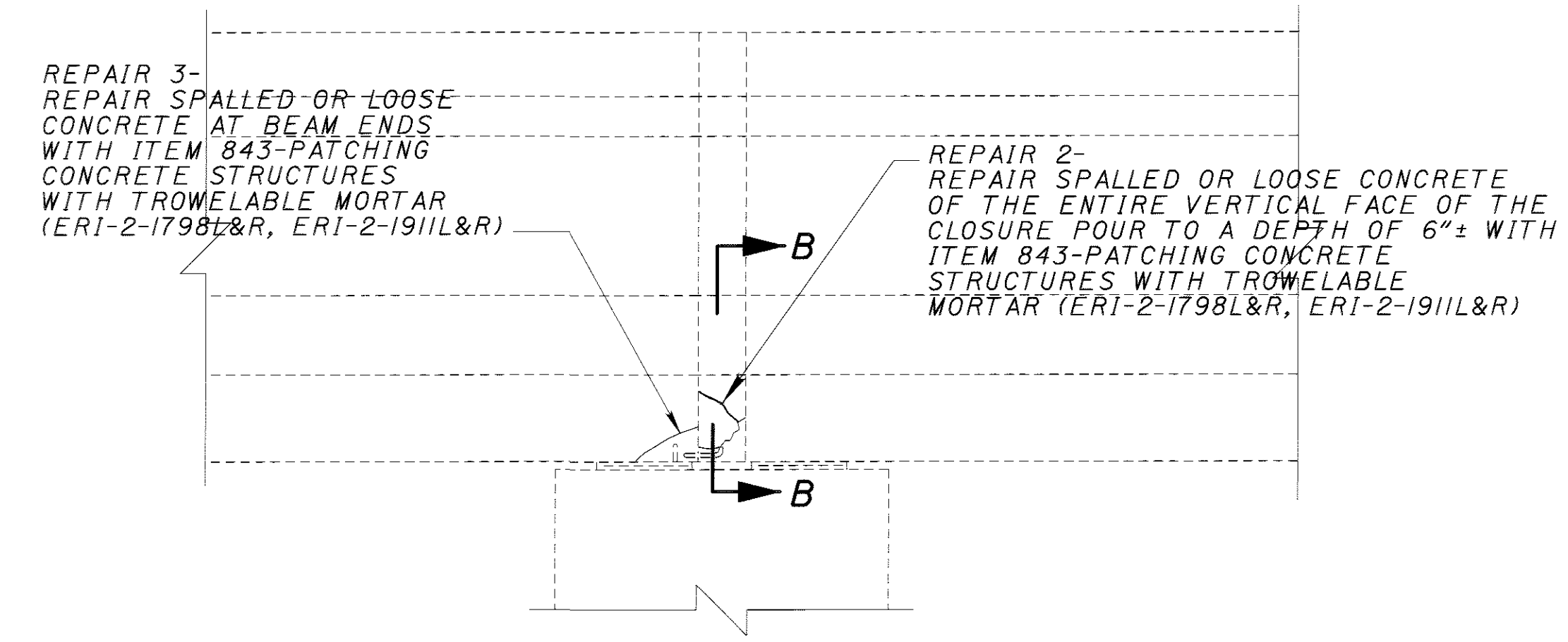
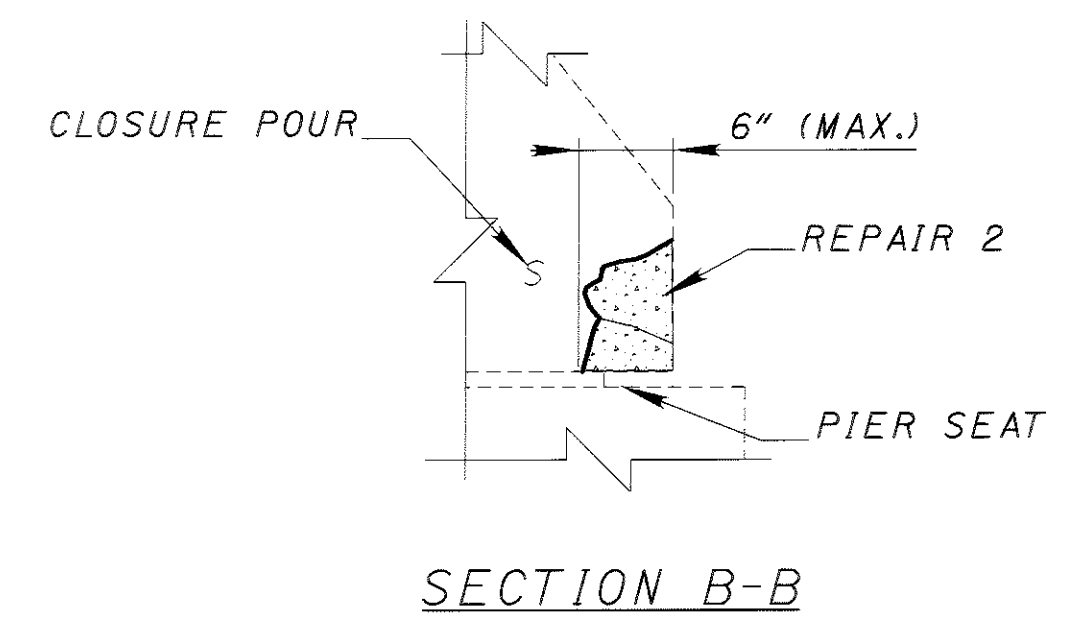
NOTE:  
SEAL ENTIRE PIER CAPS AT EXPANSION JOINTS, PIERS NO.S 7, 14 AND 22 OF BRIDGE NO ERI-2-1911L&R WITH ITEM 864 SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

<b>BURGESS &amp; NIPLE</b>	
DATE	11-6-00
REVIEWED	DWL
DRAWN	DCF
DESIGNED	DCF
CHECKED	SCT
STRUCTURE NUMBER	2201003, 2201011, 2201036, 2201046
<b>PIER DETAILS</b>	
BRIDGE NO. ERI-2-1798L&R, STATE ROUTE 2 OVER MUD BROOK	
BRIDGE NO. ERI-2-1911L&R, STATE ROUTE 2 OVER HURON RIVER	
<b>ERI-2-17.98/19.11</b>	
14	18
14	18

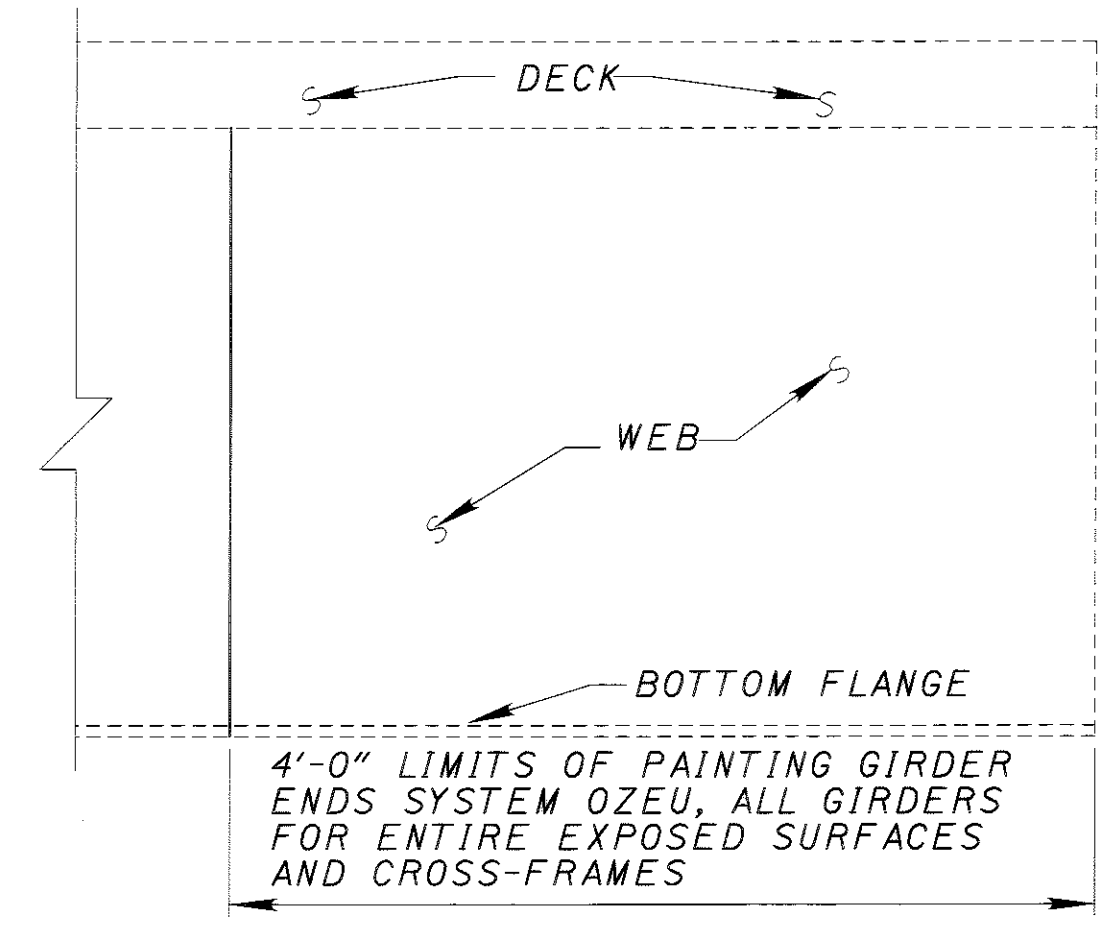


\* SEAL ALL EXPOSED SURFACES OF CONCRETE BEAM ENDS WITH ITEM 864 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) (TYP. AT EXP. JOINTS ONLY ON ERI-2-1911L&R UNITS 1-3)

BEAM END SEALING DETAIL

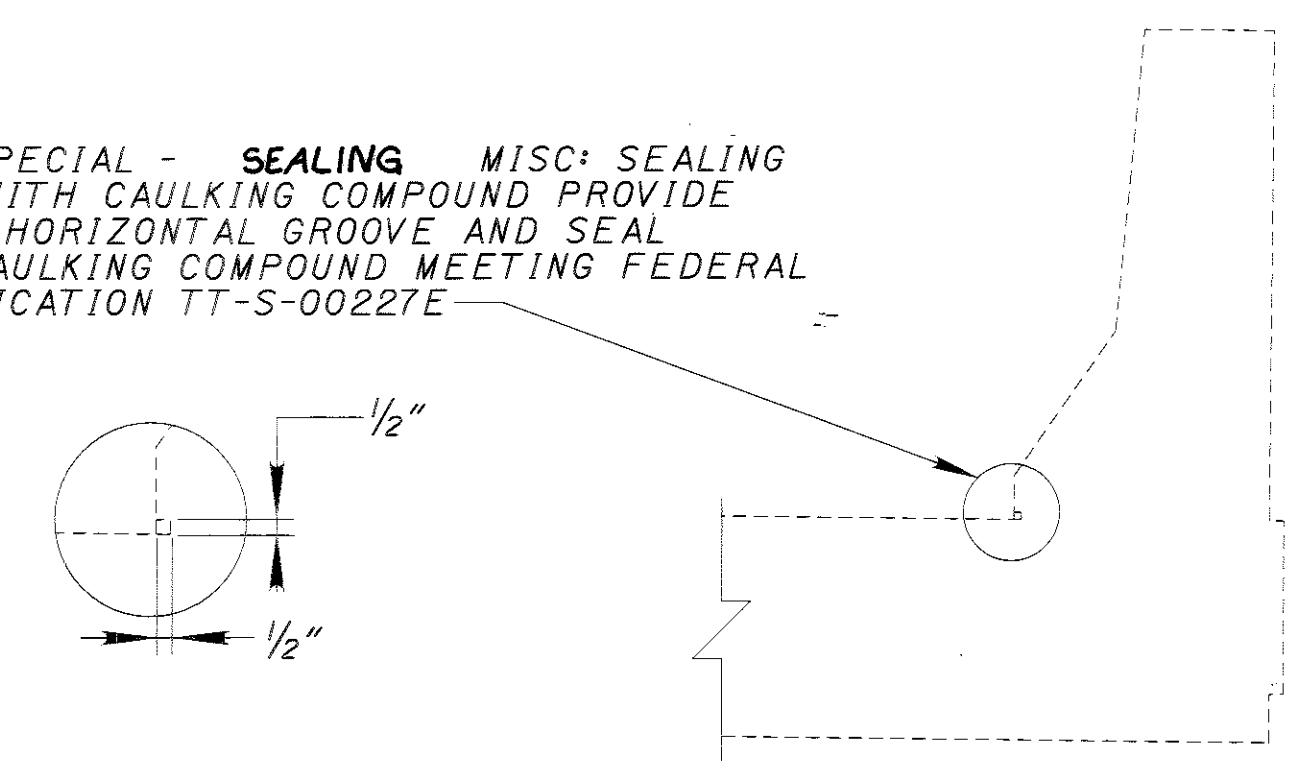


ITEM 518-SCUPPER, VERTICAL EXTENSION, AS PER PLAN (ERI-2-1911L&R - ALL SCUPPERS)

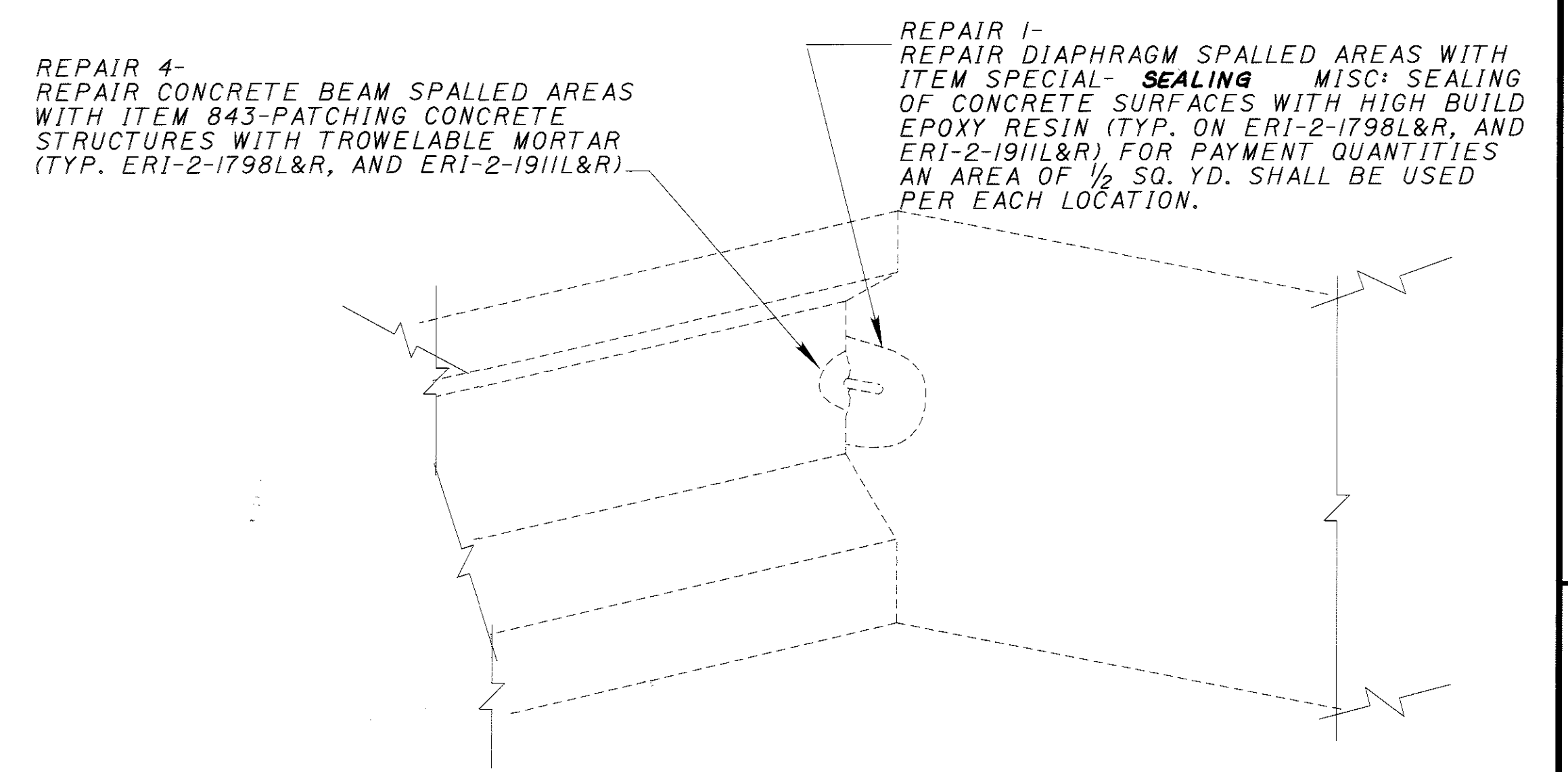


GIRDER PAINTING DETAIL

ITEM SPECIAL - SEALING MISC: SEALING JOINT WITH CAULKING COMPOUND PROVIDE 1/2" x 1/2" HORIZONTAL GROOVE AND SEAL WITH CAULKING COMPOUND MEETING FEDERAL SPECIFICATION TT-S-00227E



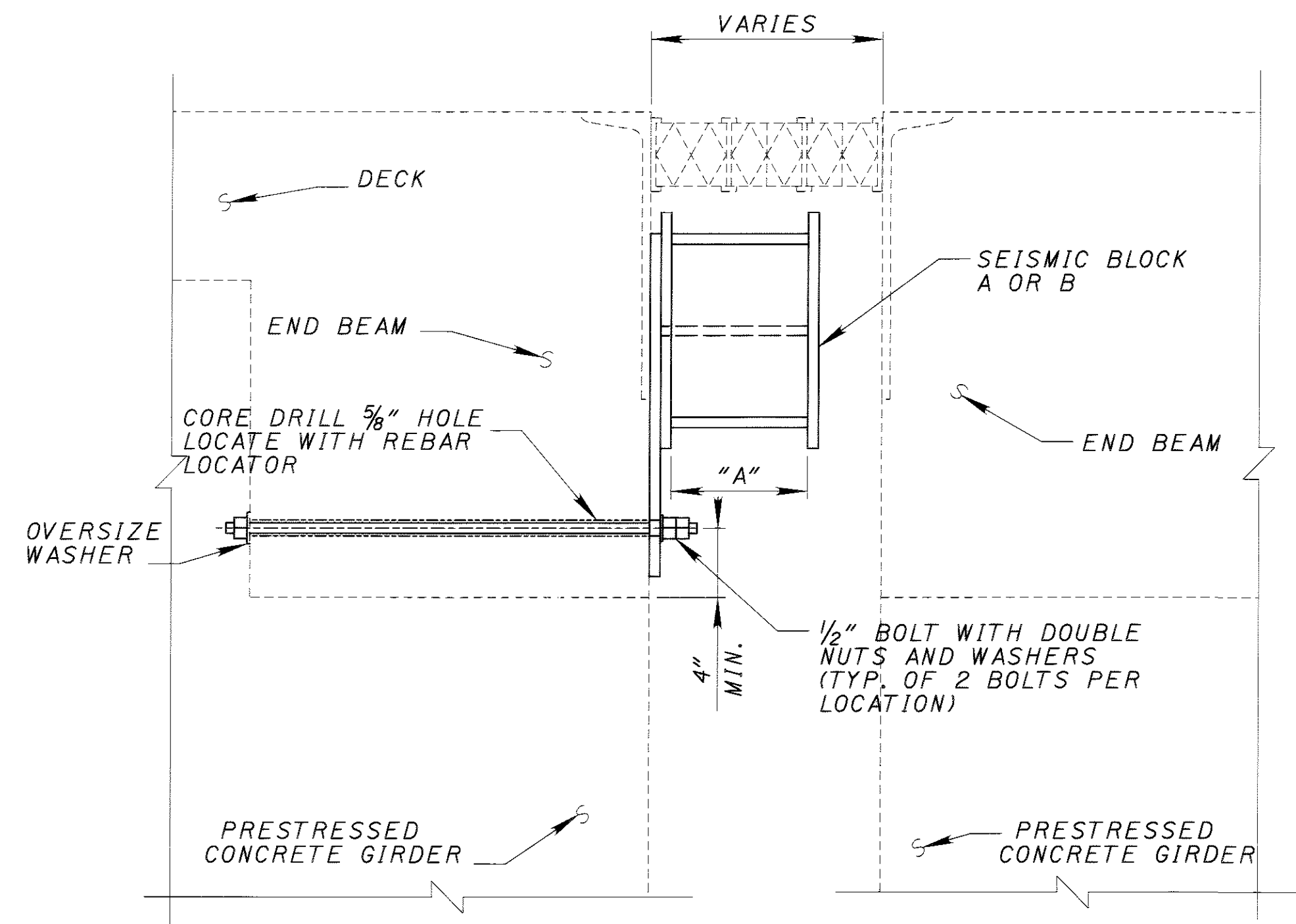
PARAPET AND DECK JOINT SEALING DETAIL (ERI-2-1911L&R)



VIEW A (TYP. DIAPHRAGM AND BEAM CONNECTION AT PIERS)

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<b>BURGESS &amp; NIPLE</b>	
DATE 11-6-00	REVIEWED DWL
STRUCTURE FILE NUMBER 2201003, 2201011, 2201036, 2201046	DRAWN DCF
DESIGNED DCF	CHECKED SCT
<b>COATING, SEALING AND REPAIR DETAILS</b>	
BRIDGE NO. ERI-2-1798L&R, STATE ROUTE 2 OVER MUD BROOK BRIDGE NO. ERI-2-1911L&R, STATE ROUTE 2 OVER HURON RIVER	
<b>ERI-2-17.98/19.11</b>	
15 / 18	
15 18	



**BLOCKING DETAIL**  
(TYP. EACH GIRDER @ PIERS ERI-2-1911L&R)

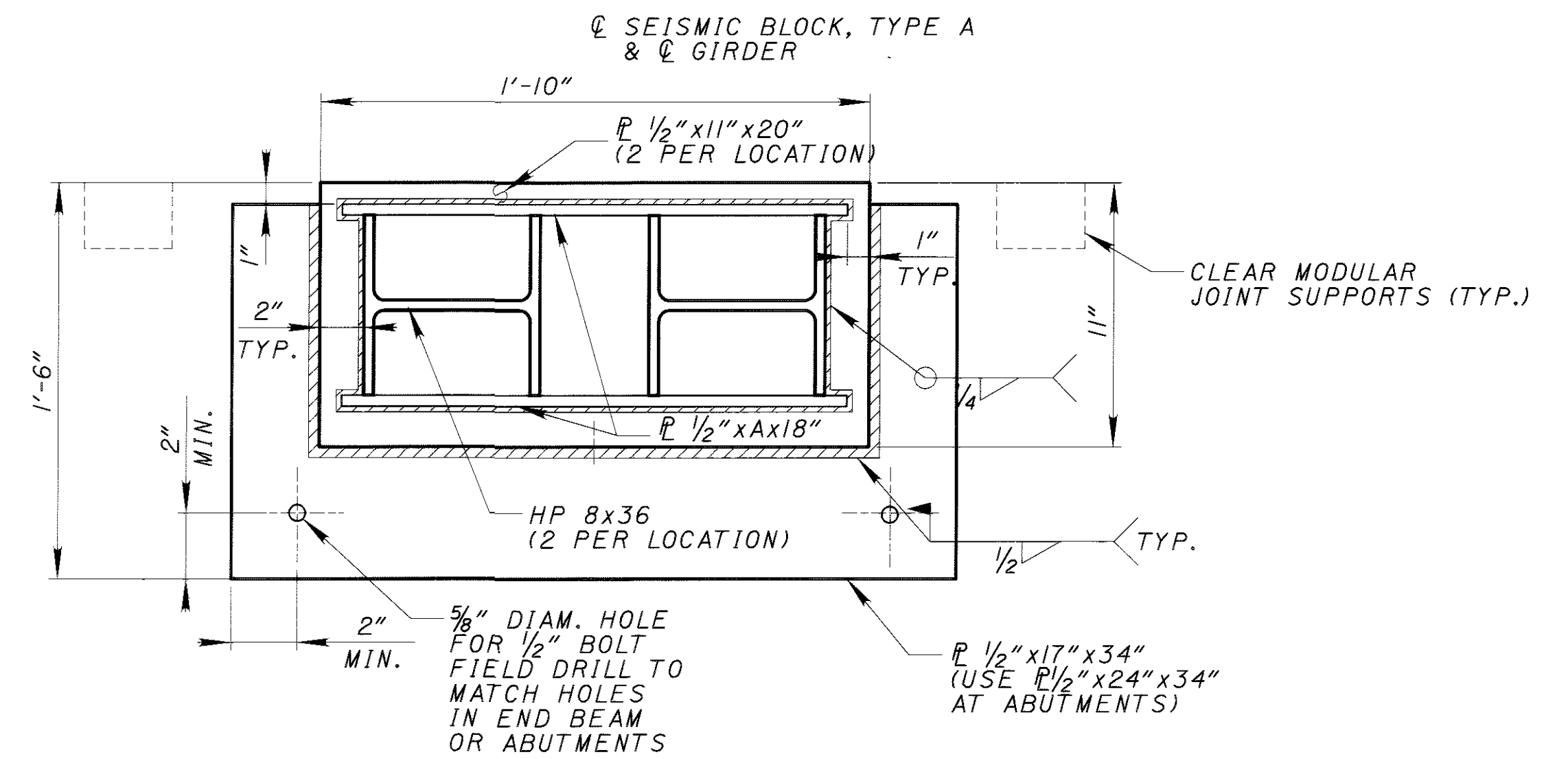
LENGTH OF HP SECTION - LEFT BRIDGE

LOCATION	RA	P7	P14	P22	FA
A	6 1/4"	8 3/4"	8 1/2"	8 3/4"	5 1/4"

LENGTH OF HP SECTION - RIGHT BRIDGE

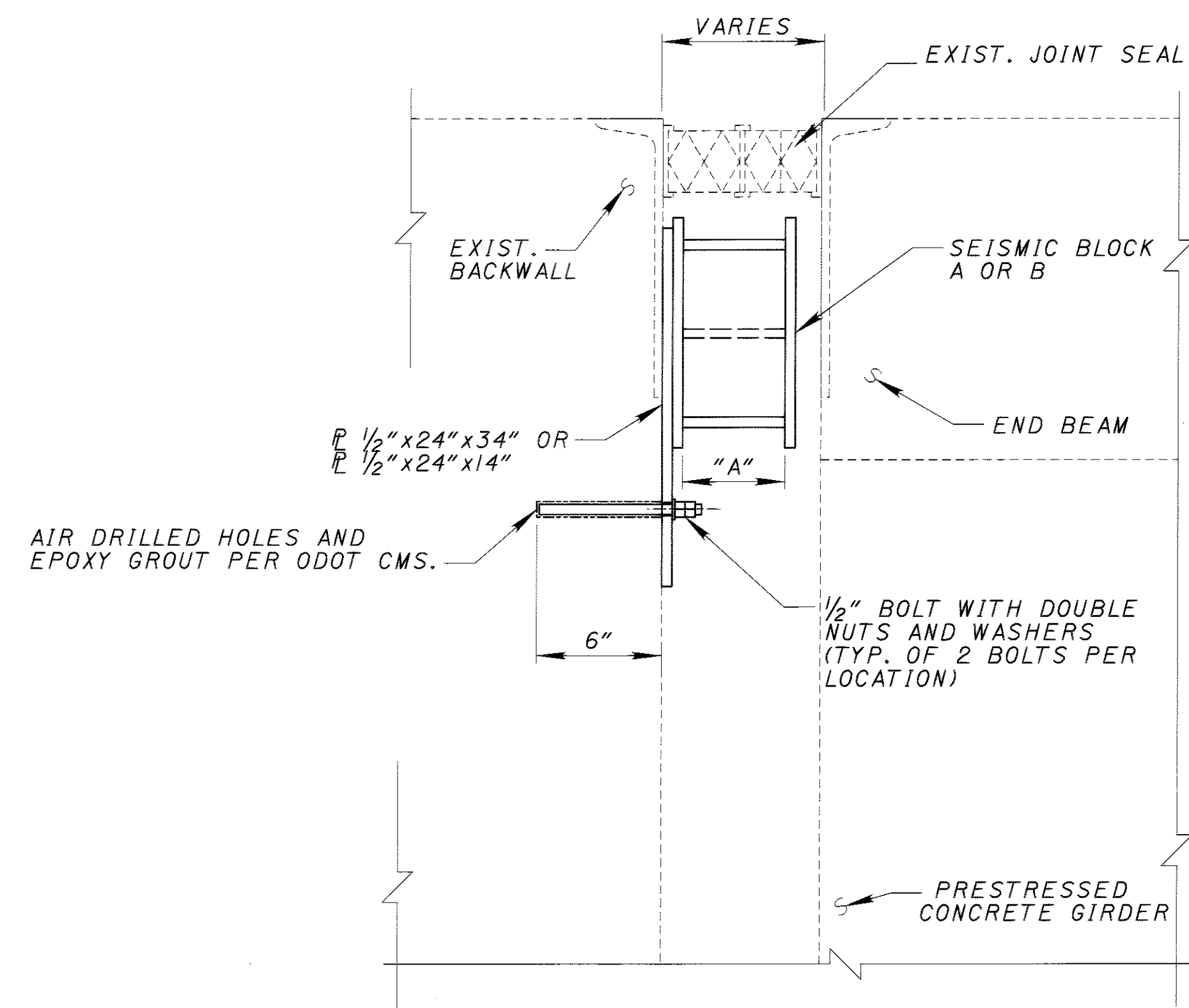
LOCATION	RA	P7	P14	P22	FA
A	*	8 1/4"	9 1/4"	10"	5"

\* SEE DETAIL C

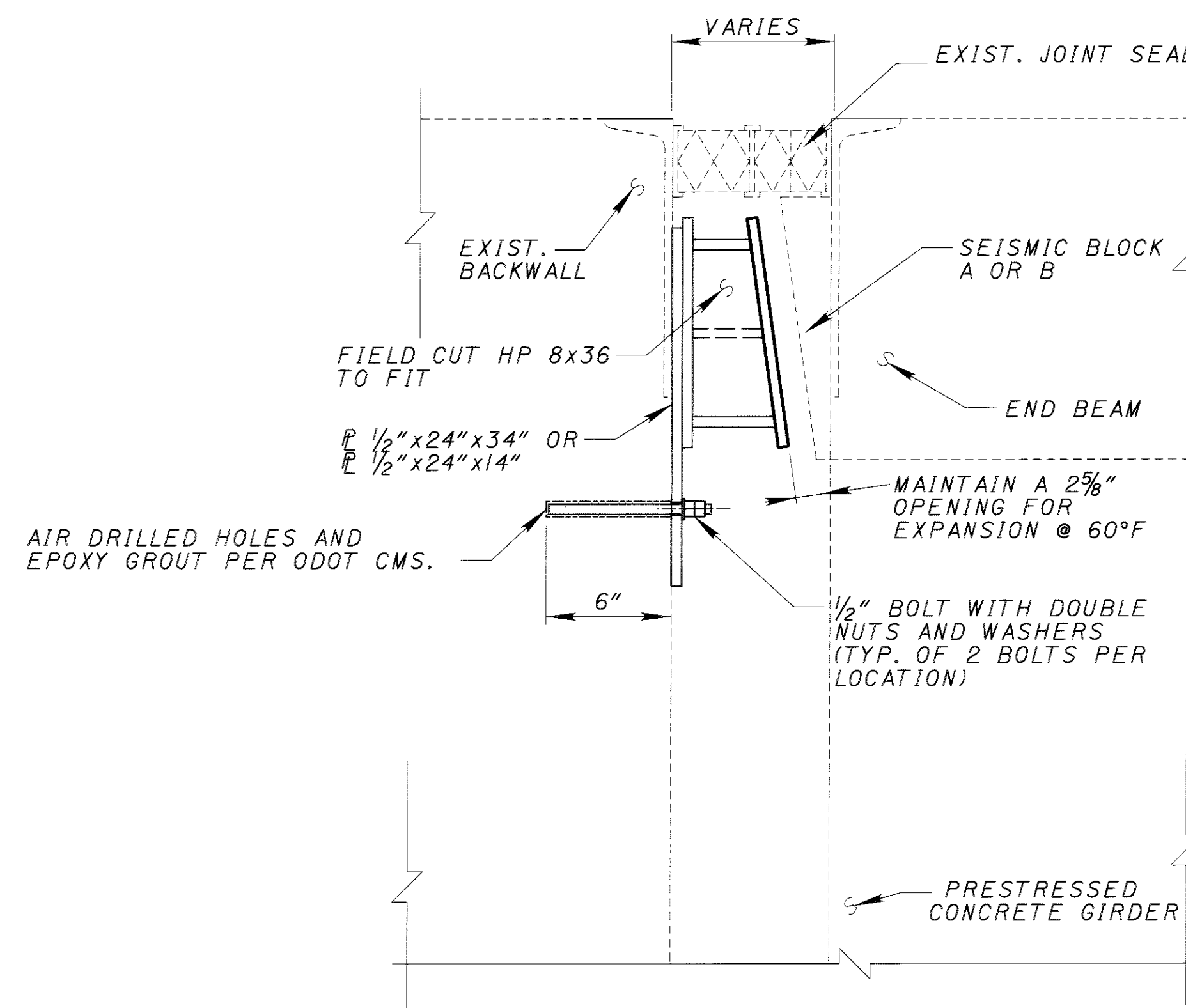


**ITEM SPECIAL - STRUCTURE, MISC:**  
**SEISMIC RETROFIT TYPE A**

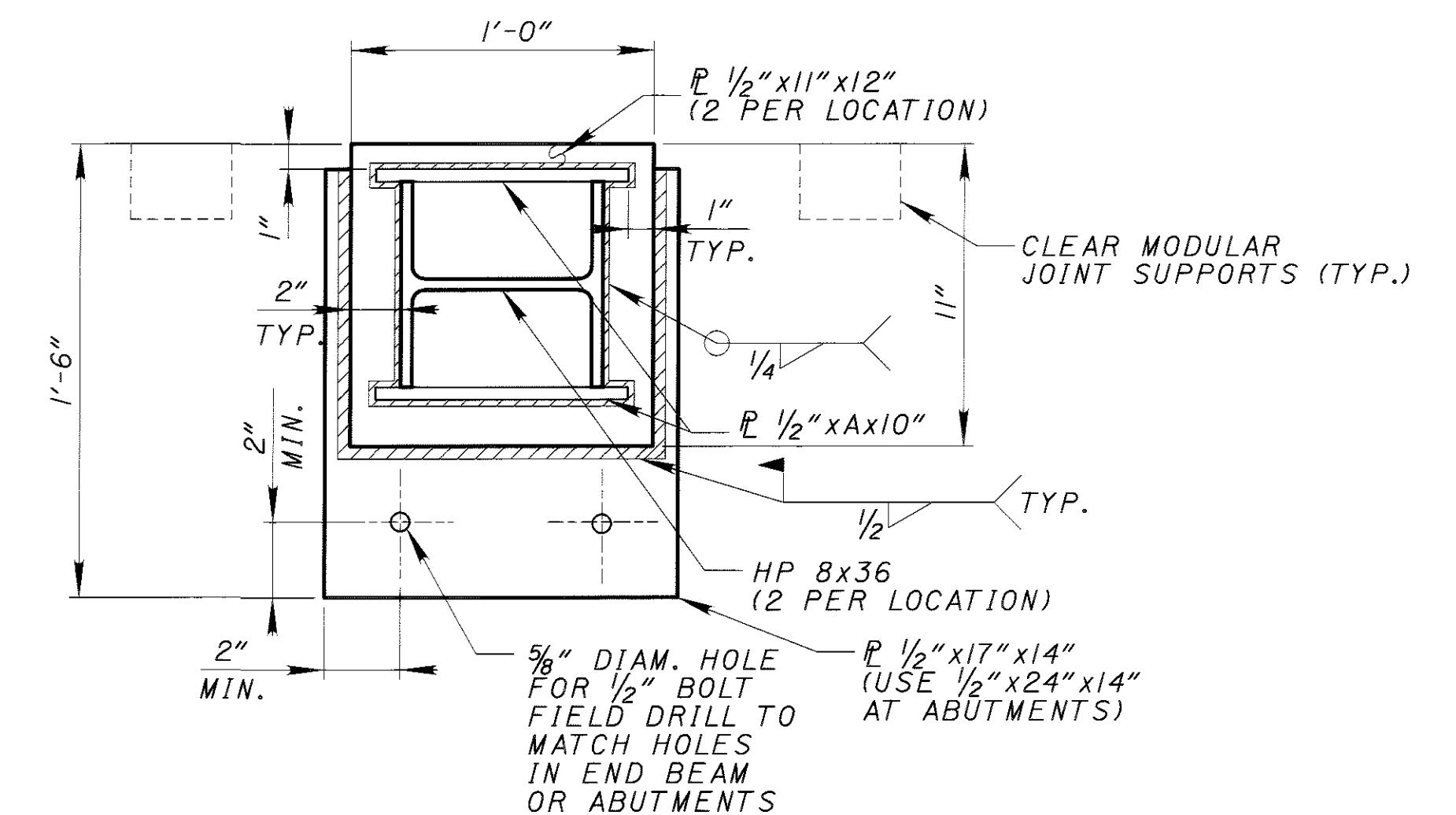
SEISMIC BLOCK, TYPE A, SHALL BE INSTALLED BETWEEN MODULAR JOINT SUPPORTS (SEE FRAMING PLAN FOR ADDITIONAL INFORMATION) (BLOCK MAY BE SHIFTED ON PLATE TO AVOID INTERFERENCE)



**BLOCKING DETAIL**  
(TYP. EACH GIRDER BOTH ABUTMENTS ERI-2-1911L&R)



**DETAIL C**  
(REAR RIGHT ABUTMENT ONLY)



**ITEM SPECIAL - STRUCTURE, MISC:**  
**SEISMIC RETROFIT TYPE B**

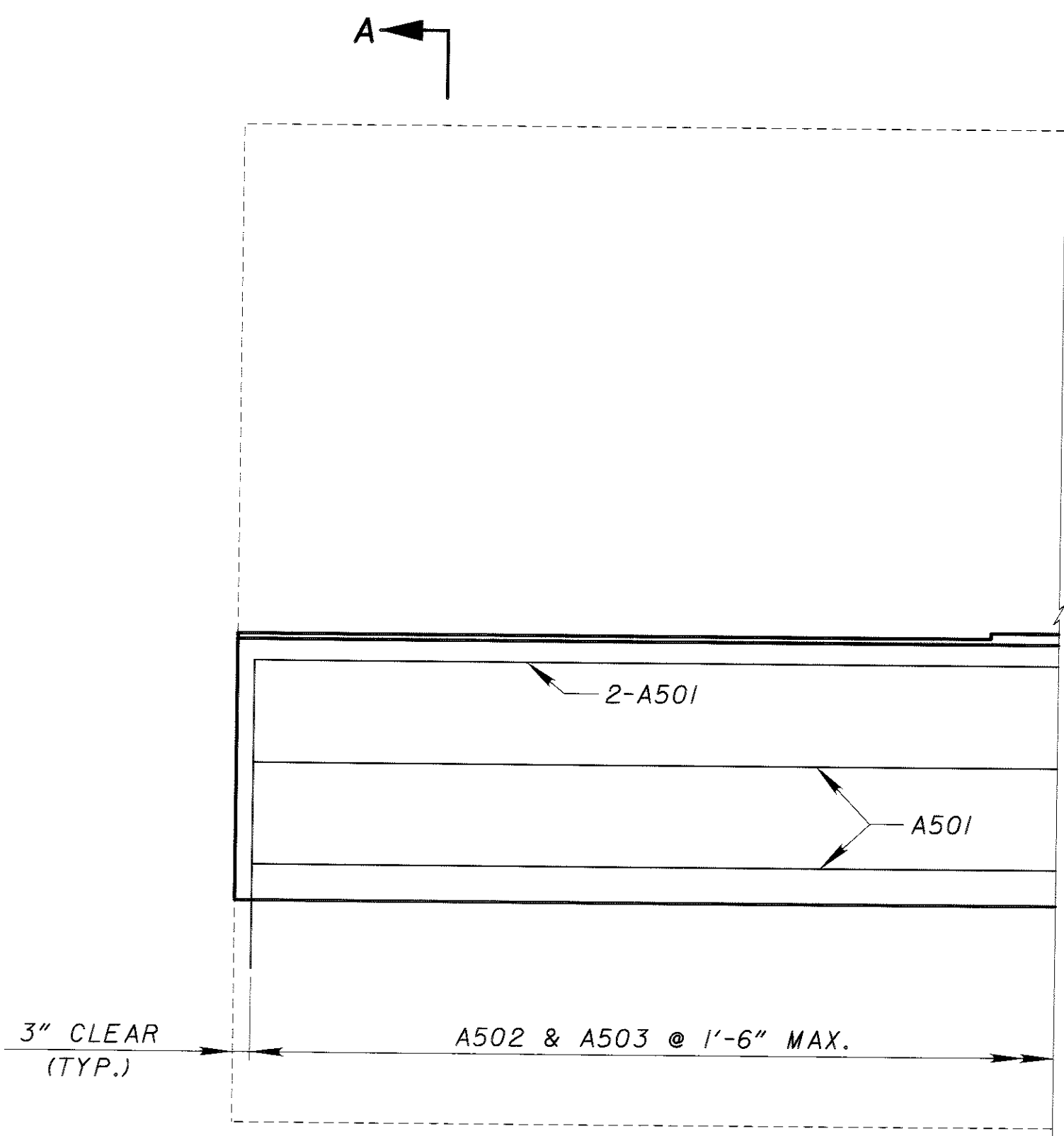
SEISMIC BLOCK, TYPE B, SHALL BE INSTALLED BETWEEN MODULAR JOINT SUPPORTS (SEE FRAMING PLAN FOR ADDITIONAL INFORMATION) (BLOCK MAY BE SHIFTED ON PLATE TO AVOID INTERFERENCE)

**NOTES:**

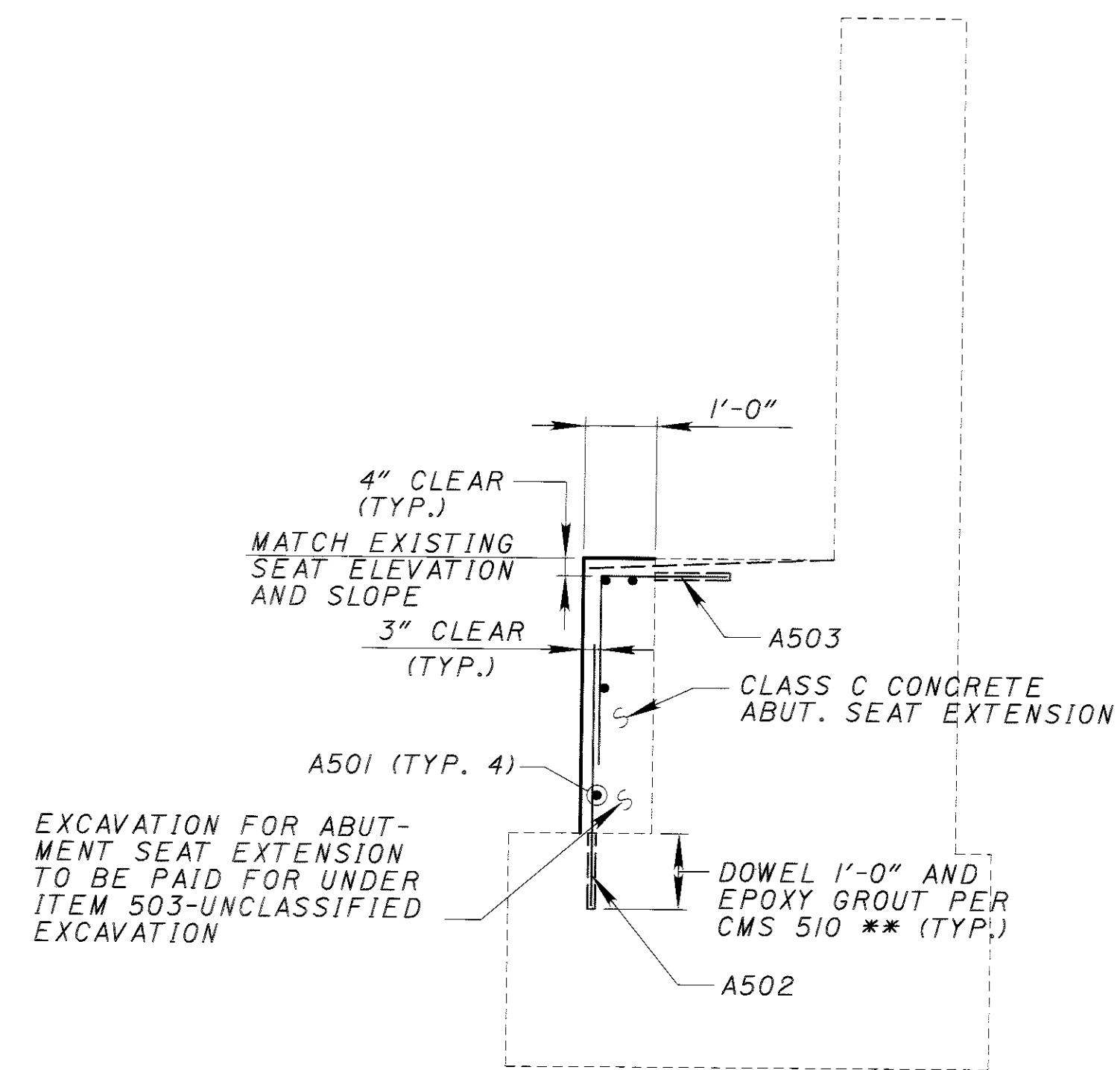
DISTANCE BETWEEN MODULAR JOINT SUPPORTS SHALL BE VERIFIED BEFORE FABRICATION.

ALL BOLTS, NUTS & WASHERS SHALL BE ASTM A307 GALVANIZED PER 711.02.

ALL STEEL SHALL BE ASTM A36 FABRICATED PER **CMS 513** AND GALVANIZED PER 711.02.



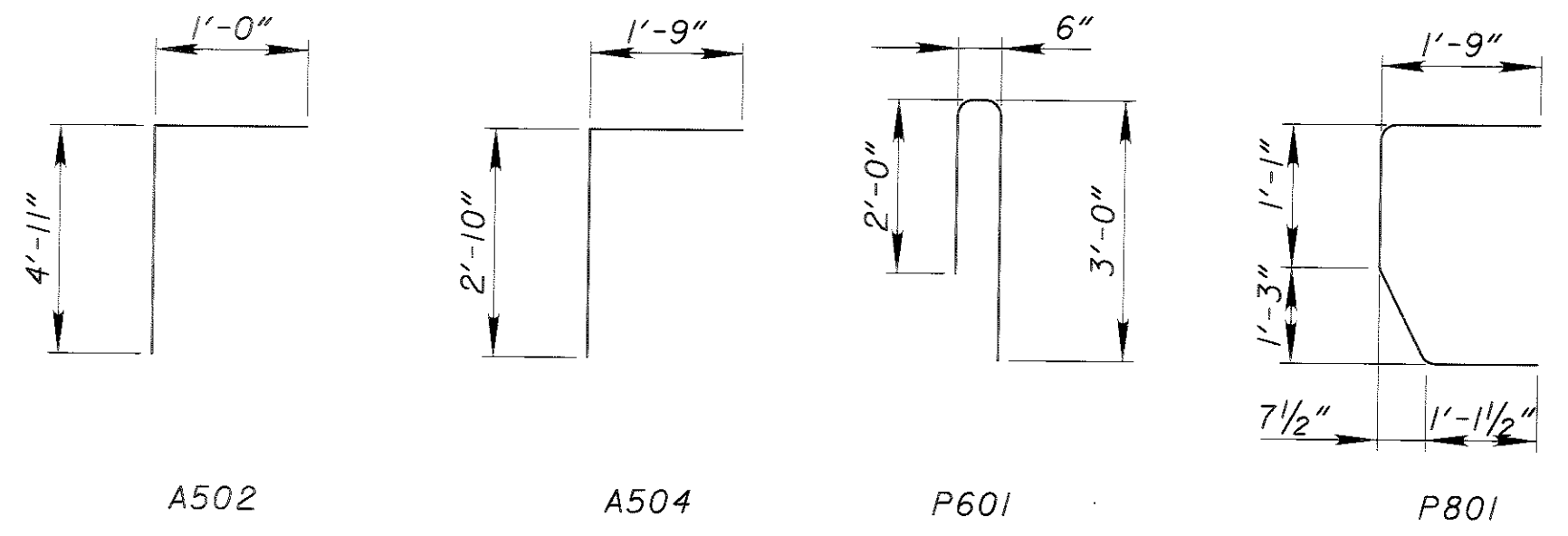
**PARTIAL ABUTMENT ELEVATION**  
ERI-2-1911 L&R FORWARD ABUTMENTS ONLY



**SECTION A-A**

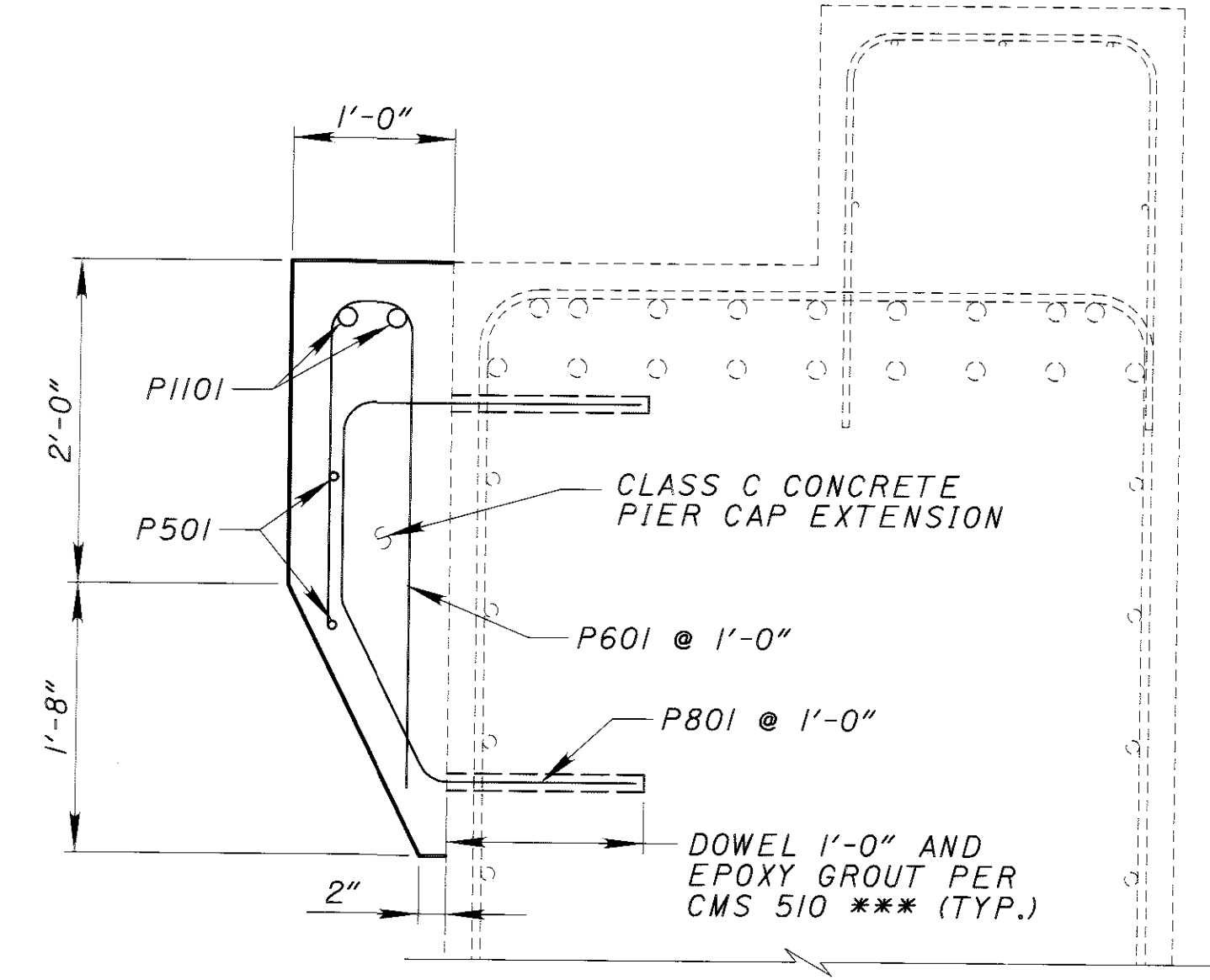
**ABUTMENT SEAT EXTENSION DETAILS**

MARK	LENGTH	SHAPE	NO. *	WEIGHT
A501	22'-5"	STR	16	374
A502	3'-10"	STR	60	240
A503	4'-5 1/2"	BENT	60	279
P501	22'-0"	STR	8	184
P601	5'-2"	BENT	88	478
P801	5'-5"	BENT	88	1273
P1101	22'-11"	STR	8	974
TOTAL				3802



**LEGEND:**

ABUT. = ABUTMENT  
NO. = NUMBER  
STR = STRAIGHT  
TYP. = TYPICAL  
DIA. = DIAMETER



**PIER CAP EXTENSION DETAIL**  
ERI-2-1911 L&R PIERS 22 ONLY

**NOTES:**

ABUTMENT SEAT EXTENSION TO BE PAID FOR UNDER ITEM 511 - CLASS C CONCRETE, ABUTMENT, AS PER PLAN

PIER CAP EXTENSION TO BE PAID FOR UNDER ITEM 511 - CLASS C CONCRETE, PIER CAP, AS PER PLAN

BAR SIZE: THE BAR SIZE IS INDICATED IN THE BAR MARK. THE MARK BEGINS WITH LETTERING TO IDENTIFY THE BAR LOCATION (ONE OR TWO LETTERS), NEXT DIGIT INDICATES THE BAR SIZE DESIGNATION, AND THE REMAINING DIGITS ARE THE SEQUENCE NUMBER.  
EXAMPLE: A501  
A) A = LOCATION OF BAR IN THE ABUTMENT  
B) 5 = BAR SIZE DESIGNATION  
C) 01 = SEQUENCE NUMBER

BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED.

ALL BARS SHALL BE EPOXY COATED.

\* TOTAL NUMBER REQUIRED FOR BOTH ABUTMENTS

\*\* COST FOR DOWEL HOLES AND GROUT TO BE INCLUDED IN ITEM 511 - CLASS C CONCRETE, ABUTMENT, AS PER PLAN

\*\*\* COST FOR DOWEL HOLES AND GROUT TO BE INCLUDED IN ITEM 511 - CLASS C CONCRETE, PIER CAP, AS PER PLAN

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**BURGESS & NIPLE**

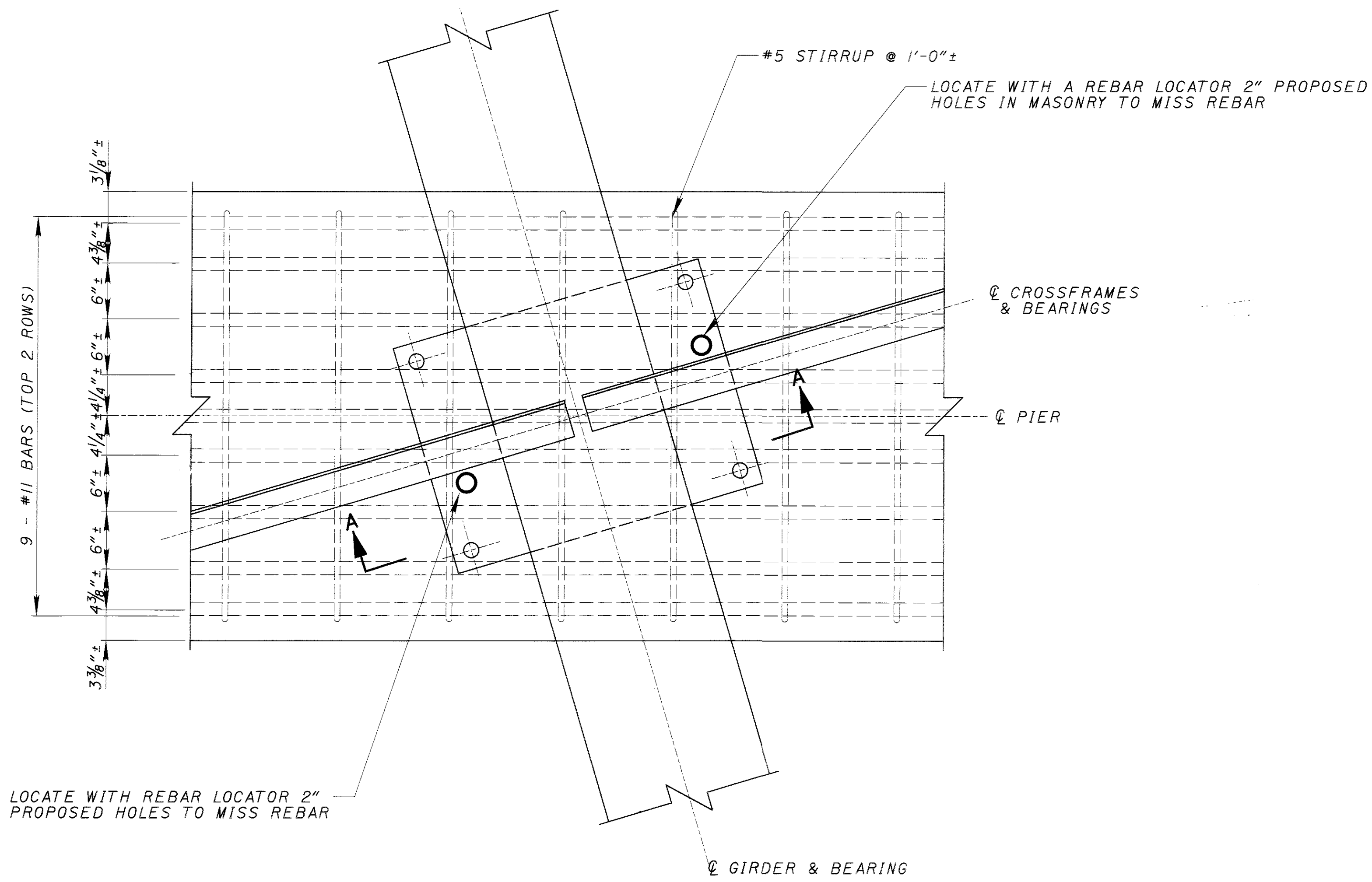
DESIGNED	CHK	DRAWN	REVISED	DATE
SCT	SCT	JAA	DWL	1-6-00
STRUCTURE FILE NUMBER				2201038, 2201046

**REPAIR AND RETROFIT DETAILS II OF III**  
BRIDGE NO. ERI-2-1911L&R  
STATE ROUTE 2 OVER HURON RIVER

**ERI-2-17.98/19.11**

17 / 18

17  
18



LOCATE WITH REBAR LOCATOR 2" PROPOSED HOLES TO MISS REBAR

LOCATE WITH A REBAR LOCATOR 2" PROPOSED HOLES IN MASONRY TO MISS REBAR

**ITEM 516 - BEARING DEVICE, MISC:  
ANCHOR BOLT RETROFIT**

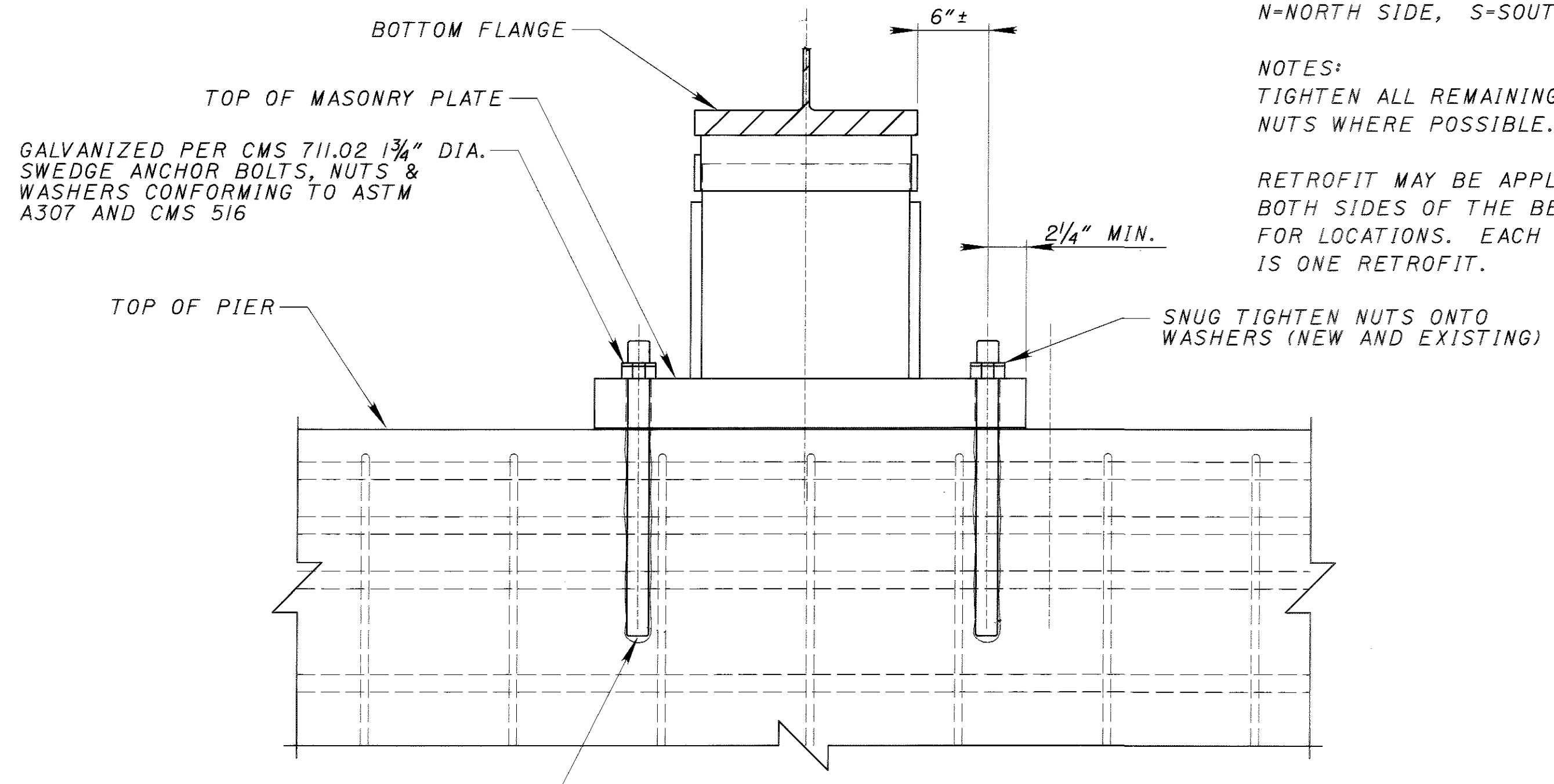
PIER 24 BEARING RETROFIT LOCATIONS

GIRDER SIDE	RIGHT BRIDGE				LEFT BRIDGE			
	1	2	3	4	1	2	3	4
	-	-	N	-	N&S	-	N	N&S

N=NORTH SIDE, S=SOUTH SIDE

NOTES:  
TIGHTEN ALL REMAINING ANCHOR BOLT NUTS WHERE POSSIBLE.

RETROFIT MAY BE APPLIED TO ONE OR BOTH SIDES OF THE BEARING, SEE TABLE FOR LOCATIONS. EACH NEW ANCHOR BOLT IS ONE RETROFIT.



AIR DRILL 2" HOLE 1'-5" INTO PIER AND EPOXY GROUT SWEDGE ANCHORS PER CMS 510

**SECTION A-A**

LEGEND  
 CONC. = CONCRETE  
 DIA. = DIAMETER  
 EXIST. = EXISTING

P:\NPR21518\CADD\

**BURGESS & NIPLE**

DESIGNED MK	DRAWN MKB	REVIEWED DWL	DATE 10-31-00
CHECKED SCT	REVISED	STRUCTURE FILE NUMBER 2201003, 2201011, 2201038, 2201046	

**REPAIR AND RETROFIT DETAILS III OF III**

BRIDGE NO. ERI-2-1798L&R, STATE ROUTE 2 OVER MUD BROOK  
 BRIDGE NO. ERI-2-1911L&R, STATE ROUTE 2 OVER HURON RIVER

**ERI-2-17-98/19.11**

18	18
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