

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

LOR-2-3.50	OHIO
NH-73(81)	FHWA REGION 5
	FEDERAL PROJECT

DESIGN DESIGNATION

Current ADT (1994)	=	20,280
Design Year ADT (2014)	=	26,370
DHV	=	2373
D	=	57%
T	=	12%
V	=	55 MPH
Legal Speed	=	55 MPH
Functional Classification	=	Urban Principal Freeway

LOR-2-3.50

CITIES OF AMHERST & LORAIN
BROWNHELM TOWNSHIP
LORAIN COUNTY

PROJECT DESIGNATION:
LOR-2-3.48 APPEARING THROUGHOUT
THIS PLAN SHALL BE CONSIDERED TO READ LOR-2-3.50
LIMITED ACCESS

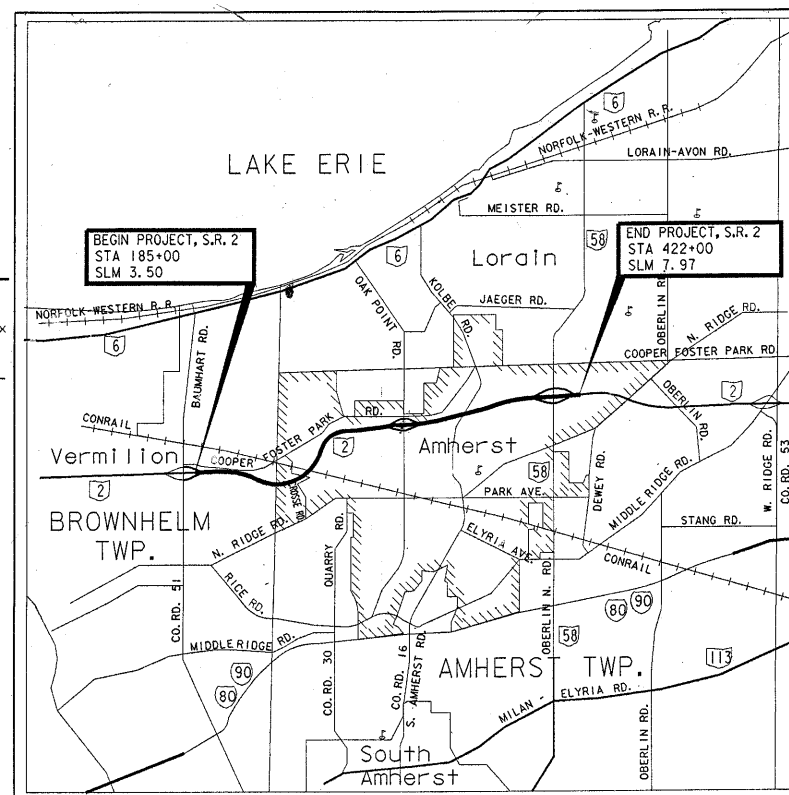
This improvement is especially designed for through traffic and has been declared a limited access highway or freeway by action of the Director in accordance with the provisions of Section 5511.02, Revised Code of Ohio.

1993 SPECIFICATIONS

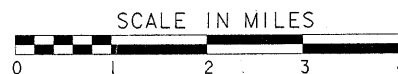
The standard specifications of the State of Ohio, Department of Transportation, including changes and supplemental specifications listed in the proposal shall govern this improvement.

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 set forth on the plans and estimates.

"Under authority of section 4511.21, Division (1) of the revised code of Ohio, the revised Prima Facie speed limits as indicated herein are determined to be reasonable and safe, and are hereby established for the duration of this project. The Prima Facie speed limit or limits hereby established shall become effective when appropriate signs given notice thereof are erected."

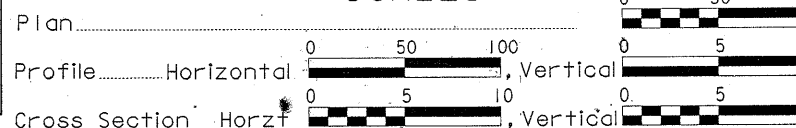


LOCATION MAP



Portion to be Improved
State & Federal Routes
Other Roads

SCALES



SUPPLEMENTAL SPECIFICATIONS					
802	✓	4-13-90	910	✓	5-20-91
820	✓	3-18-92	931	✓	7-19-94
825	✓	10-2-89	933	✓	7-22-94
841	✓	5-16-84			
			942	✓	3-18-92
843	✓	7-29-88	944	✓	5-2-94
852	✓	7-30-93	962	✓	1-23-90
862	✓	12-16-88			

Approved Philip J. Howard
Date 8-23-94 District Deputy Director of Transportation

Approved E.D. H. ...
Date 3/15/94 Engineer, Bureau of Bridges and Structural Design

Approved Christopher L. ...
Date 9-30-94 Deputy Director of Design

Approved John ...
Date 9-30-94 Director, Department of Transportation

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED

DIVISION ADMINISTRATOR DATE

DESIGN EXCEPTIONS

REQUIRED	ACTUAL
1 - GRADED SHOULDER WIDTH	15' 12'
2 - HORIZONTAL CLEARANCE	10' 9.5'

APPROVED MAY 11, 1993

CONVENTIONAL SIGNS

County Line	-----	Limited Access (only)	LA
Township Line	-----	Right of Way (only)	RW
Section Line	-----	Limited Access & Right of Way	LA&RW
Corporation Line	-----	Existing Right of Way	-----
Fence Line (existing)	-----	Property Line (in existing fence)	-----
Center Line	-----	Railroad	-----
Trees	-----	Guardrail (existing)	-----
Utility Poles: Telephone	-----		
Power	-----		
Light	-----		

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LINE DATA

BEGIN PROJECT - STA 185+00	
END PROJECT - STA 422+00	23700.00 LIN. FT.
NET PROJECT LENGTH	23700.00 LIN. FT. OR 4.489 MILES
ADD FOR WORK	
STA 176+87 TO STA 185+00	813.00 LIN. FT.
STA 422+00 TO STA 423+60	160.00 LIN. FT.
WORK ON SIDEROADS (SEE SHT. 4)	6960.00 LIN. FT.
NET WORK LENGTH	31633.00 LIN. FT. OR 5.991 MILES

UNDERGROUND UTILITIES

TWO WORKING DAYS
BEFORE YOU DIG
Call 800-362-2764 (Toll Free)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS																	
MH-1			MC-9.3			MC-9.4			MC-9.4								
BP-2.1	✓	2-21-92	F-1	✓	11-10-83	GR-7.1	✓	10-30-92	MT-96.10	✓	9-9-88	MT-105.11	✓	7-1-92	TC-61.10	✓	4-5-82
BP-2.2	✓	2-21-92	F-2	✓	5-1-76	GR-8.1	✓	1-31-94	MT-96.11	✓	9-9-88	TC-18.24	✓	4-25-79	TC-65.10	✓	2-1-90
BP-2.3	✓	2-21-92	F-3	✓	5-1-76	HW-4B	✓	4-1-80	MT-96.20	✓	9-9-88	TC-22.20	✓	9-1-92	TC-65.11	✓	2-1-90
BP-1.1	✓	2-21-92	F-5	✓	5-1-76	MC-4	✓	7-26-76	MT-96.25	✓	9-9-88	TC-31.21	✓	9-1-92	TC-71.10	✓	9-10-91
BP-2.5	✓	2-21-92	F-6	✓	5-1-76	MC-9.1	✓	10-30-92	MT-97.10	✓	4-29-88	TC-35.10	✓	8-29-84	TC-72.20	✓	2-26-82
BP-3.1	✓	2-21-92	GR-1.1	✓	5-6-91	MC-9.2	✓	5-6-91	MT-98.12	✓	6-24-93	TC-41.10	✓	8-29-84	A-1-69	✓	6-12-69
BP-5.1	✓	2-21-92	GR-1.2	✓	10-30-92	MC-10	✓	5-1-76	MT-98.13	✓	6-24-93	TC-41.20	✓	3-26-79	AS-1-81	✓	11-27-81
BR-2-82	✓	11-1-82	GR-1.3	✓	2-21-92	MC-11	✓	8-1-78	MT-98.14	✓	6-24-93	TC-41.50	✓	3-26-79	CPA-2-73	✓	4-10-73
CB-2-2A&B	✓	5-1-79	GR-2.1	✓	5-6-91	HW-4A	✓	4-1-80	MT-98.15	✓	6-24-93	TC-42.10	✓	8-19-77	CS-2-73	✓	4-10-73
CB-3A	✓	5-1-79	GR-3.1	✓	5-6-91	MT-95.30	✓	10-10-88	MT-99.10	✓	11-14-86	TC-42.20	✓	3-26-79	EXJ-4-87	✓	1-20-94
CB-5	✓	11-10-83	GR-3.2	✓	5-6-91	MT-95.31	✓	10-10-88	MT-99.20	✓	4-29-88	TC-51.10	✓	1-20-84	PCB-91	✓	4-24-92
CB-6	✓	5-1-79	GR-5.3	✓	10-30-92	MT-95.32	✓	8-25-89	MT-100.00	✓	4-23-90	TC-51.11	✓	1-20-84	RB-1-55	✓	2-2-59
CB-8	✓	11-10-83	GR-4.1	✓	5-6-91	MT-95.40	✓	10-01-92	MT-101.60	✓	7-1-92	TC-52.10	✓	4-3-79	SD-1-69	✓	6-12-69
TC-18.26	✓	5-31-79	GR-4.2	✓	5-6-91	MT-95.70	✓	2-23-90	MT-105.10	✓	7-1-92	TC-52.20	✓	4-3-79	VPE-1-90	✓	3-24-93

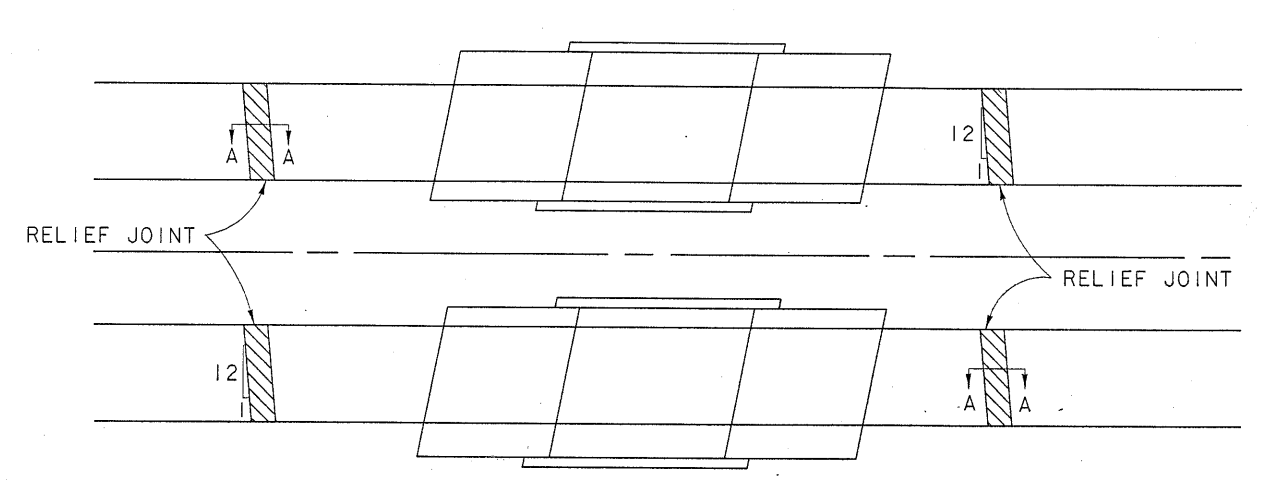
Plan Prepared By:
**DISTRICT 3
DESIGN**

BRIDGES PREPARED BY:
**R.E. WARNER & ASSOCIATES
CONSULTING ENGINEERS
WEST LAKE, OHIO**

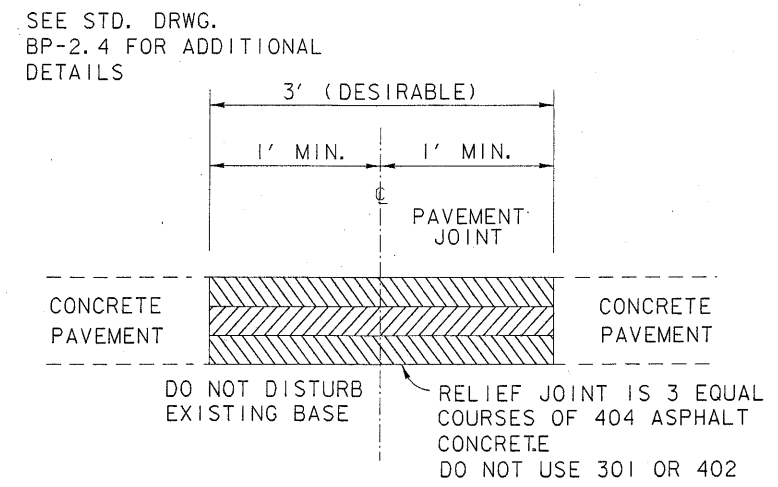
Project LOR-2-3.50 LORAIN COUNTY
Date of Letting 19 Contract No.

SEAL

DESIGN FILE: c:\dgn\lor2\title.dgn DATE: 16-AUG-1994 WORKSTATION: e



TYPICAL RELIEF JOINT LOCATION PLAN

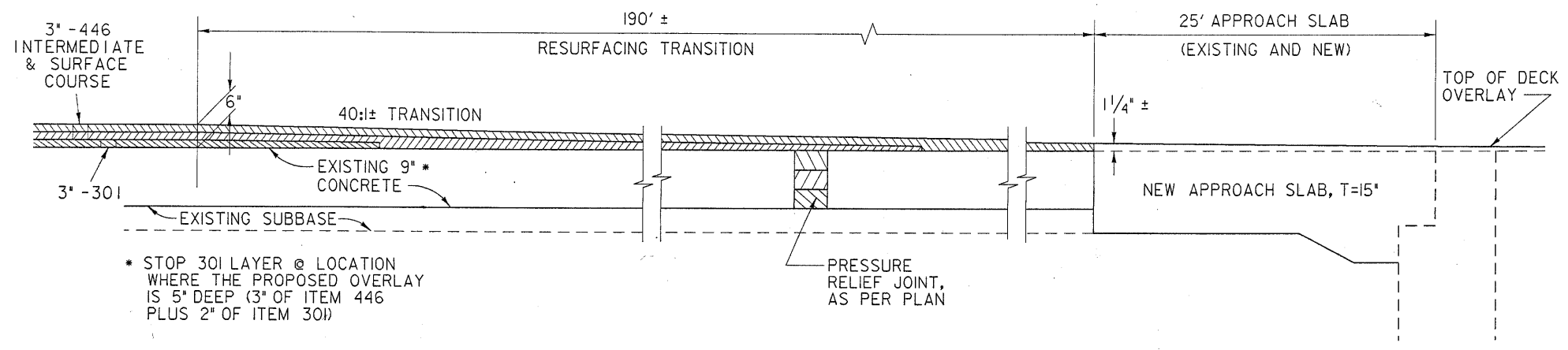


SECTION A-A
PRESSURE RELIEF JOINT
AS PER PLAN

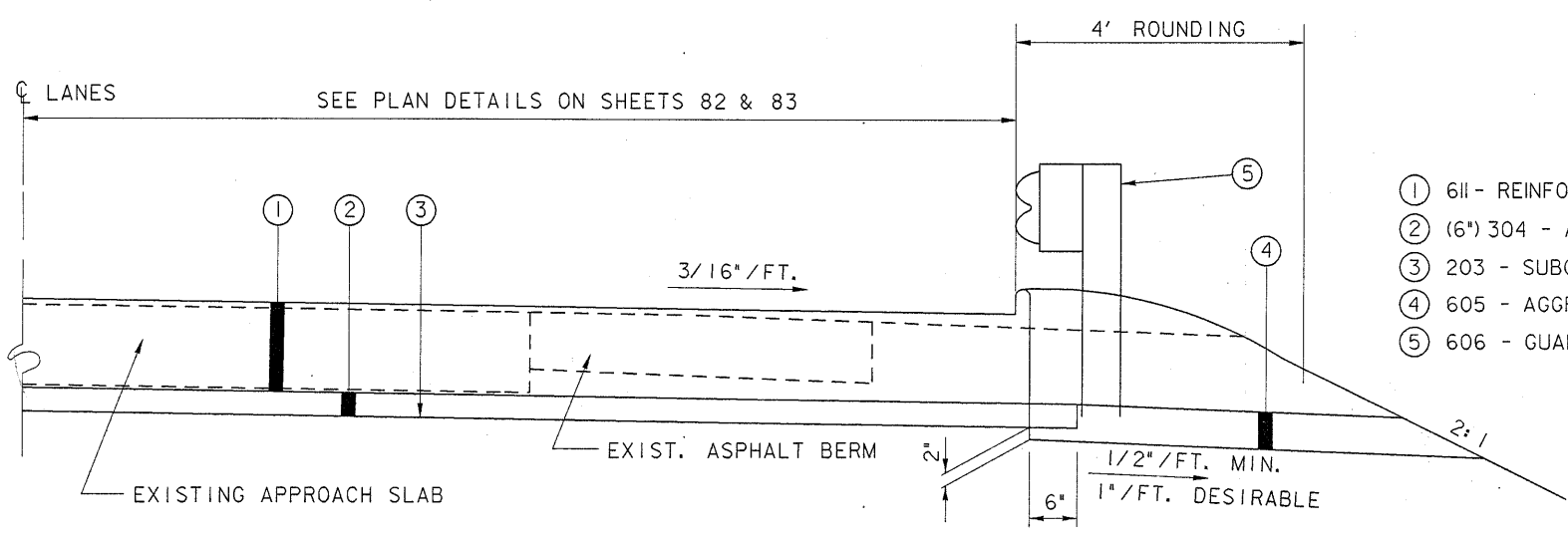
STRUCTURE	SPECIAL	SPECIAL	SPECIAL	605	605	603
	PRECAST REINFORCED CONCRETE OUTLET EACH	PRESSURE RELIEF JOINT, TYPE A LIN. FT.	PRESSURE RELIEF JOINT, AS PER PLAN LIN. FT.	AGGREGATE DRAIN LIN. FT.	6" SHALLOW PIPE UNDER DRAIN 707.15 LIN. FT.	4" CONDUIT, TYPE F, 707.17 NON-PERFORATED ASTM D 3034 SDR 35, SS 931, OR SS 944 LIN. FT.
LOR-2-0459 LT & RT			96	60		
LOR-2-0646 LT & RT	4	96			104	100
LOR-2-0699	2	60			64	70
LOR-2-0742 LT & RT			96	60		
TOTALS	6	156	192	120	168	170

ITEM SPECIAL-PRESSURE RELIEF JOINT, TYPE A
TYPE A PRESSURE RELIEF JOINTS SHALL BE INSTALLED IN PAVEMENT @ EACH END OF STRUCTURES NO. LOR-2-646 AND LOR-2-0699 AS PER STD. DRWG. BP-2.3.

ITEM SPECIAL - PRESSURE RELIEF JOINT, AS PER PLAN
PRESSURE RELIEF JOINTS AS PER PLAN SHALL BE CONSTRUCTED AS PER DETAIL ON THIS SHEET.



DETAIL FOR TRANSITIONING RESURFACING TO NEW APPROACH SLAB



HALF APPROACH SLAB TYPICAL SECTION

LEGEND

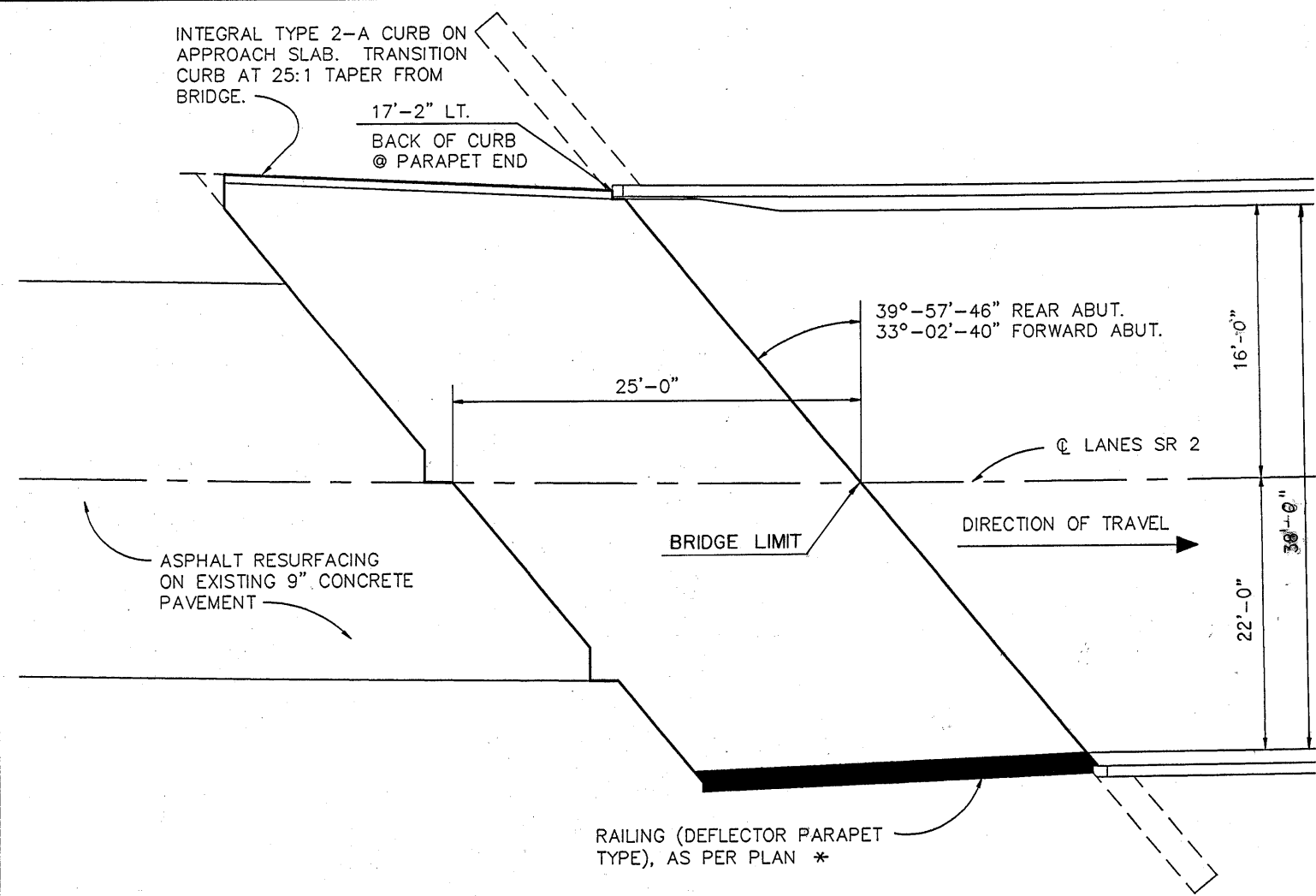
- ① 611 - REINFORCED CONCRETE APPROACH SLAB, T=15"
- ② (6") 304 - AGGREGATE BASE
- ③ 203 - SUBGRADE COMPACTION
- ④ 605 - AGGREGATE DRAIN
- ⑤ 606 - GUARDRAIL, TYPE 5

APPROACH SLAB QUANTITIES

STATION LIMITS	202	203	203	304	605	611		
	PAVEMENT REMOVED SQ. YD.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION CU. YD.	SUBGRADE COMPACTION SQ. YD.	AGGREGATE BASE CU. YD.	AGGREGATE DRAINS LIN. FT.	REINFORCED CONCRETE APPROACH SLAB (T=15") SQ. YD.		
S.R. 2 LOR-2-0459								
241+36.41 TO 241+61.74 LT	66.7	35.3	107	18.5	12	107		
241+90.90 TO 242+15.58 RT	66.7	34.7	106	18.5	12	106		
244+70.18 TO 244+95.51 LT	66.7	34.7	106	18.5	12	106		
245+11.72 TO 245+36.40 RT	66.7	35.3	107	18.5	12	107		
LOR-2-0646								
340+80.17 TO 341+05.17 LT	66.7	35.7	108	18.5	16	108		
340+56.87 TO 340+81.87 RT	66.7	35.7	108	18.5	16	108		
342+10.77 TO 342+35.77 LT	66.7	35.7	108	18.5	20	108		
341+87.47 TO 342+12.47 RT	66.7	35.7	108	18.5	20	108		
LOR-2-0742								
391+51.99 TO 391+76.99 RT	66.7	36.1	109	18	16	109		
391+60.99 TO 391+85.99 LT	66.7	36.1	109	18	16	109		
393+54.53 TO 393+79.53 RT	66.7	36.1	109	18	16	109		
393+63.53 TO 393+88.53 LT	66.7	36.1	109	18	16	109		
KOLBE RD: LOR-2-0649								
48+50.72 TO 48+75.72	89	-	92	15.8	12	92		
51+24.29 TO 51+49.29	89	-	92	15.8	12	92		
TERRA LANE: LOR-2-0699								
48+57.74 TO 48+82.74	89	*	92	15.7	12	92		
51+02.26 TO 51+27.26	89	*	92	15.7	12	92		
TOTALS	1156.4	427.2	1662	283	232	1662		

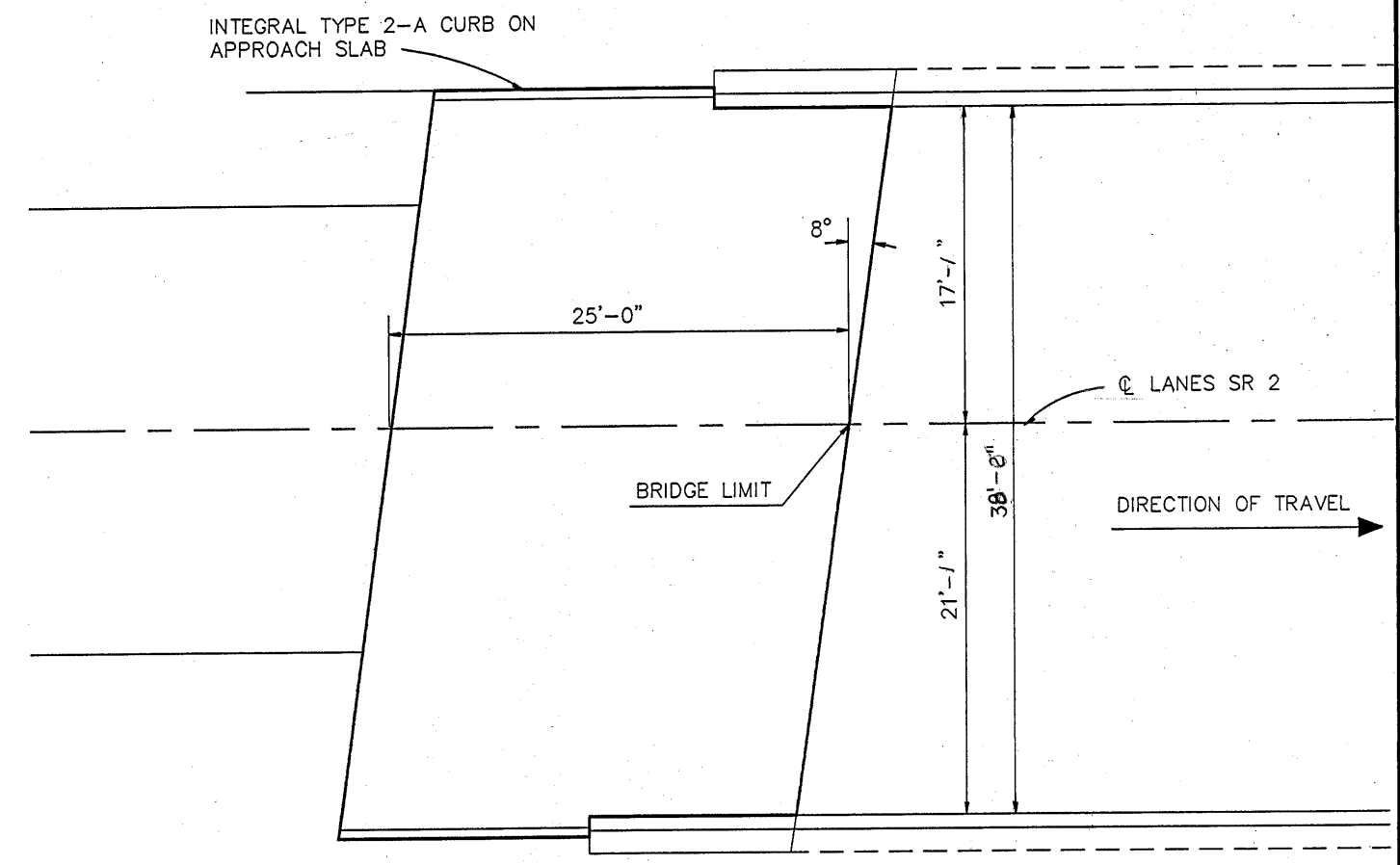
* INCLUDED WITH ROADWAY WORK

DESIGN FILE: C:\DGN\LOR2\LAB.DGN
WORKSTATION: DATE:



STRUCTURE NO. LOR-2-0459 LT. & RT.
OVER CROSSE RD. AND RAILROAD

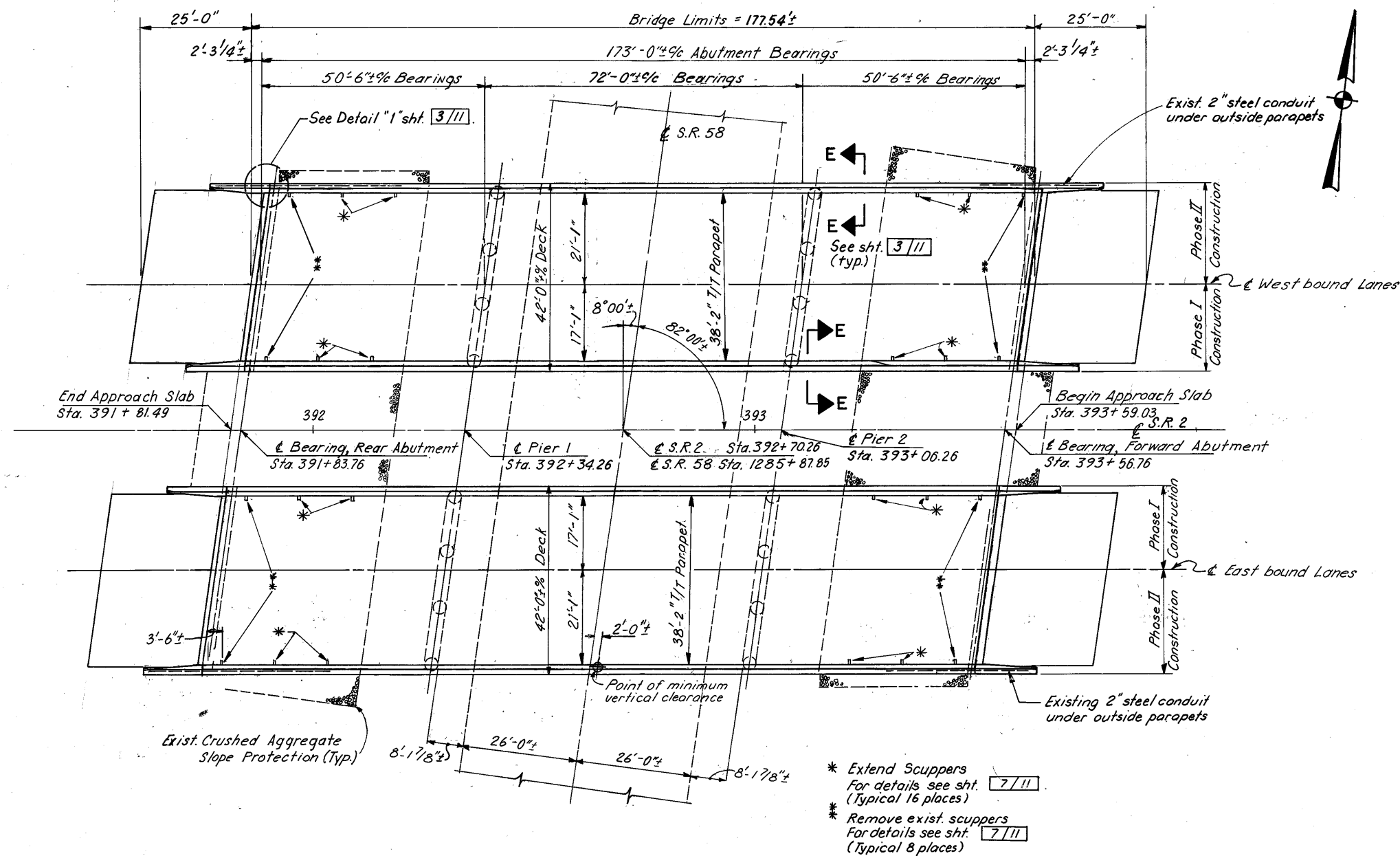
- * SEE SHEET 84 FOR DETAILS
- * SEE SHEET 16 FOR NOTE
- * SEE SHEET 30 FOR LOCATIONS



STRUCTURE NO. LOR-2-0742 LT. & RT.
OVER S.R. 58

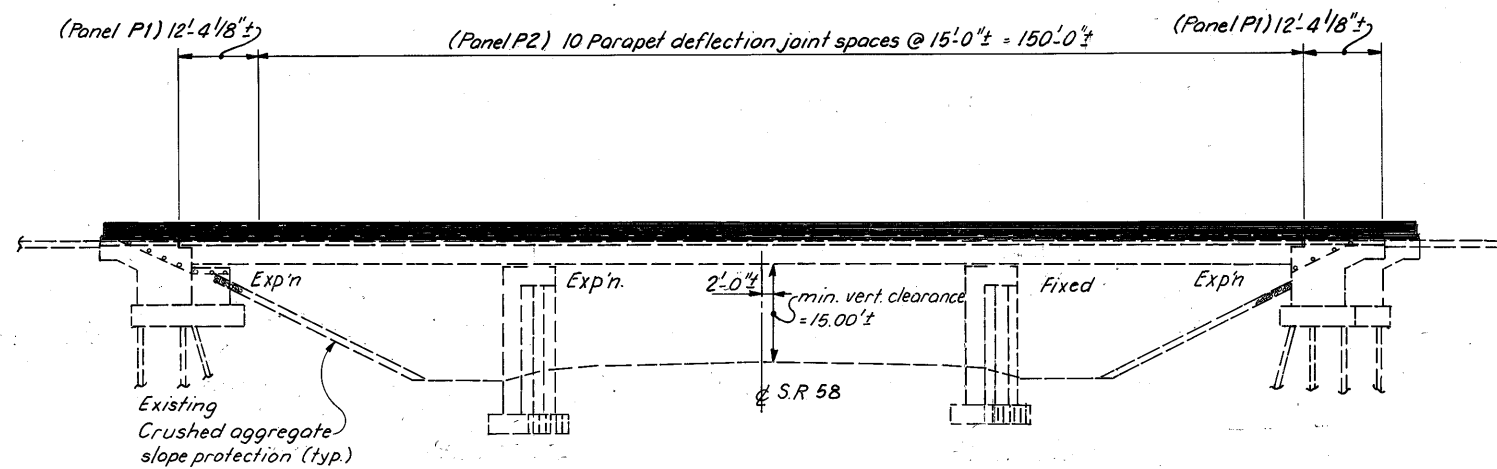
- NOTE:
- 1) SEE STANDARD DRAWING AS-1-81 FOR ADDITIONAL DETAILS
 - 2) SEE SHEET 81 FOR QUANTITIES.
 - 3) SEE SHEET 82 FOR ADDITIONAL APPROACH SLAB DETAILS.

L2/APPSLAB2



EXISTING STRUCTURE	
TYPE:	Twin Continuous Steel Beam with Reinforced Concrete Deck & Substructure.
SPANS:	50'-6"; 72'-0"; 50'-6" % Bearings
ROADWAY:	40'-0" f/f Parapets
LOAD FREQUENCY:	CF 400 (57)
SKEW:	8°-00' L.F.
ALIGNMENT:	Tangent
WEARING SURFACE:	Monolithic Concrete
APPROACH SLABS:	AS-1-54 (25' Long, Modified)
DATE BUILT:	1965
STRUCTURE FILE NO.:	4700279, 4700309

PROPOSED STRUCTURE	
PROPOSED WORK:	Concrete Overlay, Retrofit Existing Parapets, Replace Abutment Bearings, Remove Concrete at Parapet Joint to Provide Room for Expansion, Painting.
TYPE:	Twin Continuous Steel Beam with Reinforced Concrete Deck & Substructure
SPANS:	50'-6" ; 72'-0" ; 50'-6" % Bearings.
ROADWAY:	38'-2" t/t Parapet
LOAD FREQUENCY:	CF 400 (57)
SKEW:	8°-00' L.F.
ALIGNMENT:	Tangent
WEARING SURFACE:	Micro-Silica Concrete Deck Overlay
APPROACH SLABS:	AS-1-81 (25' Long)
AVERAGE DAILY TRAFFIC:	25980 (2014)
AVERAGE DAILY TRUCK TRAFFIC:	3118 (2014)



R.E. WARNER & ASSOCIATES CONSULTING ENGINEERS WESTLAKE, OHIO						1/11
GENERAL PLAN AND ELEVATION						
BRIDGE NO. LOR-2-0742 L / R OVER S.R. 58						
DESIGN	DRAWN	TRACED	CHECKED	REVIEW	DATE	REVISED
SWR	GSC	—	CDW	ART	2/24/94	

PROPOSED WORK:

MAJOR WORK TO BE PERFORMED UNDER THIS CONTRACT CONSISTS OF MICRO-SILICA CONCRETE OVERLAY, INSTALLING STRIP SEAL EXPANSION JOINTS, REPLACING ABUTMENT BEARINGS, PLUGGING AND ABANDONING EXISTING SCUPPERS, EXTENDING EXISTING SCUPPERS, CONCRETE SEALING, TRIMMING ENDS OF BEAMS AND PAINTING OF SUPERSTRUCTURE. DETAILS OF THIS WORK ARE SHOWN IN THE PLANS.

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

A-1-69 DATED 6-12-69
AS-1-81 DATED (REVISED) 11-27-81
EXJ-4-87 DATED 1-20-94

AND SUPPLEMENTAL SPECIFICATIONS:

852 7-30-93
944 5-27-94

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1992, INCLUDING THE 1993 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE MANUAL.

DESIGN DATA:

LOAD FREQUENCY - CF 400 (57)
CONCRETE CLASS S - COMPRESSIVE STRENGTH 4500 P.S.I.
CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 P.S.I.
REINFORCING STEEL - ASTM A615, A616, A617 - GRADE 60 MINIMUM YIELD STRENGTH 60,000 P.S.I.

DECK PROTECTION METHOD:

SEALING OF CONCRETE SURFACES AND MICRO-SILICA CONCRETE OVERLAY.

MAINTENANCE OF TRAFFIC:

BRIDGE WORK SHALL BE COORDINATED WITH DISTRICT 3 ROADWAY WORK AND MAINTENANCE OF TRAFFIC REQUIREMENTS.

ITEM 202 - REMOVAL MISC.: SCUPPER REMOVAL

THIS ITEM SHALL BE USED TO PLUG AND REMOVE PORTIONS OF THE EXISTING SCUPPERS AS PER DETAILS IN THE PLAN.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER EACH FOR ITEM 202-REMOVAL, MISC.: SCUPPER REMOVAL WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIAL, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM SPECIAL - SEALING OF CONCRETE SURFACES:

A CONCRETE SEALER SHALL BE APPLIED TO THE CONCRETE SURFACES SHOWN ON SHEETS 4/11 AND 5/11. SEE PROPOSAL FOR SURFACE PREPARATION REQUIREMENTS, APPLICATION RATES, MATERIAL REQUIREMENTS AND APPLICATION PROCEDURES.

UTILITY UNDER PARAPETS

THERE IS 2" GALVANIZED STEEL CONDUIT LOCATED UNDER OUTSIDE PARAPETS ON NORTH SIDE OF WESTBOUND LANES FOR ELECTRIC LIGHTING SYSTEM.

THE CONTRACTOR SHALL COMMENCE ANY WORK IN THIS AREA WITH EXTREME DUE CARE AND NOT TO DAMAGE THIS CONDUIT. ANY DAMAGE TO THIS CONDUIT BECAUSE OF CONTRACTORS NEGLIGENCE SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE AND TO THE APPROVAL OF THE ENGINEER.

TRAFFIC SIGNS:

DUE CARE SHALL BE EXERCISED NOT TO DAMAGE EXISTING TRAFFIC SIGNS OR ANY CONNECTIONS OF TRAFFIC SIGNS THAT ARE MOUNTED ON PARAPETS.

IN CASE OF DAMAGE TO THE EXISTING STRUCTURE, PARAPET OR SIGNS BECAUSE OF CONTRACTORS NEGLIGENCE, REPAIR OR REPLACEMENT SHALL BE MADE AT THE CONTRACTORS EXPENSE AND TO THE APPROVAL OF THE ENGINEER.

ITEM - 518 SCUPPER, VERTICAL EXTENSION, AS PER PLAN

THIS ITEM SHALL INCLUDE ALL WORK NEEDED TO LENGTHEN SCUPPERS AS PER DETAILS IN THE PLAN.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER EACH FOR ITEM 518 - SCUPPER, VERTICAL EXTENSION, AS PER PLAN WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIAL, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ADDITIONAL NOTES:

FOR ADDITIONAL NOTES SEE SHEET



, AND



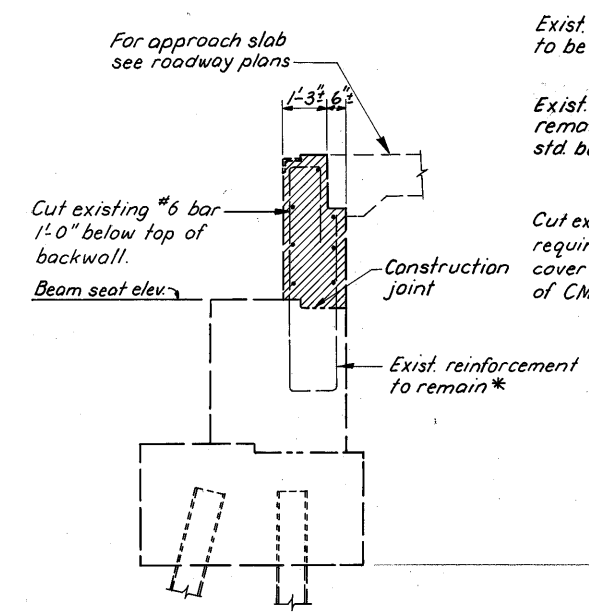
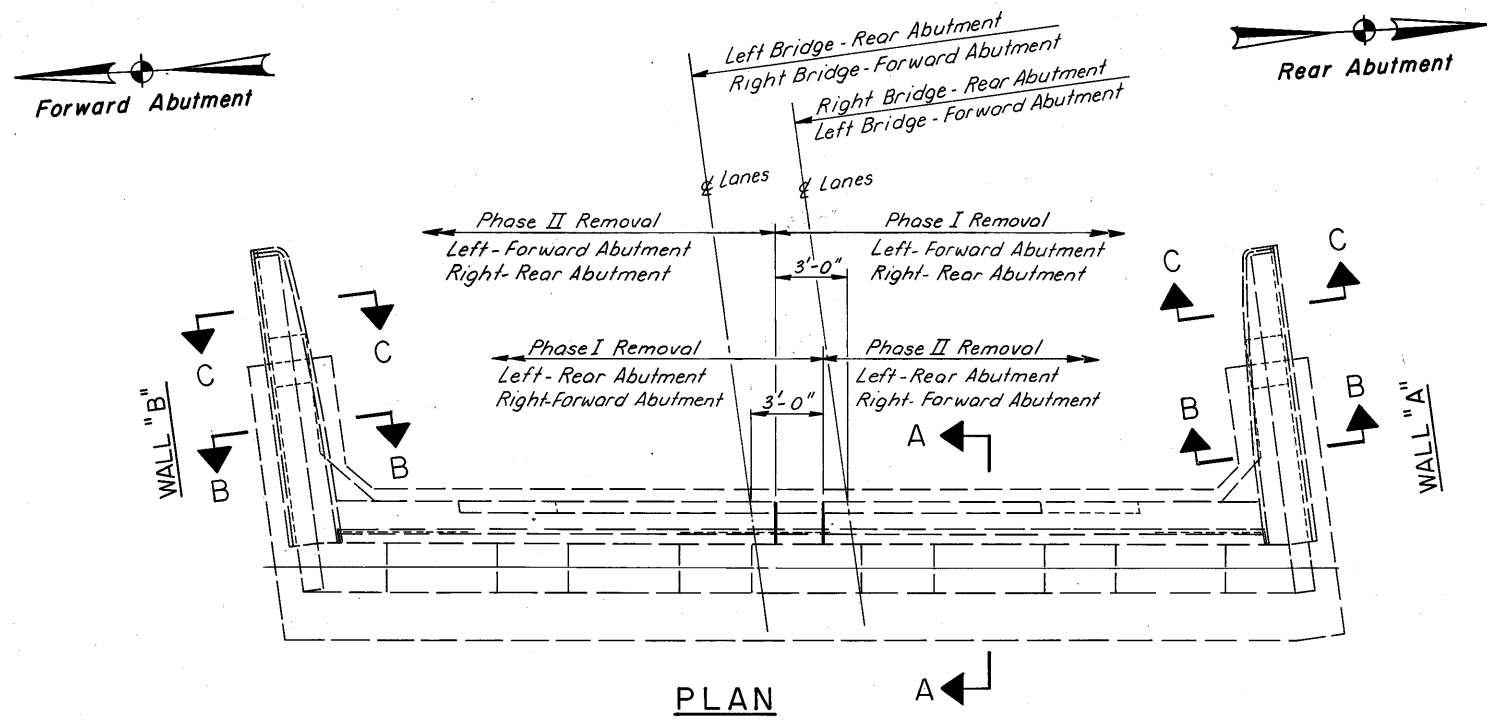
CALC. BY: <u>SWR</u>		DATE: <u>2/24/94</u>		ESTIMATED QUANTITIES				CHK'D BY: <u>CDW</u>		DATE: <u>2/24/94</u>	
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION				ABUTS	PIERS	SUPER.	GEN'L
202	11301	23	CU. YD.	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN (SEE SHT. 144)						23	
202	11301	60	CU. YD.	PORTIONS OF STRUCTURE REMOVED, ABUTMENTS, AS PER PLAN (SEE SHT. 144)				60			
202	98100	8	EACH	REMOVAL MISC.: SCUPPER REMOVAL						8	
509	15820	14016	POUND	EPOXY COATED REINFORCING STEEL, GRADE 60				7092		6724	200
510	11101	512	EACH	DOWEL HOLE, AS PER PLAN (SEE SHT. 144)						512	
511	34450	93	CU.YD.	CLASS S CONCRETE, MISCELLANEOUS (PARAPETS), AS PER PLAN (SEE SHT. 145)				51		42	
511	45701	40	CU.YD.	CLASS C CONCRETE, ABUTMENT, AS PER PLAN (SEE SHT. 145)				40			
512	44400	6	SQ.YD.	TYPE B WATERPROOFING				6			
SPECIAL	51267510	944	SQ.YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)(SEE PROPOSAL NOTE)				233		711	
513	15901	125	POUND	STRUCTURAL STEEL, REPLACEMENT OF DETERIORATED END CROSS FRAMES, AS PER PLAN (SEE SHT. 21b)				125			
513	21001	24	EACH	TRIMMING OF BEAM END, AS PER PLAN (SEE SHT. 144)						24	
SPECIAL	51400050	24280	SQ.FT.	SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU (SEE PROPOSAL NOTE)						24280	
SPECIAL	51400056	24280	SQ.FT.	FIELD PAINTING OF EXISTING STEEL, PRIME COAT, SYSTEM OZEU (SEE PROPOSAL NOTE)						24280	
SPECIAL	51400060	24280	SQ.FT.	FIELD PAINTING OF EXISTING STEEL, INTERMEDIATE COAT, SYSTEM OZEU (SEE PROPOSAL NOTE)						24280	
SPECIAL	51400066	24280	SQ.FT.	FIELD PAINTING OF EXISTING STEEL, FINISH COAT, SYSTEM OZEU (SEE PROPOSAL NOTE)						24280	
516	11211	168	LIN. FT.	STRUCT'L. EXPAN. JT. INCLUDING ELASTOMERIC STRIP SEAL AS PER PLAN (SEE PROPOSAL NOTE)						168	
516	44101	24	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), (2-3/8" X 8-1/2" X 12" LAMINATED ELASTOMERIC PAD W/ 2-1/4" X 9-1/2" X 13" STEEL LOAD PL) AS PER PLAN				24			
516	47000	LUMP	LUMP	JACKING AND TEMPORARY SUPPORT OF STRUCTURE (SEE PROPOSAL NOTE)							
518	21201	144	CU.YD.	POROUS BACKFILL WITH FILTER FABRIC, AS PER PLAN (SEE SHT. 145)				144			
518	40001	180	LIN.FT.	6" PERFORATED CORRUGATED PLASTIC PIPE, AS PER PLAN (SEE SHT. 145)				180			
518	40011	228	LIN.FT.	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN (SEE SHT. 145)				228			
518	12701	16	EACH	SCUPPER, VERTICAL EXTENSION, AS PER PLAN (SEE SHT. 202)						16	
519	11101	140	SQ.FT.	PATCHING CONCRETE STRUCTURE, AS PER PLAN (SEE SHT. 145)				140			
SPECIAL	51922000	1480	SQ.YD.	MICRO-SILICA MODIFIED CONCRETE OVERLAY (1.25" THICK)(SEE PROPOSAL NOTE)						1480	
SPECIAL	51922100	82	CU.YD.	MICRO-SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS)(SEE PROPOSAL NOTE)						82	
SPECIAL	51922300	LUMP	LUMP	TEST SLAB (SEE PROPOSAL NOTE)							

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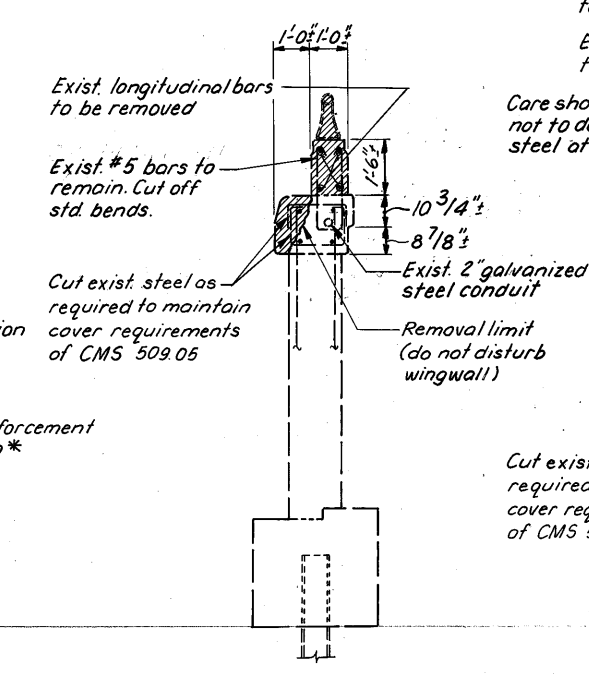
GENERAL NOTES AND ESTIMATED QUANTITIES

BRIDGE NO. LOR-2-0742 L/R
OVER S.R. 58

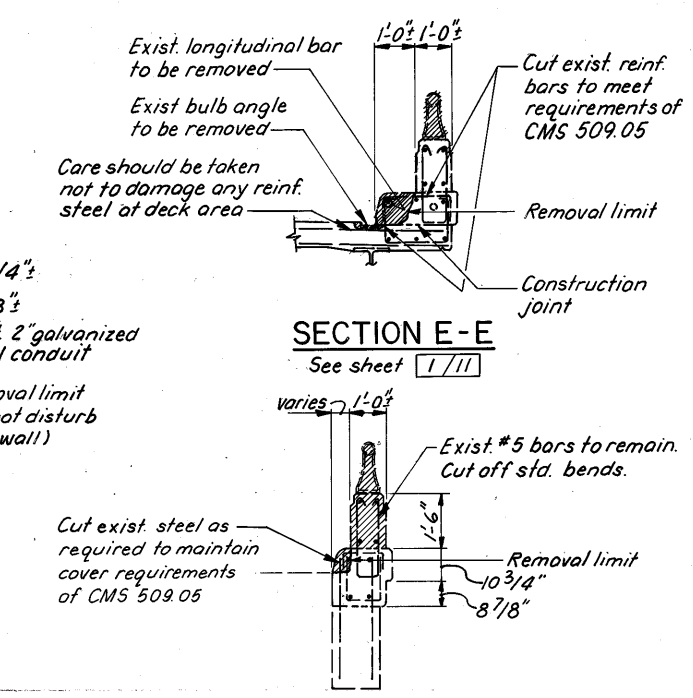
DESIGN	DRAWN	TRACED	CHECKED	REVIEW	DATE	REVISED
SWR	GSC	---	CDW	ART	2/24/94	



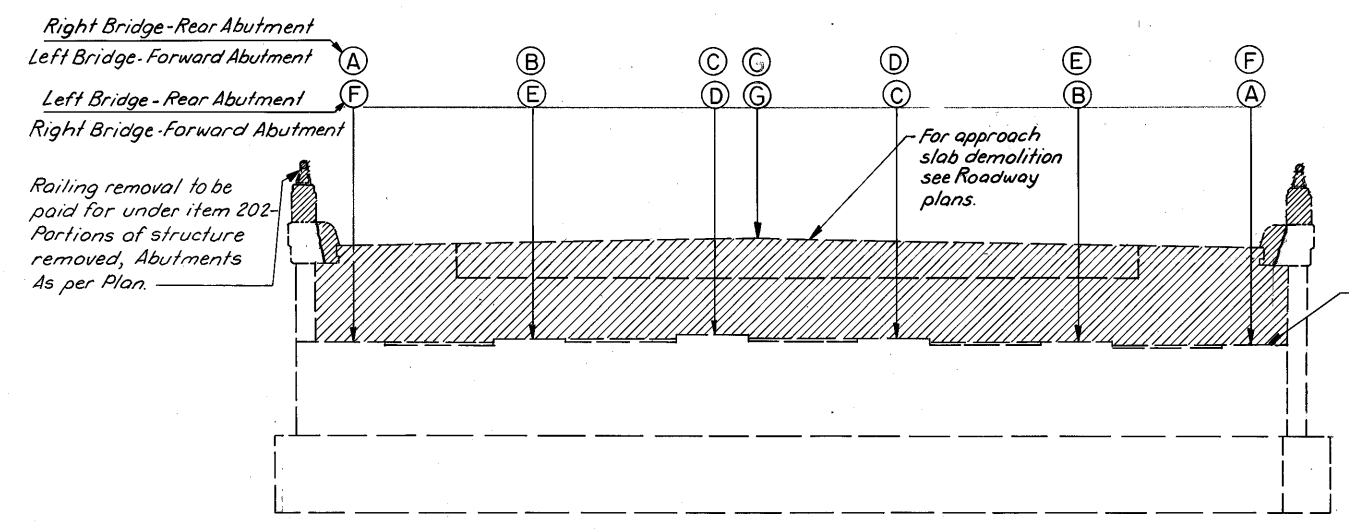
SECTION A-A



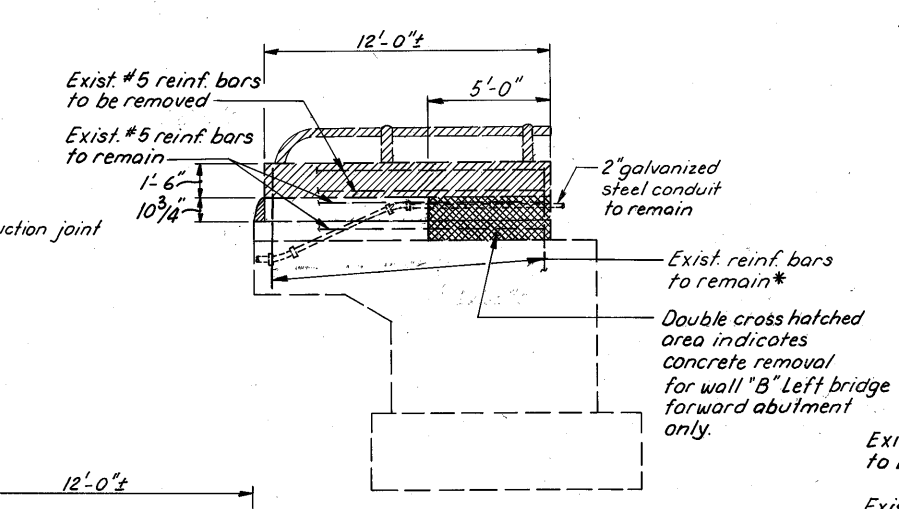
SECTION B-B



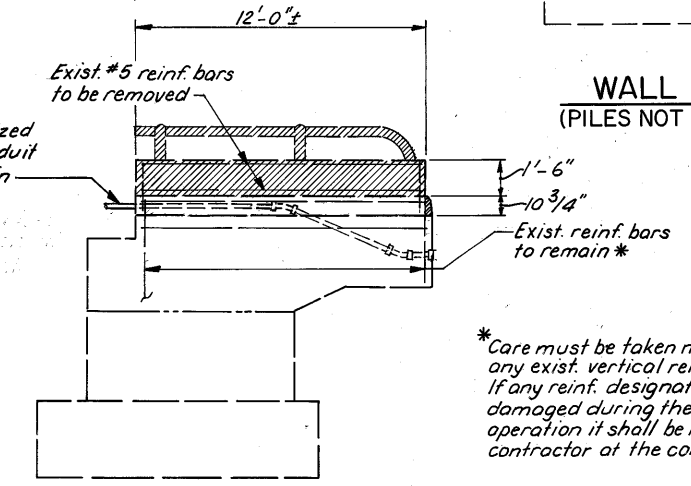
SECTION C-C



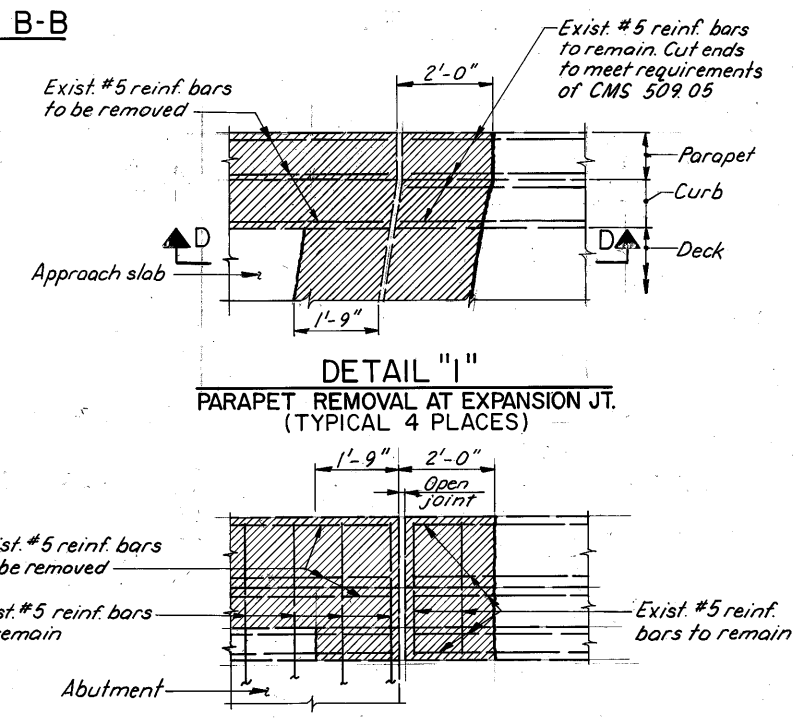
ELEVATION



WALL "B"
(PILES NOT SHOWN)



WALL "A"
(PILES NOT SHOWN)



SECTION D-D

TABLE OF EXISTING ELEVATIONS		(A)	(B)	(C)	(D)	(E)	(F)	(G)
LEFT BRIDGE	Rear Abutment	651.27±	651.38±	651.50±	651.56±	651.44±	651.32±	655.64±
	Forward Abutment	651.17±	651.29±	651.41±	651.47±	651.36±	651.24±	655.55±
RIGHT BRIDGE	Rear Abutment	651.25±	651.37±	651.48±	651.55±	651.43±	651.32±	655.62±
	Forward Abutment	651.20±	651.32±	651.43±	651.49±	651.37±	651.25±	656.57±

Note: For backwall demolition, concrete to be removed no further than the construction joint at the bridge seat.

LEGEND:

Indicates sections to be removed

*Care must be taken not to damage any exist. vertical reinforcements. If any reinf. designated to stay is damaged during the contractor's operation it shall be replaced by the contractor at the contractor's expense.

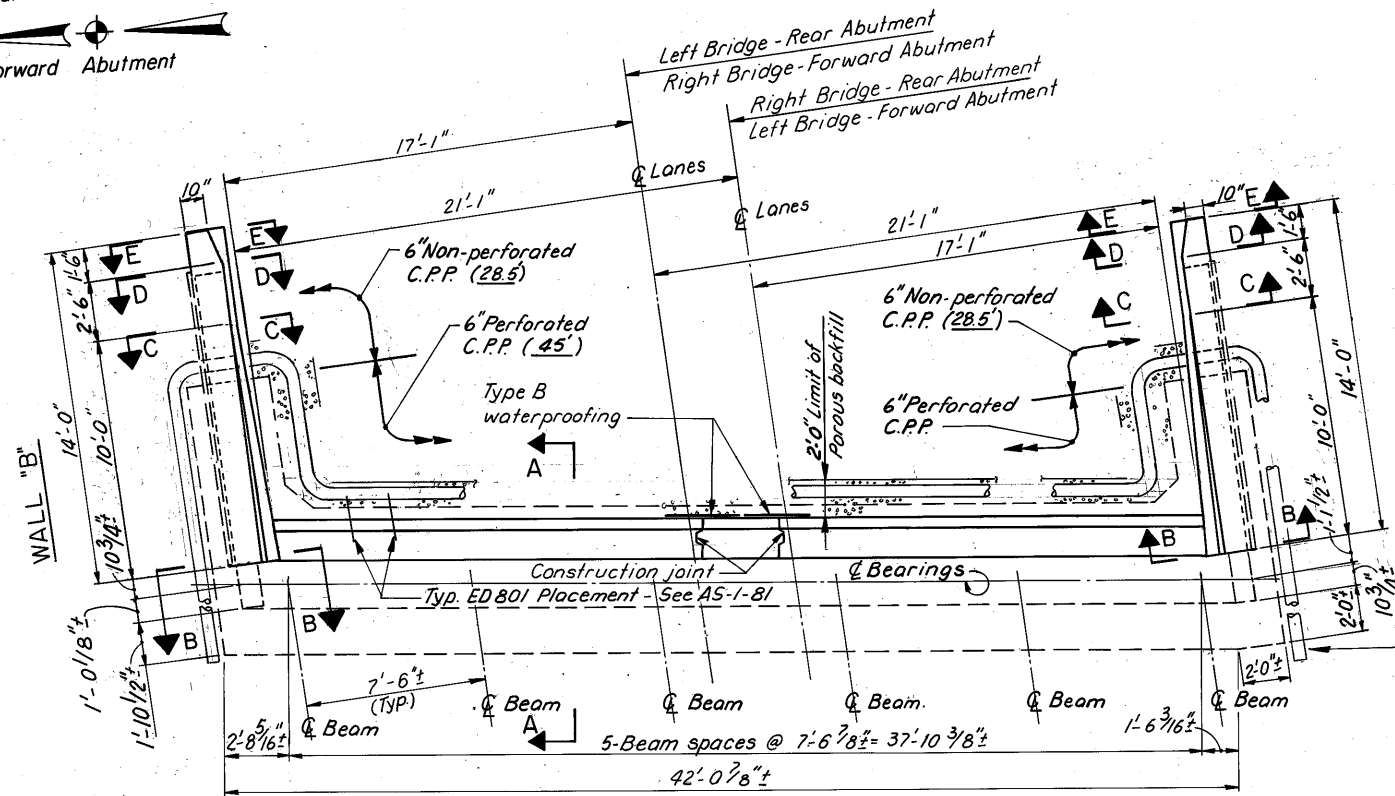
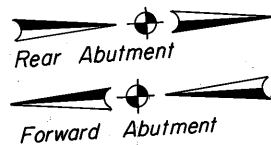
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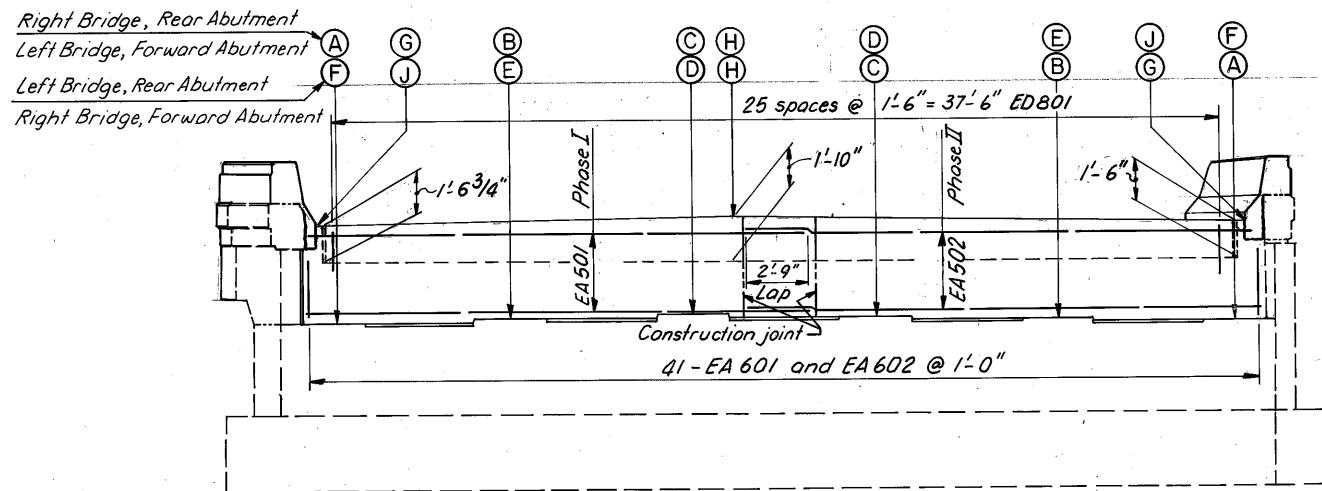
DEMOLITION

BRIDGE NO. LOR-2-0742 L / R
OVER S. R. 58

DESIGN	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
SWR	CCC	---	CDW	ART	2/24/94	-



PLAN



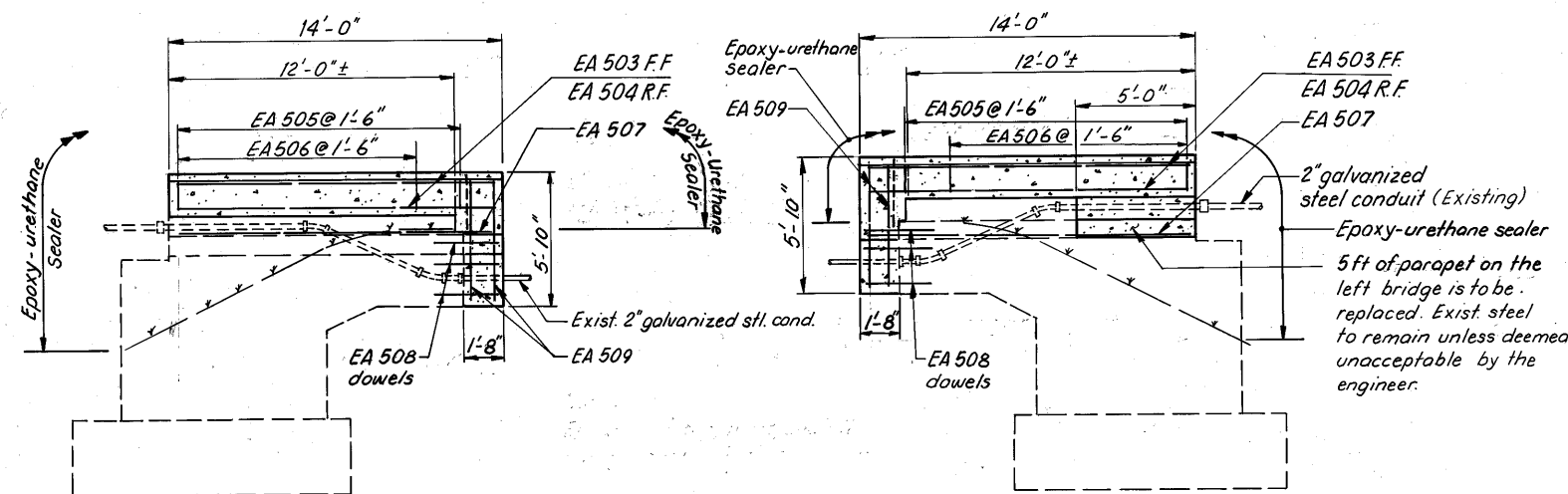
ELEVATION
(PILES NOT SHOWN)

LOCATION		A	B	C	D	E	F	G	H	J
LEFT BRIDGE	Rear Abutment	651.27 [±]	651.38 [±]	651.50 [±]	651.56 [±]	651.44 [±]	651.32 [±]	655.71	656.04	655.77
	Forward Abutment	651.17 [±]	651.29 [±]	651.41 [±]	651.47 [±]	651.36 [±]	651.24 [±]	655.68	656.01	655.74
RIGHT BRIDGE	Rear Abutment	651.25 [±]	651.37 [±]	651.48 [±]	651.55 [±]	651.43 [±]	651.32 [±]	655.84	656.11	655.78 [±]
	Forward Abutment	651.20 [±]	651.32 [±]	651.43 [±]	651.49 [±]	651.37 [±]	651.25 [±]	655.84	656.11	655.78

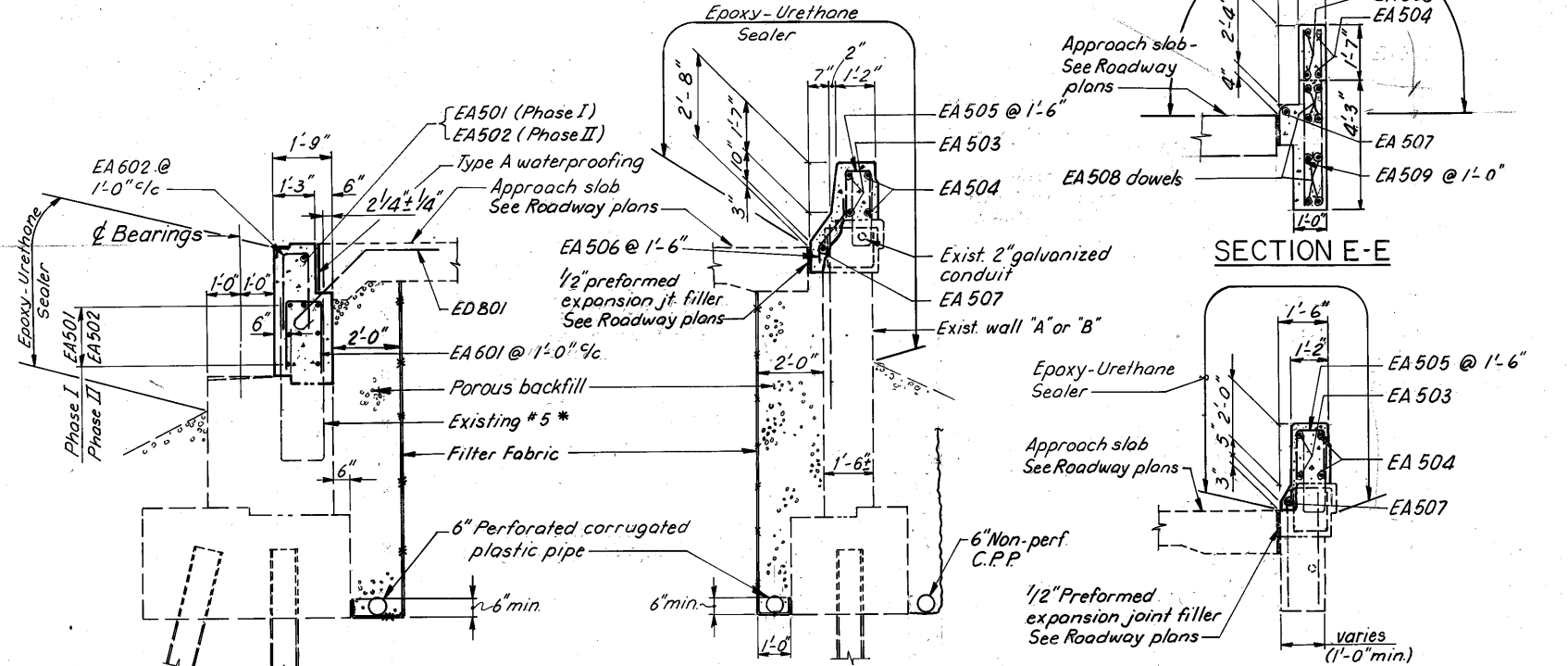
LEGEND:

FF - Front Face
R.F. - Rear Face

* Exist. reinforcing bars to remain.
Care must be taken not to damage any exist. vertical reinforcements. If any reinforcement designated to stay is damaged during the contractor's operation, it shall be replaced by the contractor at the contractor's expense.



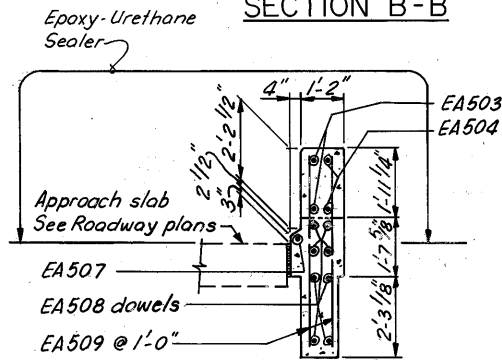
SECTION A-A
(Piles not Shown)



SECTION B-B

SECTION C-C

SECTION E-E



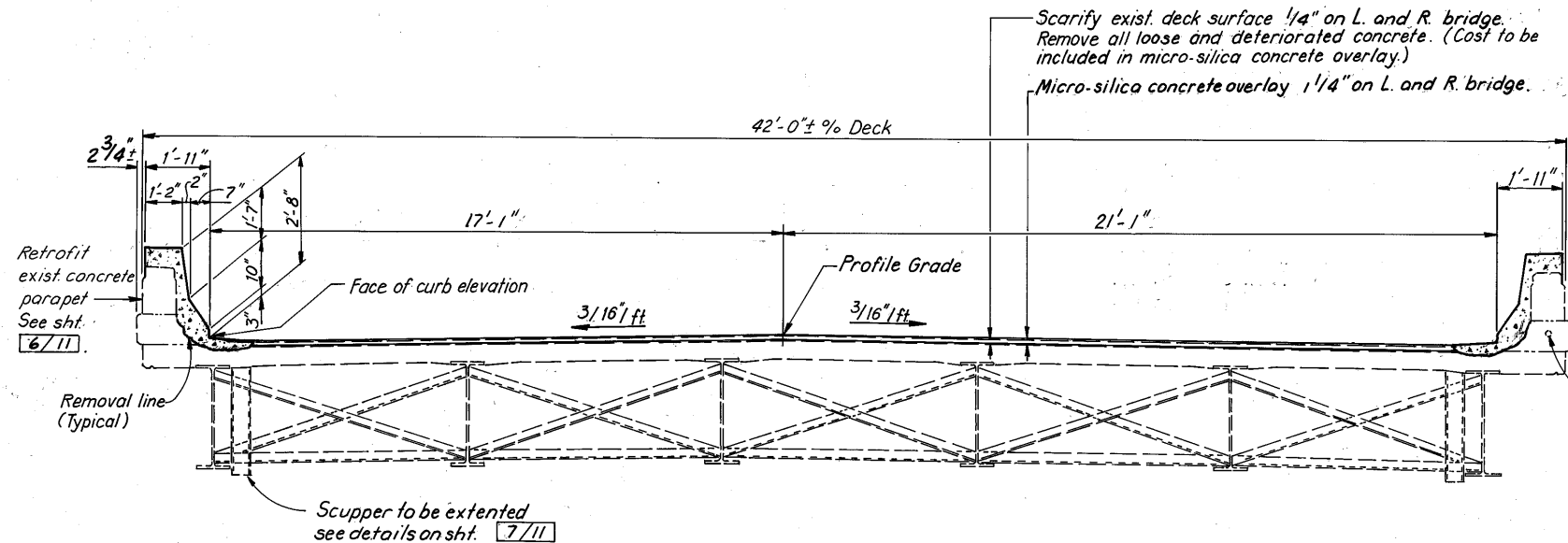
SECTION D-D

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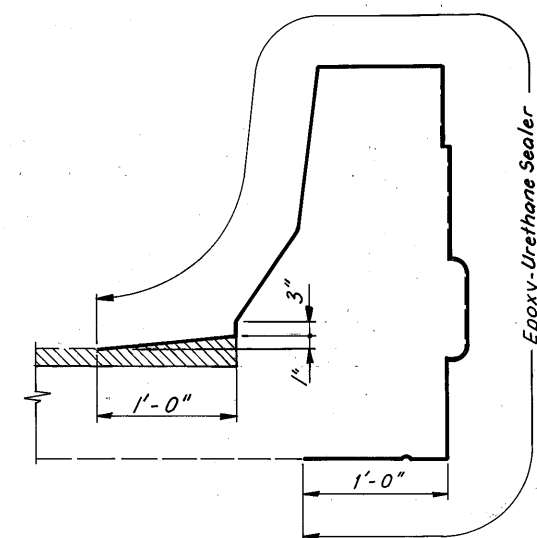
ABUTMENTS

BRIDGE NO. LOR-2-0742 L / R
OVER S. R. 58

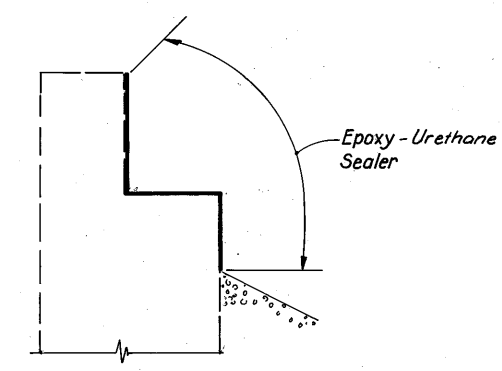
DESIGN	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
SWR	CCC	—	CDW	ART	2/24/94	



TRANSVERSE SECTION
RIGHT BRIDGE SHOWN
LEFT BRIDGE OPPOSITE HAND



DETAIL "1"
EPOXY SEALER AT PARAPET & DECK



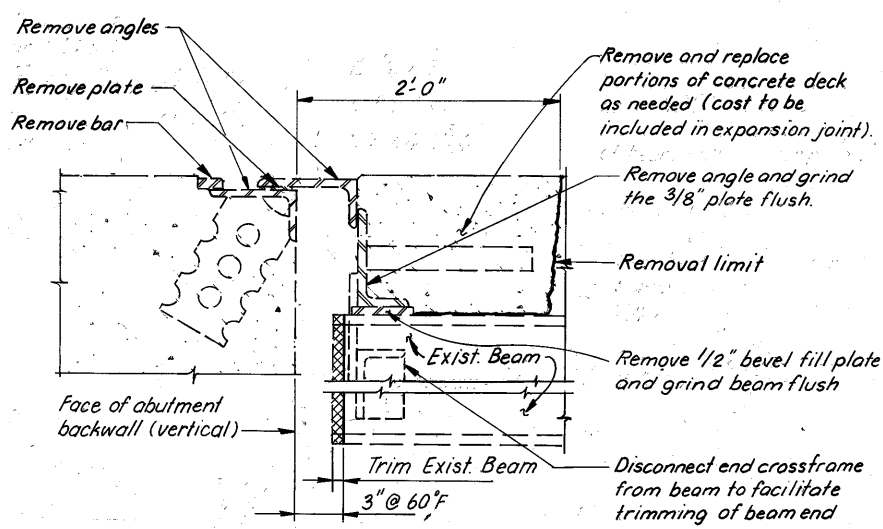
DETAIL "2"
EPOXY SEALER
AT ABUTMENT

PROPOSED DECK ELEVATIONS-LEFT BRIDGE

STATION	FACE OF CURB ELEV. (L)	PROFILE GRADE	FACE OF CURB ELEV. (R)
392 + 00	655.81	656.06	655.88
+ 25	655.83	656.08	655.90
+ 50	655.85	656.10	655.92
+ 75	655.83	656.08	655.90
393 + 00	655.81	656.06	655.88
+ 25	655.79	656.04	655.86
+ 50	655.77	656.02	655.84

PROPOSED DECK ELEVATIONS-RIGHT BRIDGE

STATION	FACE OF CURB ELEV. (L)	PROFILE GRADE	FACE OF CURB ELEV. (R)
392 + 00	655.94	656.12	655.87
+ 25	655.95	656.13	655.88
+ 50	655.97	656.15	655.90
+ 75	655.96	656.14	655.89
393 + 00	655.95	656.13	655.88
+ 25	655.94	656.12	655.87
+ 50	655.93	656.11	

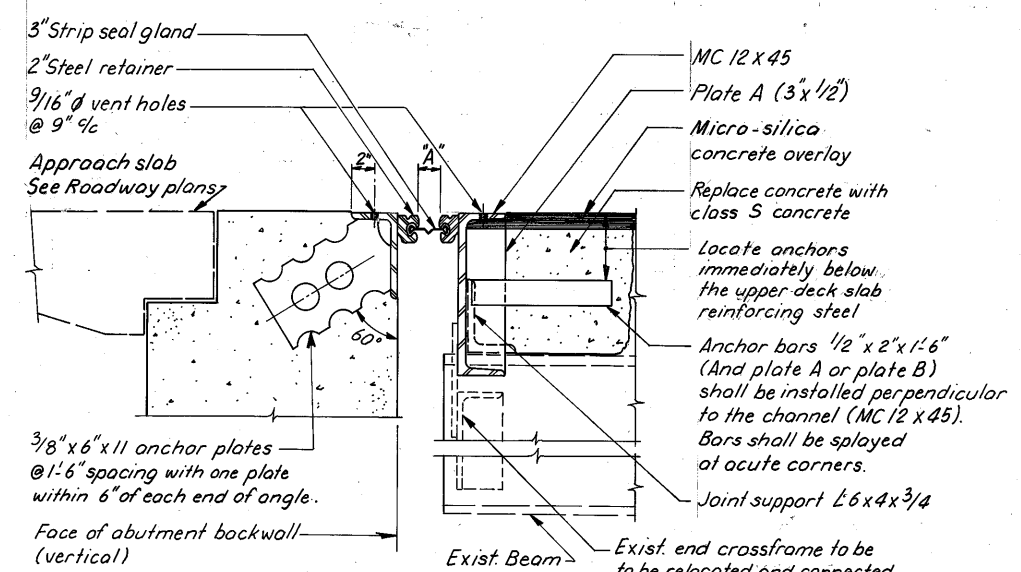


SECTION A-A
(EXISTING)

Note: Dimension "A" measured perpendicular to abutment bearings.

TEMPERATURE & ADJUSTMENT TABLE

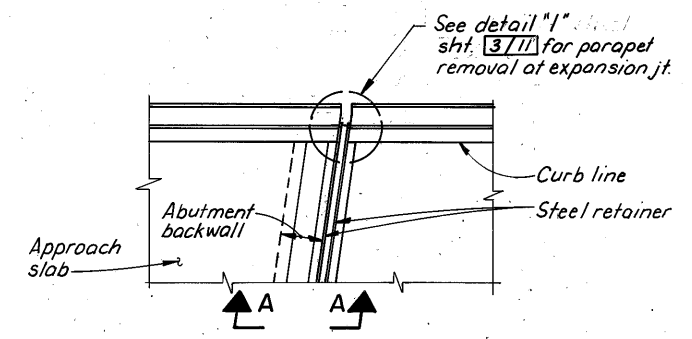
TEMP	30°	40°	50°	60°	70°	80°	90°
"A"	1 7/8"	1 3/16"	1 1/16"	1 5/8"	1 1/2"	1 1/2"	1 1/2"



SECTION A-A
(PROPOSED)

Notes:
Remove and replace portions of concrete deck, parapet and approach slab, expansion joint and connections as needed to facilitate new 3" strip seal expansion joint as shown on plans and standard dwg. EXJ-4-87. Preserve all existing reinforcing steel.

Payment for all of the above shall be at the unit price bid per linear ft. for item 516 structural expansion joint as per plan including elastomeric strip seal, which shall include all labor, equipment, materials, and incidentals necessary to complete the above work.



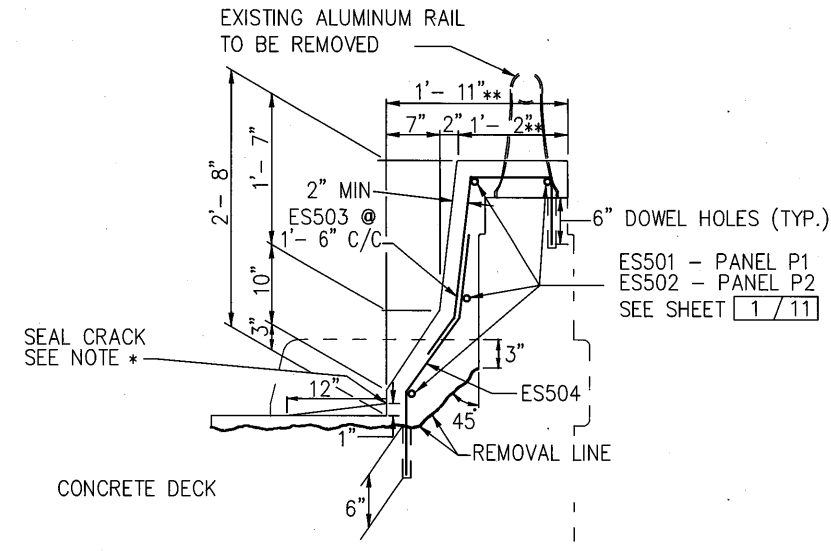
PART PLAN AT ABUTMENT

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MICRO-SILICA CONCRETE OVERLAY AND MISCELLANEOUS DETAILS

BRIDGE NO. LOR-2-0742 L / R
OVER S.R. 58

DESIGN	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
SWR	CCC	—	CDW	ART	2/24/94	

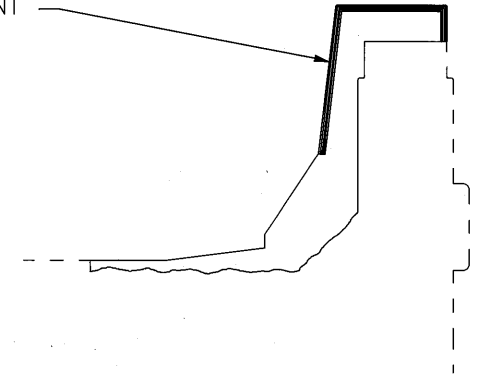


DETAIL "1"

NOTES

- * CRACK SEALING - WHEN CURING IS COMPLETED, SEAL CRACK WITH AN APPROVED HIGH MOLECULAR WEIGHT METHACRYLATE SEALER, THE SEALER SHALL BE PREPARED AND APPLIED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. INCLUDE COST WITH ITEM 511 CLASS S CONCRETE, MISCELLANEOUS (PARAPETS), AS PER PLAN.
 - ** THESE DIMENSIONS ARE DIFFERENT THAN STANDARD DRAWINGS BECAUSE OF FACING PARAPETS.
- REINFORCING BARS NEAR DEFLECTION JOINTS MAY NEED TO BE MOVED TO PROVIDE 2" OF CLEARANCE ON EACH SIDE OF THE DEFLECTION JOINTS.
- COST TO REMOVE EXISTING ALUMINUM RAIL SHALL BE INCLUDED IN ITEM 202 PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.
- ALL LOOSE AND UNSOUND CONCRETE IN THE AREA OF THE PARAPET TO BE FACED, SHALL BE REMOVED. ALL REMAINING SOUND CONCRETE SHALL THEN BE MECHANICALLY SCARIFIED 1/4" DEEP.
- IN LIEU OF THE BONDING GROUT SPECIFIED IN ITEM 511 CLASS S CONCRETE, MISCELLANEOUS (PARAPETS), AS PER PLAN, THE CONTRACTOR MAY ELECT TO THOROUGHLY DRENCH THE CONCRETE SURFACE WITH CLEAN WATER AND ALLOW IT TO DRY TO A DAMP CONDITION JUST BEFORE PLACING THE CONCRETE.

EXISTING DEFLECTION JOINTS SHALL BE EXTENDED COMPLETELY THROUGH THE PROPOSED FACING AND SHALL BE MADE BY FORMING THE 1/4" JOINTS SHALL BE SEALED 3/4" DEEP (MIN) WITH AN IMPREGNATED PRECOMPRESSED EXPANDING FOAM SEALANT TAPE KNOWN AS WILL-SEAL MANUFACTURED BY ILLBUCK/USA INC. MINN. OR A LOW DENSITY CLOSED CELL CROSSLINKED ETHYLENE VINYL ACETATE FOAM KNOWN AS EVAZOTE 50 MANUFACTURED BY E-POXY INDUSTRIES, RAVENA N.Y. INCLUDE WITH ITEM 511 CLASS S CONCRETE, MISCELLANEOUS (PARAPETS), AS PER PLAN FOR PAYMENT

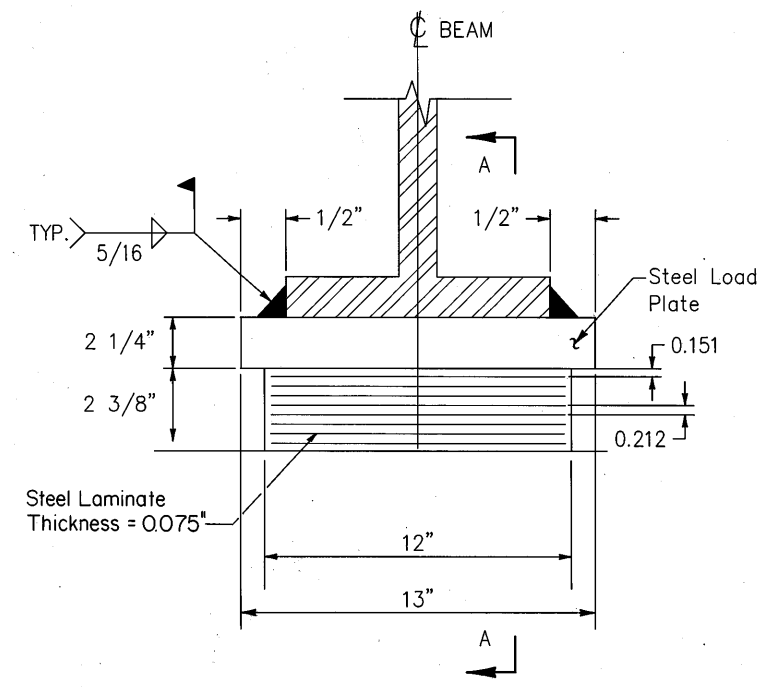


SECTION THROUGH DEFLECTION JOINT

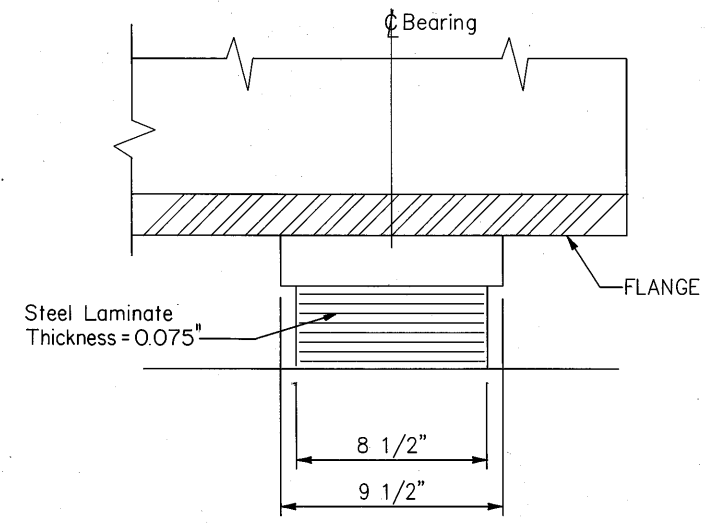
NOTES.

1. Replace abutment bearings only.
7 Internal Layers
Load Plate is Galvanized A36 Steel.
DL = 20K; LL = 44K
 2. Basis of Payment: The unit bid price shall include all materials, labor and incidentals necessary to furnish and install laminated elastomeric bearings expansion. Payment will be made at the contract price for Item 516, Each, Elastomeric Bearings with Internal Laminates and Load Plate (Neoprene).
 3. Load Plate: The steel load plate shall be bonded by vulcanization to the elastomer during the molding process. Steel Load Plates shall be 2 1/4 inches thick.
- Welding of the load plate to the superstructure shall be controlled so that the plate temperature at the elastomer bonded surface shall not exceed 300°F as determined by the use of pyrometric sticks or other temperature monitoring devices.

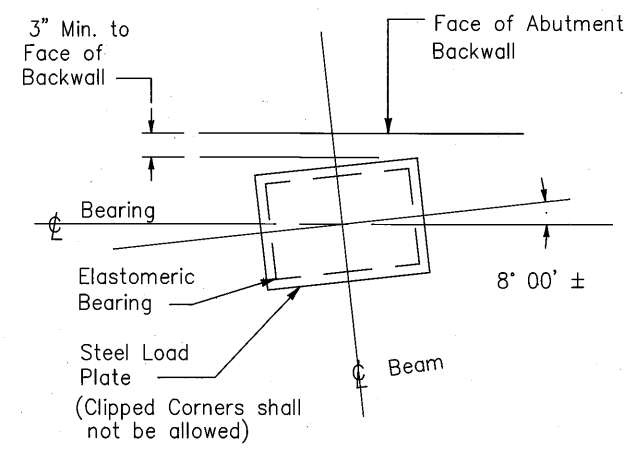
RETROFIT EXISTING CONCRETE PARAPET



LAMINATED ELASTOMERIC EXPANSION BEARING 50 DUROMETER



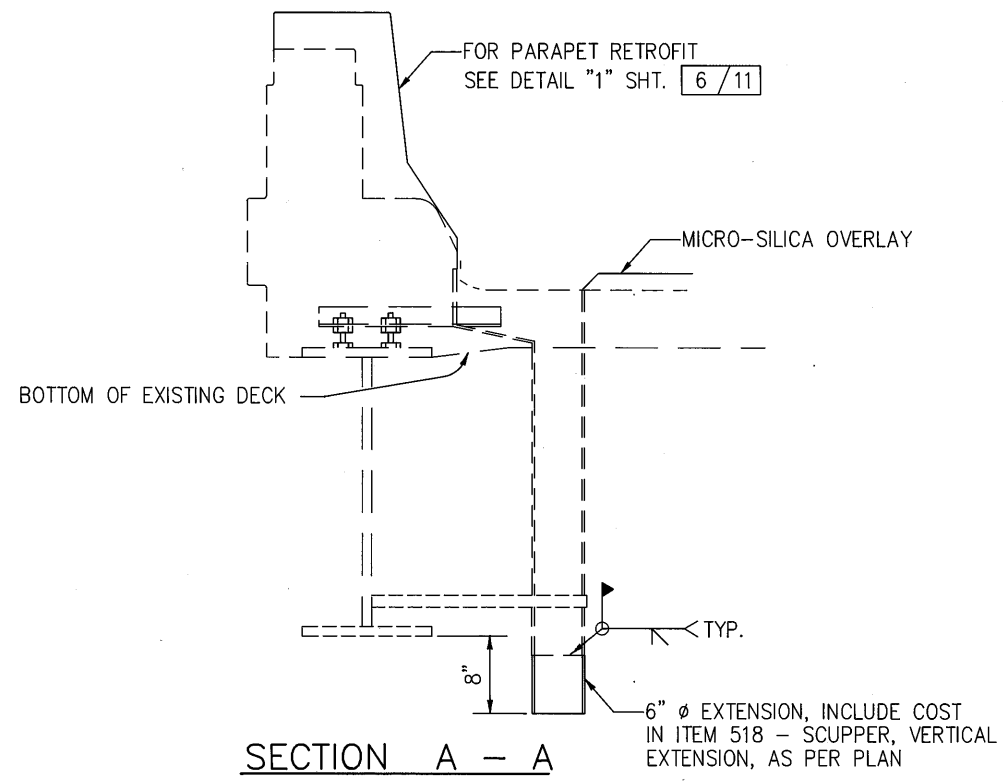
SECTION A-A



LAMINATED ELASTOMERIC BEARING ORIENTATION AT ABUTMENTS

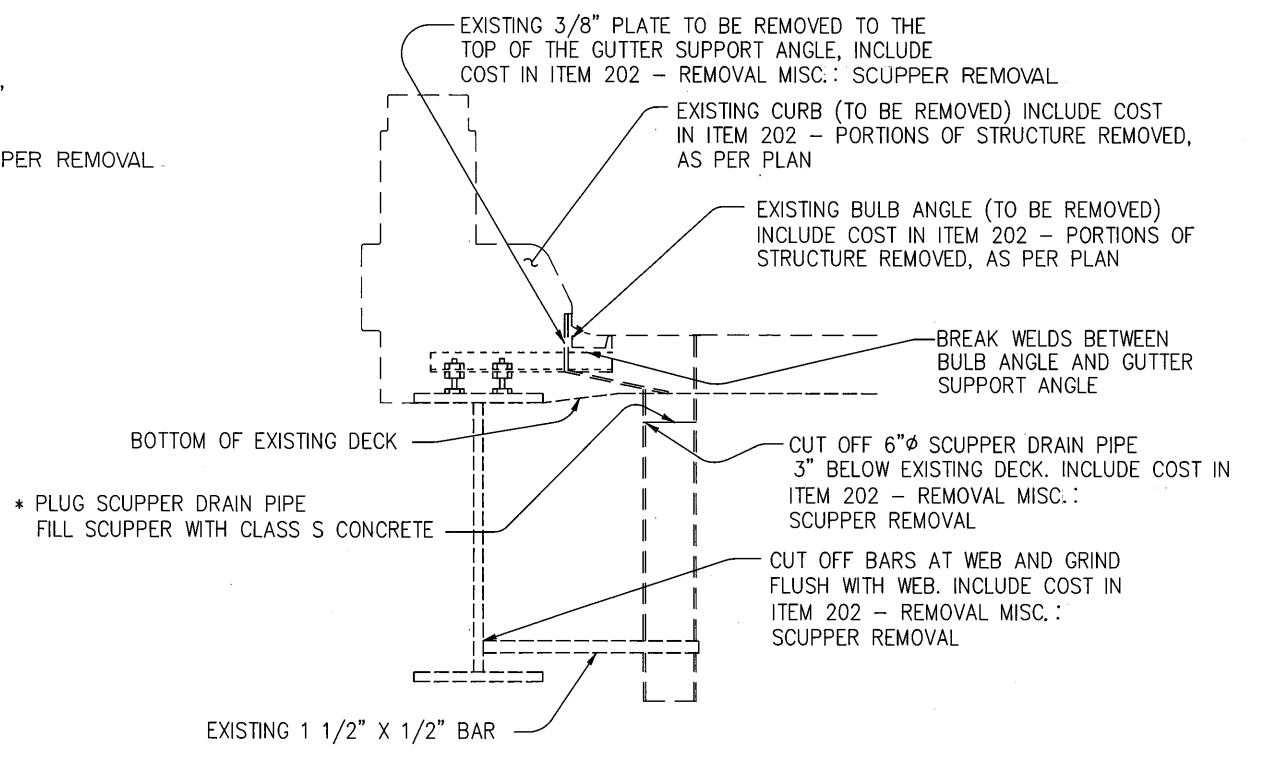
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MISCELLANEOUS DETAILS					
BRIDGE NO. LOR-2-0742 L/R					
OVER S. R. 58					
DESIGN	DRAWN	TRACED	CHECKED	REVIEWED	DATE
SWR	GSC	---	CDW	ART	2/24/94

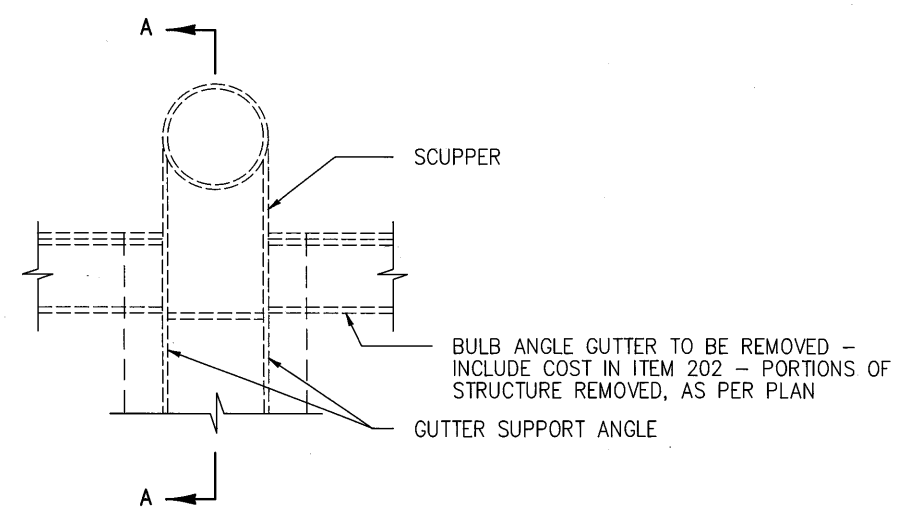


SECTION A - A
SCUPPER EXTENSION
 (TYPICAL 16 PLACES)

* IF ANY SCUPPER WHICH HAS ALREADY BEEN PLUGGED, HAS CONCRETE BELOW CUT OFF LEVEL, BREAK OFF CONCRETE AND PATCH AREA SMOOTH. INCLUDE COST IN ITEM 202 - REMOVAL MISC.: SCUPPER REMOVAL.



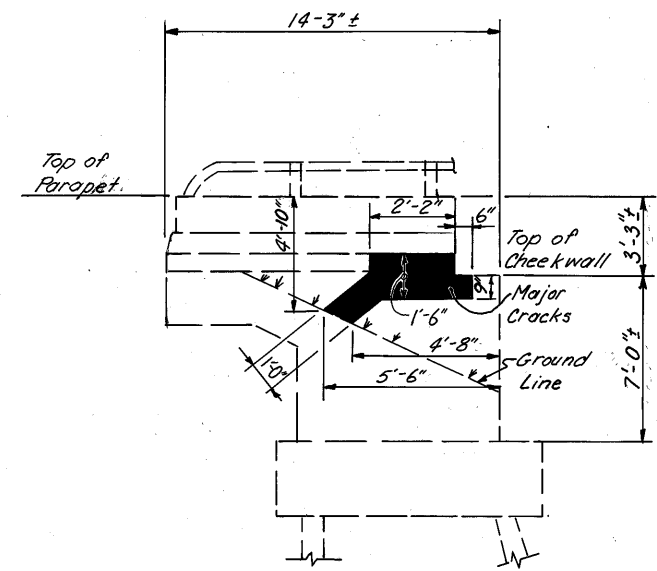
SECTION A - A
REMOVAL AND PLUGGING EXISTING SCUPPER
 (TYPICAL 8 PLACES)



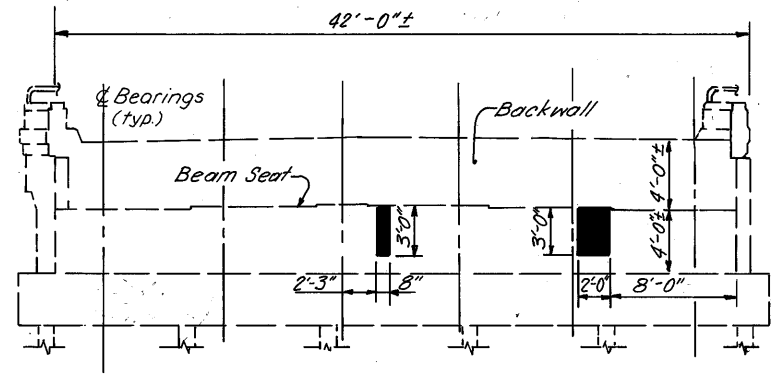
PLAN VIEW OF SCUPPER AND BULB ANGLE GUTTER

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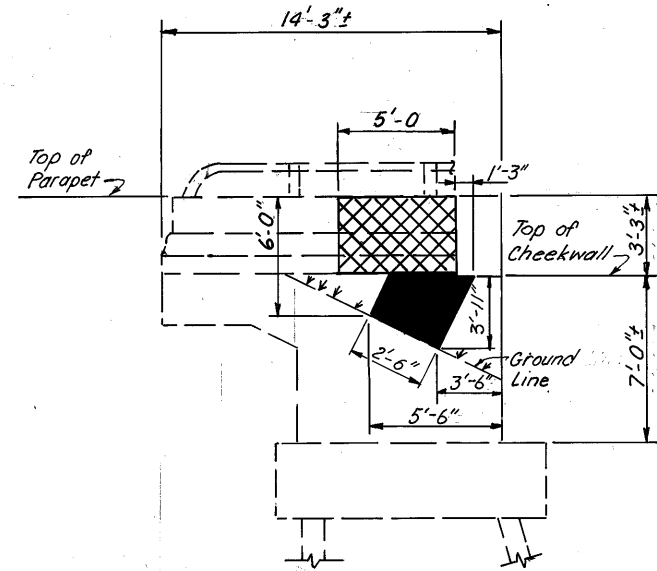
SCUPPER DETAILS						
BRIDGE NO. LOR-2-0742 L/R OVER S.R. 58						
DESIGN	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
SWR	GSC	-	CDW	ART	2/24/94	



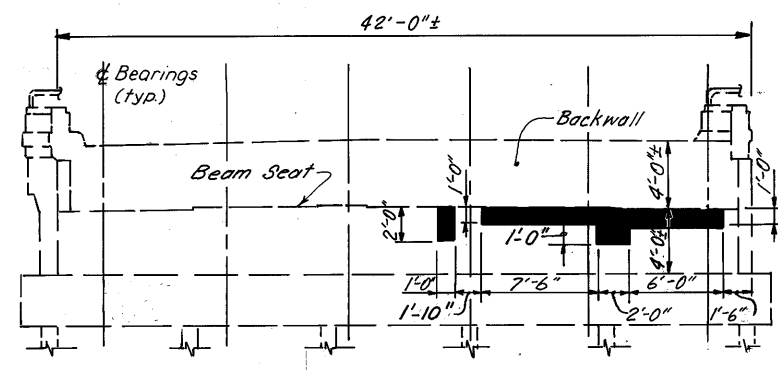
ELEVATION
SOUTH WINGWALL
REAR ABUTMENT-LEFT BRIDGE



ELEVATION
REAR ABUTMENT-LEFT BRIDGE

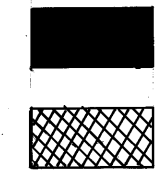


ELEVATION
NORTH WINGWALL
FORWARD ABUTMENT-LEFT BRIDGE



ELEVATION
FORWARD ABUTMENT-LEFT BRIDGE

LEGEND



Minor Cracks and Hollow Concrete to be Patched

Spalled Concrete to be removed. See sht. 3/11

ITEM 519 - Patching Conc. Structures
As Per Plan

Location	Unit	Measured Quantity
Rear Abutment	SQ. FT.	8
S. Wingwall, Rear Abutment	SQ. FT.	5
Forward Abutment	SQ. FT.	20
N. Wingwall, Forward Abut.	SQ. FT.	8
TOTAL	SQ. FT.	41

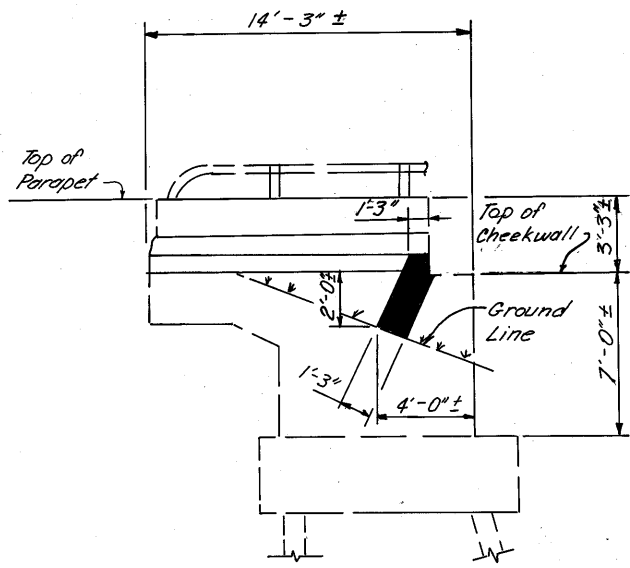
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8/11

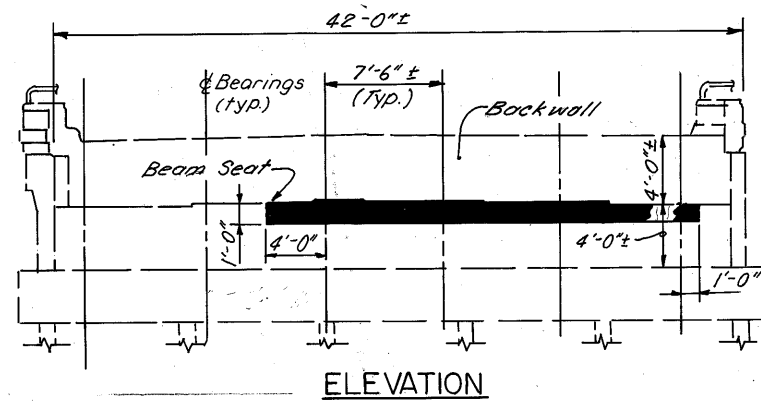
REPAIR DETAILS

BRIDGE NO. LOR-2-0742 L
OVER S.R. 58

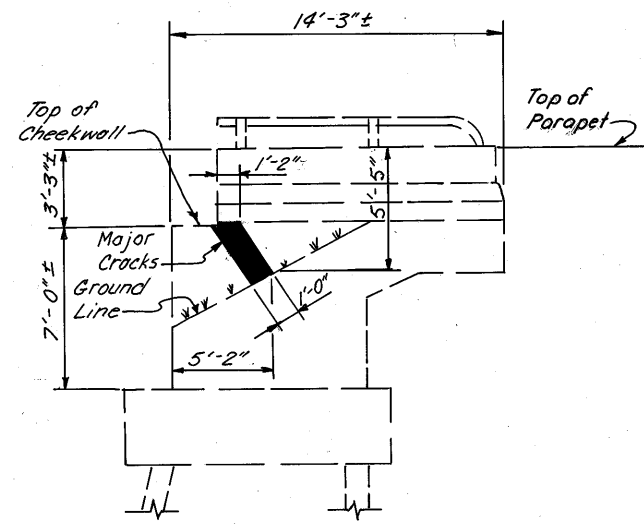
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SWR	GSC	—	CDW	ART	2/24/94	



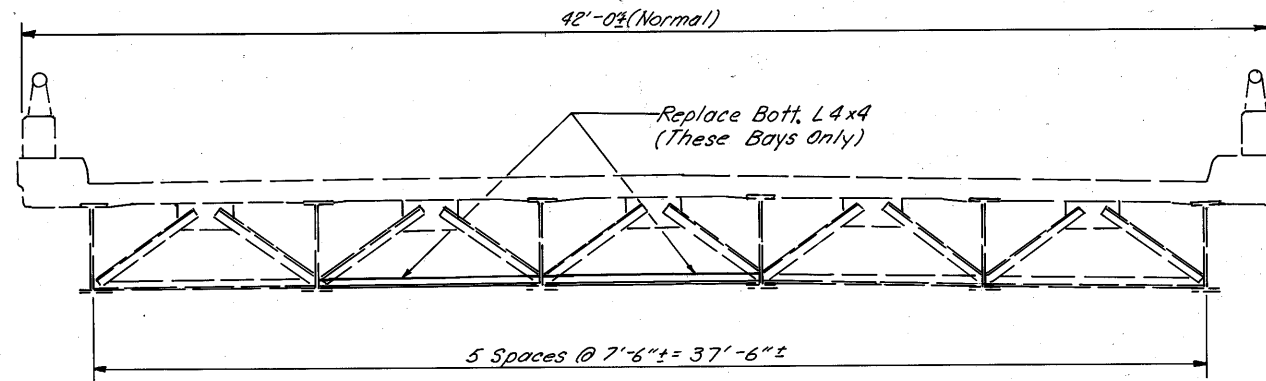
ELEVATION
SOUTH WINGWALL
REAR ABUTMENT-RIGHT BRIDGE



ELEVATION
REAR ABUTMENT-RIGHT BRIDGE



ELEVATION
NORTH WINGWALL
REAR ABUTMENT-RIGHT BRIDGE



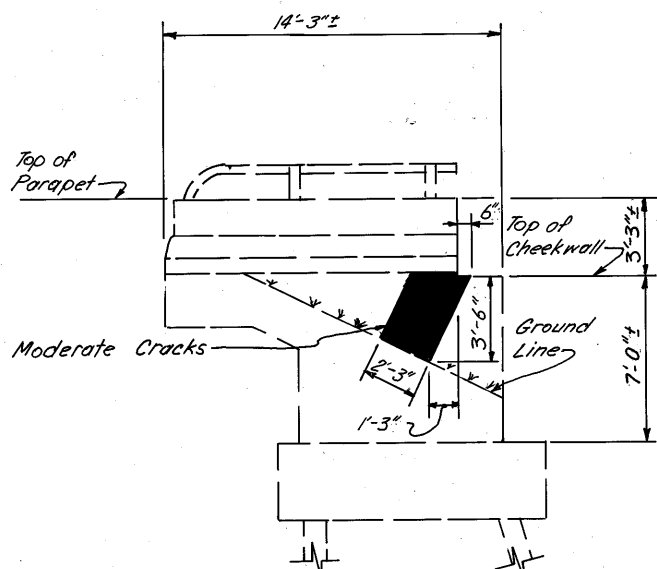
ELEVATION
END CROSSFRAME
REAR ABUTMENT RIGHT BRIDGE

Note:
Bottom chords in the bays indicated on the right rear abutment are to be replaced. Include cost in item 513 - Structural Steel, Replacement of Deteriorated End Crossframes As per plan.
Other chords in endframe are to remain.

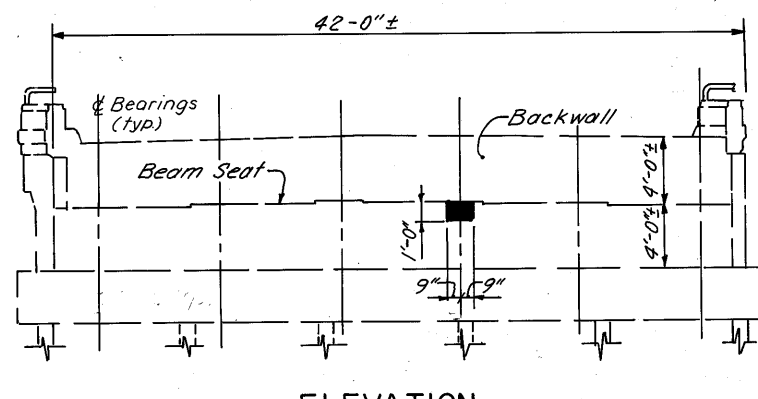
LEGEND



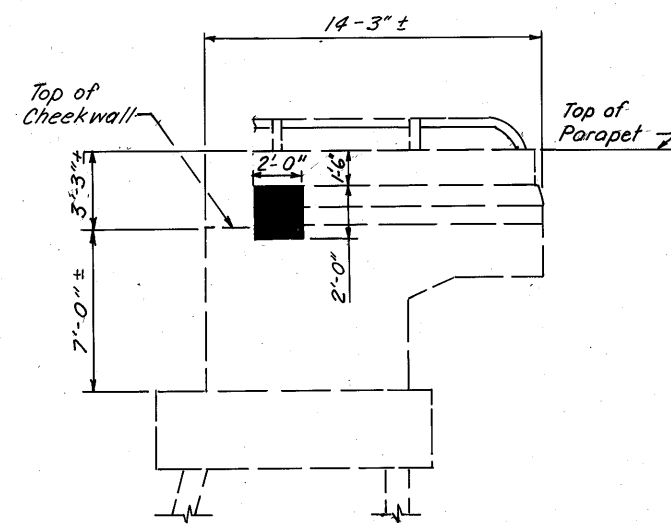
Minor Cracks and Hollow Concrete to be patched



ELEVATION
NORTH WINGWALL
FORWARD ABUTMENT-RIGHT BRIDGE



ELEVATION
FORWARD ABUTMENT-RIGHT BRIDGE



ELEVATION
SOUTH WINGWALL
FORWARD ABUTMENT-RIGHT BRIDGE

ITEM 519 - Patching Conc. Structures As Per Plan		
Location	Unit	Measured Quantity
Rear Abut. South Wingwall	Sq. Ft.	5
Rear Abut. Elevation	Sq. Ft.	28
Rear Abut. North Wingwall	Sq. Ft.	3
Fwd. Abut. North Wingwall	Sq. Ft.	9
Fwd. Abut. Elevation	Sq. Ft.	2
Fwd. Abut. South Wingwall	Sq. Ft.	4
Total	Sq. Ft.	51

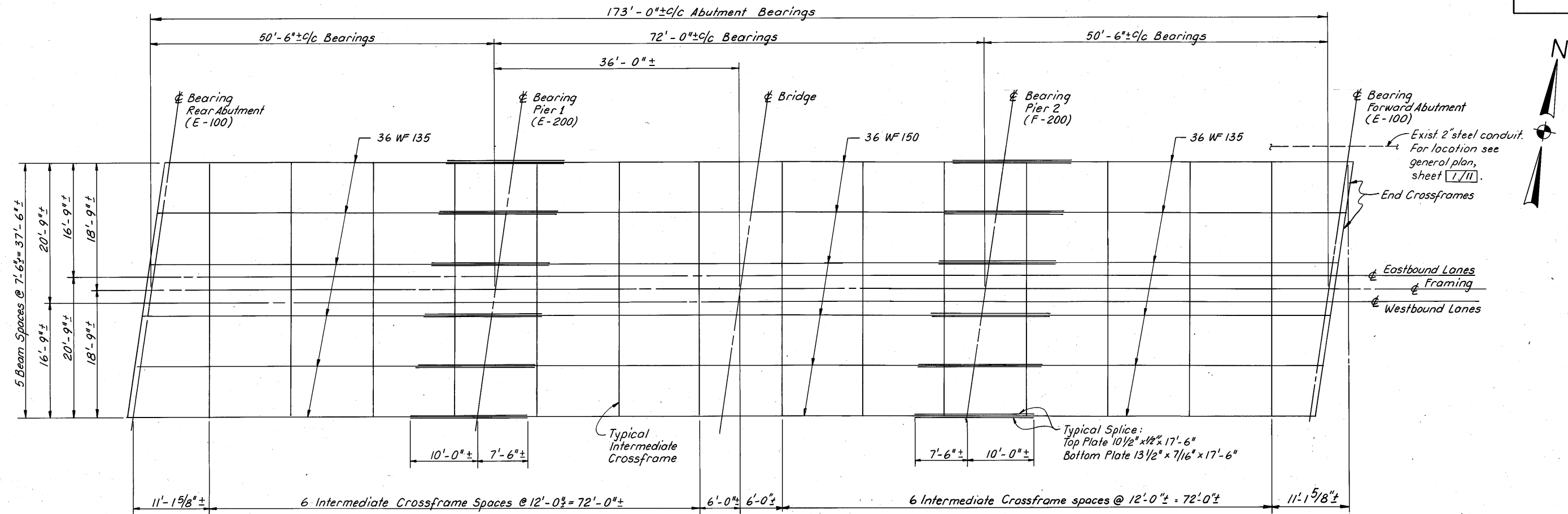
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REPAIR DETAILS

BRIDGE NO. LOR-2-0742 R
OVER S.R. 58

DESIGN	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
SWR	GSC	—	CDW	ART	2/24/94	

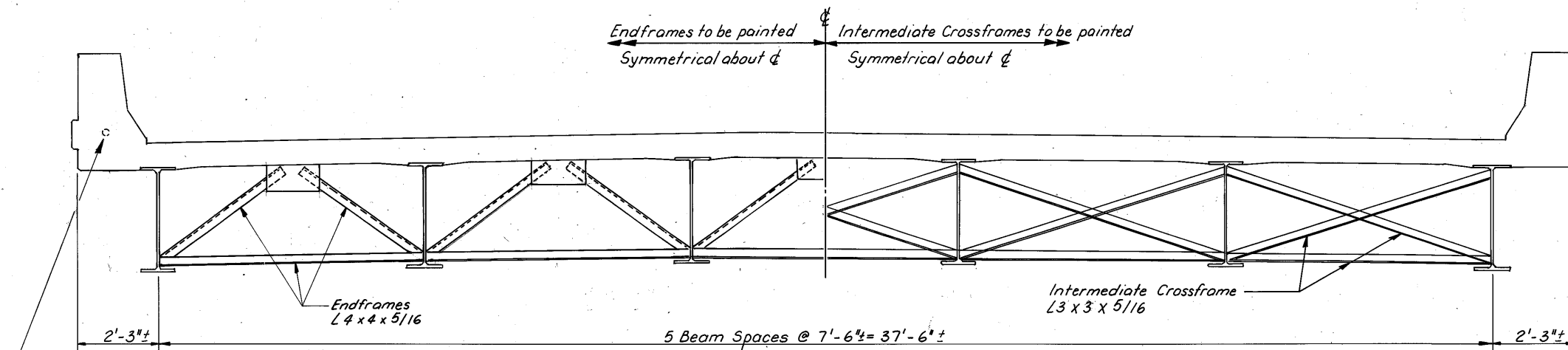


STEEL FRAMING PLAN

LEFT BRIDGE SHOWN
RIGHT BRIDGE OPPOSITE HAND

Vertical Clearance
15'-0"± Eastbound

Vertical Clearance
15'-0"± Westbound



TYPICAL SECTION

LEFT BRIDGE SHOWN
RIGHT BRIDGE OPPOSITE HAND

Note:
Care shall be taken not to damage existing 2" steel conduit for electric lighting system under outside parapets (on left parapet of left bridge and on right parapet of right bridge).

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10/11

STRUCTURAL STEEL FOR PAINTING

BRIDGE NO. LOR-2-0742 L / R
OVER S.R. 58

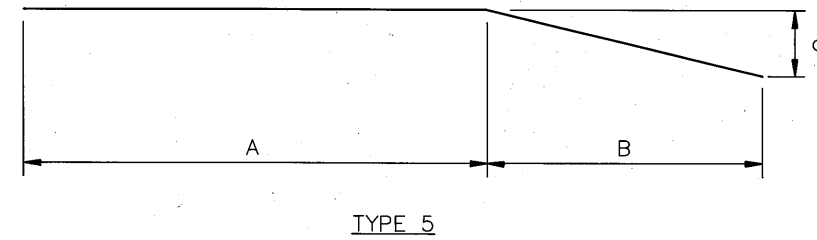
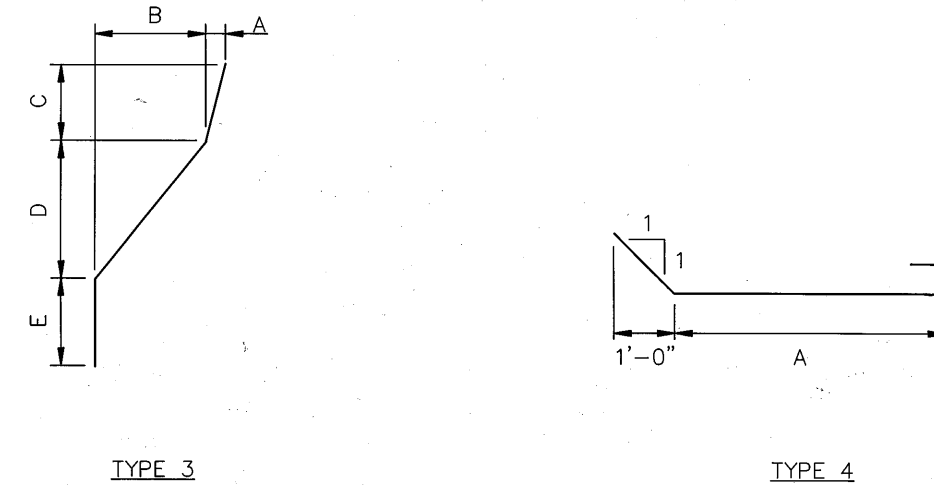
DESIGN	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
SWR	CCC	—	CDW	ART	2/24/94	

REINFORCING STEEL SCHEDULE

EPOXY COATED REINFORCEMENT ABUTMENTS										
MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	F
EA501	32	21'-3"	712	STR						
EA502	32	21'-3"	712	STR						
EA503	16	13'-2"	220	5	11'-9"	1'-4"	0'-5"			
EA504	16	13'-8"	228	STR						
EA505	72	3'-5"	260	1	1'-5"	0'-10"				
EA506	64	2'-0"	156	3	0"	0'-7"	0'-6"	0'-10"	0'-6"	
EA507	8	13'-8"	116	5	7'-0"	6'-8"	0'-5"			
EA508	64	2'-6"	168	STR						
EA509	32	5'-6"	184	STR						
EA601	164	5'-6"	1356	1	2'-2"	1'-5"				
EA602	164	6'-2"	1520	1	2'-9"	0'-11"				
ED801	104	5'-3"	1460	4	2'-11"					
		TOTAL	7092							

EPOXY COATED REINFORCEMENT SUPERSTRUCTURE										
MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	F
ES501	32	12'-0"	400	STR						
ES502	176	14'-8"	2696	STR						
ES503	556	3'-7"	2080	2	0'-7"	0'-10"	0'-2"	0'-3"	1'-5"	0'-5"
ES504	556	2'-8"	1548	3	0'-1"	0'-7"	0'-8"	0'-10"	0'-9"	
		TOTAL	6724							

ALL REINFORCING TO BE EPOXY COATED.



R.E. WARNER & ASSOCIATES
CONSULTING ENGINEERS
WESTLAKE OHIO

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REINFORCING STEEL SCHEDULE

BRIDGE NO. LOR-2-0742 L/R
OVER S.R. 58

DESIGN	DRAWN	TRACED	CHECKED	REVIEW	DATE	REVISED
SWR	SWR	---	CDW	ART	2/24/94	