1092-90

ASD-30-8.54 WAY-30-0.00	OHIO FHWA REGION 5
F-49(59)	FEDERAL PROJECT

1/59

EXTRA
A.A. 5-12-92

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

ASD-30-8.54
WAY-30-0.00

MOHICAN TOWNSHIP, ASHLAND COUNTY
PLAIN TOWNSHIP, WAYNE COUNTY

F-49(59)

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 OF TRANSPORTATION IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE REVISED CODE OF OHIO.

1989 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 maintenance and safety of traffic will be as set forth on the plans and estimates.

"UNDER AUTHORITY OF SECTION 4511.21, DIVISION (I) 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 GIVING NOTICE THEREOF ARE ERECTED."

Approved Gary W. Lamb
Date 5/29/92 District Deputy Director, Department of Transportation

Approved B.D. Hershberger
Date 2-17-90 Engineer, Bureau of Bridges and Structural Design

Approved Theodore J. Hill
Date 9/4/90 Deputy Director, Planning and Design

Approved Bernard A. Hurst
Date 9/4/90 Director, Department of Transportation

DESIGN DESIGNATION

CURRENT ADT (1990)	=	7,490
DESIGN YEAR ADT (2009)	=	9,740
DHV	=	975
D. DIRECTIONAL DISTRIBUTION	=	50%
T. % B & C TRUCKS	=	32%
V. DESIGN SPEED	=	55 MPH *
LEGAL SPEED LIMIT	=	55 MPH
FUNCTIONAL CLASSIFICATION	=	RURAL EXPRESSWAY

* DESIGN EXCEPTIONS - SEE SHEET 3

CONVENTIONAL SIGNS

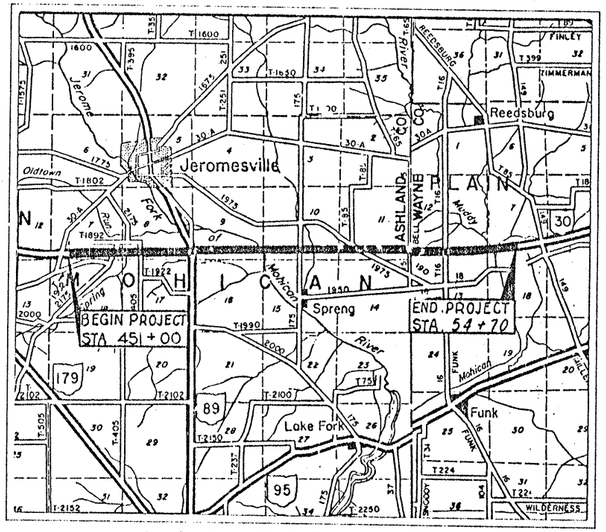
County Line
Township Line
Section Line
Corporation Line
Fence Line (existing) (proposed)
Center Line
Trees, Stumps, (to be removed)
Utility Poles: Telephone, Power, Light

Limited Access (only) LA
Right of Way (only) RW
Limited Access & Right of Way LA&RW
Existing Right of Way
Property Line (in existing fence)
Railroad or
Guardrail (existing) (proposed)

INDEX OF SHEETS

LINE DATA

BEGIN PROJECT	STA 451+00	
		25,055.06 LIN. FT.
STA. EQUATION	STA 701+55.06 BK. = STA 0+00 AH.	
		5470.00 LIN. FT.
END PROJECT	STA 54+70	
LENGTH OF PROJECT		30,525.06 LIN. FT. Or 5.781 MI.
ADD FOR WORK:		
STA. 450+25 To STA. 451+00		75.00 LIN. FT.
STA. 54+70 To STA. 63+75		905.00 LIN. FT.
STA. 11+80 To STA. 18+50 Co. Rd. 1975		670.00 LIN. FT.
LENGTH OF WORK		32,175.06 LIN. FT. Or 6.094 MI.



LOCATION MAP

SCALE IN MILES
0 2

Portion to be Improved
State & Federal Routes
Other Roads

SCALES

Plan 0 50' 100'
Profile: Horizontal N/A, Vertical N/A
Cross Section: Horizontal N/A, Vertical N/A

SUPPLEMENTAL SPECIFICATIONS			
✓ 802	4-13-90	836	11-12-85
✓ 825	10-2-89		
✓ 847	10-17-83		
✓ 947	10-17-83		
		803	10-2-89
✓ 862	12-16-88	905	5-2-89
✓ 962	1-23-90		
		852	6-10-87
✓ 931	6-18-85	952	12-14-88

UNDERGROUND UTILITIES
TWO WORKING DAYS
BEFORE YOU DIG
CALL...800-362-2764 (Toll free)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

Plan Prepared By:
DISTRICT 3
L & D

Project: ASD-30-8.54 , WAY-30-0.00
Date of Letting 199 , Contract No.

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

✓ BP-5	10-1-87	✓ MC-9A	1-11-85	✓ TC-35.10	8-29-84	✓ TC-65.10	2-26-82	✓ AS-1-81	11-27-81
✓ BP 3	12-6-76			✓ TC-41.10	8-29-84	✓ TC-65.11	4-5-82	✓ DBR-2-73	4-10-73
✓ BP-4	10-1-87	✓ MC-4	7-26-76	✓ TC-41.20	3-26-79			✓ RB-1-55	2-2-59
✓ BP-13	1-23-90	✓ MC-11	8-1-78			✓ TC-71.10	4-9-79		
✓ GR-1	1-11-85			✓ TC-42.10	8-19-77				
✓ GR-2B	2-5-82			✓ TC-42.20	3-26-79	✓ MT-95.30	10-10-88	✓ SD-1-69	6-12-69
								✓ EXJ-4-87	1-5-89
✓ GR-4	2-5-82			✓ TC-51.10	1-20-84	✓ MT-99.10	11-14-86		
✓ GR-4A	1-30-84			✓ TC-51.11	1-20-84	✓ MT-99.20	4-29-88		
				✓ TC-52.20	4-3-79				
✓ BP-10	1-30-84								

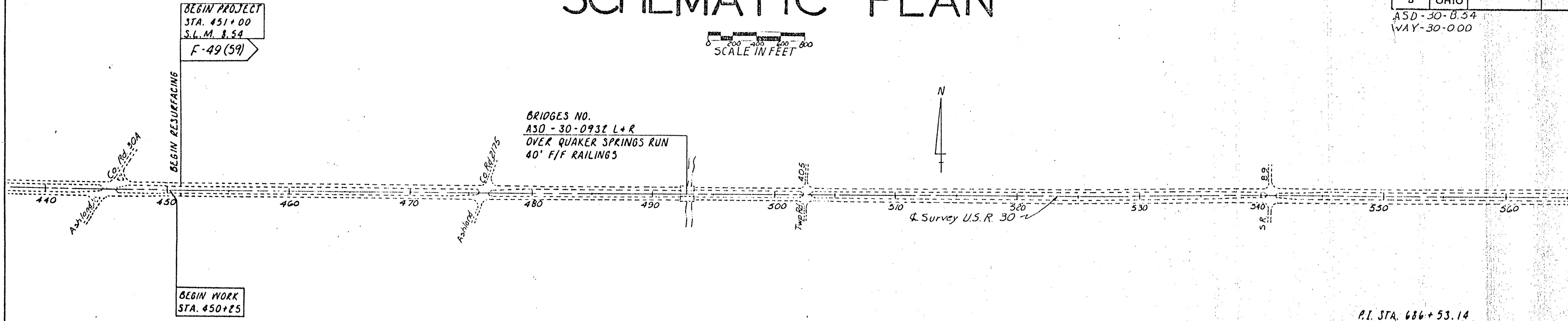
REVISED 10-13-90

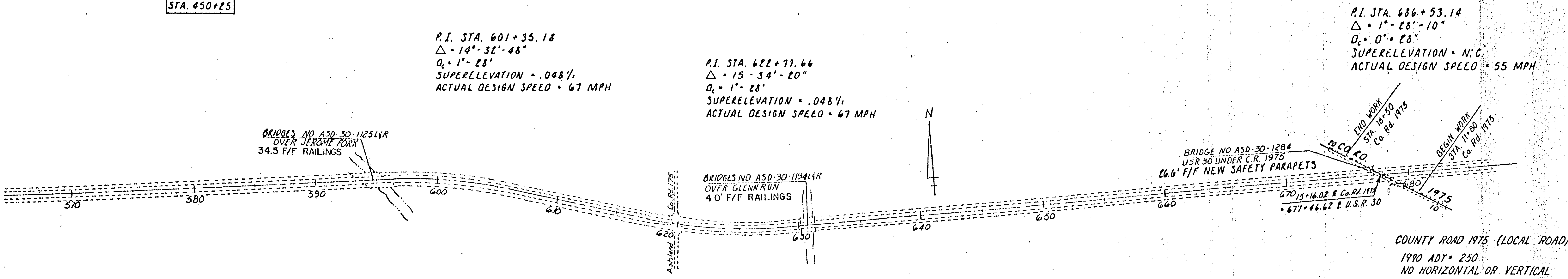
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

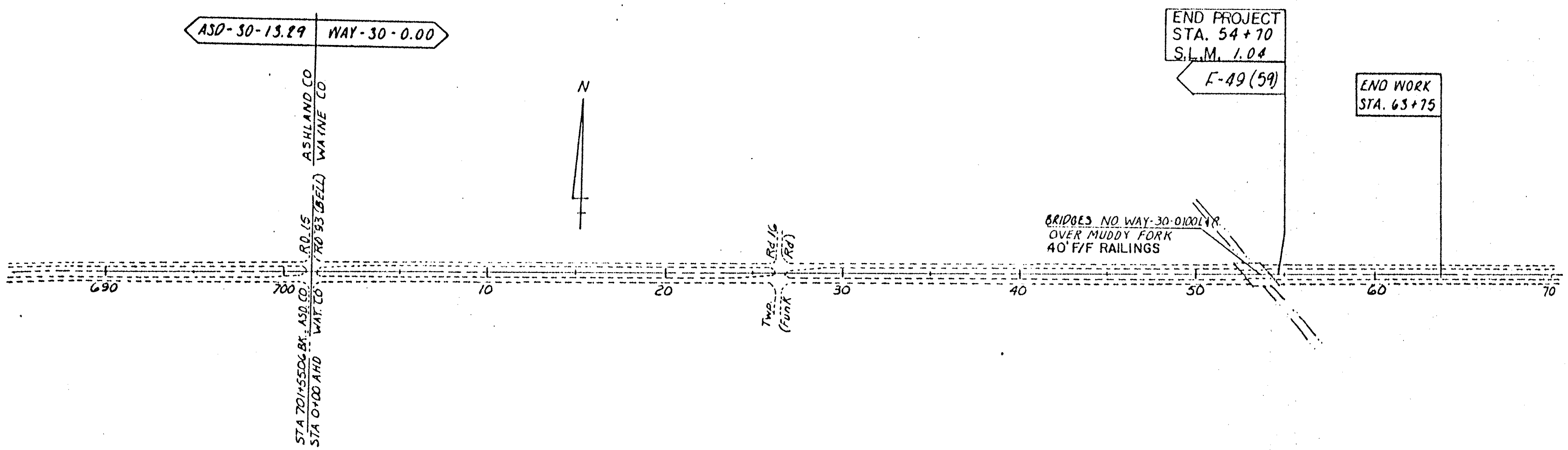
DIVISION ADMINISTRATOR DATE

SCHEMATIC PLAN





COUNTY ROAD 1975 (LOCAL ROAD)
1990 ADT = 250
NO HORIZONTAL OR VERTICAL
ALIGNMENT RESTRICTIONS
EXISTING LANE WIDTH = 9'



VERTICAL ALIGNMENT DATA U.S.R. 30

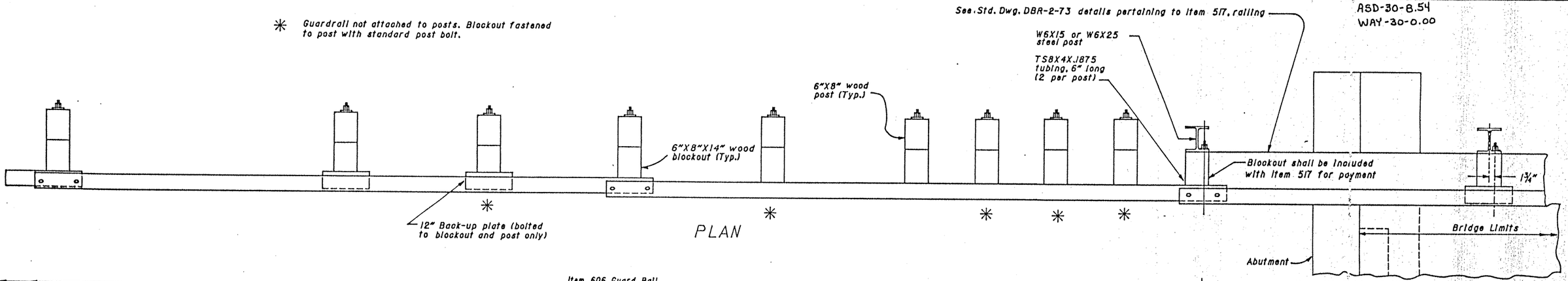
Curve Type	P.V.I. Location	Length	Grades G_1	Grades G_2	Actual Design Speed
Crest	482+66.92	600'	-0.30%	-3.00%	Exceeds 60 MPH
Sag	498+00	600'	-3.00%	-0.30%	↓
Sag	531+00	600'	-0.30%	+1.64%	
Crest	542+00	600'	+1.64%	-0.58%	
Sag	574+00	600'	-0.58%	+0.24%	
Crest	597+70.83	800'	+0.24%	-0.24%	
Sag	626+00	1400'	-0.24%	+2.96%	
Crest	679+66.78	2000'	+2.96%	-3.00%	
Sag	4+00	500	-3.00%	-1.84%	
Sag	43+50	1200	-1.84%	-0.2623%	▼

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO		

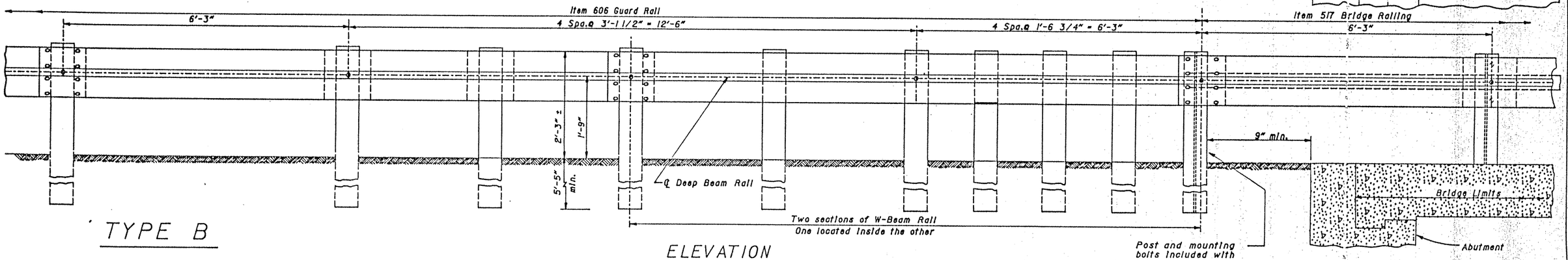
6A
59

ASD-30-8.54
WAY-30-0.00

* Guardrail not attached to posts. Blockout fastened to post with standard post bolt.



PLAN



TYPE B

ELEVATION

NOTES

GENERAL
For additional details, see Std. Dwg. GR-1 and other Standard Drawings pertaining to design of specific guardrail types.

APPLICATION
The Type B Bridge Terminal Assembly shall be used to connect guardrail runs to bridges having W-beam railing.

DETAIL INFORMATION
The first post off the bridge shall be steel (W6x15 or W6x25). All holes in the off-structure end of the approach panel W-beam rail section that spans the abutment shall be slotted ¾" x 2½" and bolts shall be tightened as specified for expansion joints in 606.05.

POSTS
GENERAL- Posts may be set in drilled holes or driven to grade.

POSTS shall be square-sawed pressure treated wood as per 710.14 and fabricated with square ends. Bolt holes shall be bored and tops of posts trimmed if required, after posts are set

PAYMENT
Payment for Item 606 - Each, Bridge Terminal Assembly, Type B shall include the extra cost, in excess of normal guardrail cost, for additional posts, and other hardware. The TS 8x4 spacers and tubular back-up rail extending to the first post off the bridge shall be included with Item 517 - Railing for payment.

REVISED 10-13-90

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BUREAU OF LOCATION AND DESIGN

BRIDGE TERMINAL ASSEMBLY
TYPE B, AS PER PLAN

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED

GENERAL SUMMARY

CALC. BY MGA
DATE 5/90
CHKD. BY
DATE 5/90

ASD-30-8.54
WAY-30-0.00

OHIO
FHWA REGION 5
FEDERAL PROJECT

7
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ITEM	SHEET NUMBER																				ITEM	ITEM EXT.	TOTAL QUANT.	UNIT	DESCRIPTION
	4	5		9	10	11	12	13	14	15	16	17	18		20	22	23		40						
																									ROADWAY
202							76														202	32000	76	LIN.FT.	CURB REMOVED
202								100													202	38000	100	LIN.FT.	GUARDRAIL REMOVED
202					100		256	100		100											202	38200	556	LIN.FT.	GUARDRAIL REMOVED FOR RE-USE
202					6	6	8	3	4	4											202	43001	31	EACH	ANCHOR ASSEMBLY POST REMOVED, AS PER PLAN (SEE SHT. 4)
202											1067	1480									202	23000	2547	SQ.YD.	PAVEMENT REMOVED
202	765																				202	54100	765	EACH	RAISED PAVEMENT MARKERS REMOVED FOR STORAGE
203											272		50								203	12000	322	CU.YD.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
203				5888																	203	20001	5888	CU.YD.	EMBANKMENT, AS PER PLAN (SEE SHT. 5)
203											1718										203	50000	1718	SQ.YD.	SUBGRADE COMPACTION
606									3												606	18000	3	EACH	GUARDRAIL POST
606					100		231	100		100											606	16500	531	LIN.FT.	GUARDRAIL REBUILT, TYPE 5
606					8		8	8		8											606	30501	32	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE B, AS PER PLAN
606								104													606	13000	104	LIN.FT.	GUARDRAIL, TYPE 5
606								4													606	35000	4	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE AA
606							2														606	27900	2	EACH	ANCHOR ASSEMBLY REBUILT, TYPE T
																									EROSION CONTROL
659				53,016																	659	10000	53,016	SQ.YD.	SEEDING AND MULCHING
659				4.77																	659	20000	4.77	TON	COMMERCIAL FERTILIZER
659	120																				659	35000	120	M-GAL	WATER
207	400																				207	70000	400	EACH	STRAW OR HAY BALES
																			1110		601	34100	1110	Cu. Yd.	ROCK CHANNEL PROTECTION, TYPE B WITHOUT FILTER
																									DRAINAGE
603																1688	1649				603	01500	3337	LIN.FT.	6" CONDUIT, TYPE F, 707.17 NON-PERFORATED, ASTM 3034 SDR 35 OR SS 931
605												336									605	111.00	336	LIN.FT.	6" SHALLOW PIPE UNDERDRAIN, 707.01 TYPE III OR 707.21 TYPE III OR 707.17
605																55,768	55,411				605	30001	111,179	LIN.FT.	SHALLOW UNDERDRAIN, AS PER PLAN (SEE SHEET 21)
605											192										605	31100	192	LIN.FT.	AGGREGATE DRAIN
605													912								605	31101	912	LIN.FT.	AGGREGATE DRAIN , AS PER PLAN (SEE SHEET 18)
SPEC.												8				44	44				SPEC.	60436600	96	EACH	PRECAST REINFORCED CONCRETE OUTLET (SEE SHT. 21)
																									PAVEMENT
446				8553																	446	01400	8553	CU.YD.	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20
446				11,791																	446	01200	11,791	CU.YD.	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20
407				24,524																	407	10000	24,524	GAL	TACK COAT
402													520								402	20000	520	CU.YD.	ASPHALT CONCRETE, AC-20
617				2939																	617	10100	2939	CU.YD.	COMPACTED AGGREGATE, TYPE A
617				24																	617	25000	24	M-GAL	WATER
254		1000																			254	01600	1000	SQ.YD.	PATCHING PLANED SURFACE
254				243,637																	254	01000	243,637	SQ.YD.	PAVEMENT PLANING, BITUMINOUS
825		15,000																			825	00100	15,000	LB.	CRACK SEALING, TYPE I
SPEC												384									SPEC.	45130000	384	LIN.FT.	PRESSURE RELIEF JOINT, TYPE A (SEE SHT. 17)
803													7436								803	00300	7436	SQ.YD.	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS
803													22,308								803	10000	22,308	LIN.FT.	FULL DEPTH PAVEMENT SAWING
251															148						251	01003	148	CU.YD.	PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN (SEE SHT. 5)
SPEC.		50																			SPEC.	69060000	50	CU.YD.	FLEXIBLE BERM REPAIR (SEE SHT. 5)
304											191		50								304	20001	241	CU.YD.	AGGREGATE BASE, AS PER PLAN (SEE SHT. 4)
611											1718										611	25000	1718	SQ.YD.	REINFORCED CONCRETE APPROACH SLAB (T=15")
305												1480									305	13000	1480	SQ.YD.	9" CONCRETE BASE

REVISED 10-13-90

GENERAL SUMMARY

GENERAL SUMMARY

CALC. BY MAA DATE 5/90
CHKD. BY [illegible] DATE 5/90

ASD-30-8.54
WAY-30-0.00

OHIO | FHWA REGION 5 | FEDERAL PROJECT

ITEM	SHEET NUMBER 4	5	6	10	11	12	13	14	15	24	25	29	31	ITEM	ITEM EXT.	TOTAL QUANT.	UNIT	DESCRIPTION
																		TRAFFIC CONTROL
862										766				862	00100	766	EACH	RAISED PAVEMENT MARKER
621										23.16				621	00100	23.16	MILE	EDGE LINE
621										11.58				621	10008	11.58	MILE	LANE LINE
621										0.02				621	20100	0.02	MILE	CENTER LINE
847										976				847	19000	976	LIN.FT.	CHANNELIZING LINE , 947.02
847										308				847	28000	308	LIN.FT.	STOP LINE , 947.02
847										12				847	66500	12	EACH	LANE ARROW , 947.02
847										12				847	74000	12	EACH	WORD ON PAVEMENT, 96-INCH, 947.02
630											25			630	86002	25	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL
630											6			630	84900	6	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL
630											14			630	85100	14	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION
630											12			630	80100	12	SQ.FT.	SIGN , FLAT SHEET
630											197			630	80200	197	SQ.FT.	SIGN , EXTRU-SHEET
630											61			630	06400	61	LIN.FT.	GROUND MOUNTED SUPPORT , S4 X 7.7 BEAM
630											247			630	04100	247	LIN.FT.	GROUND MOUNTED SUPPORT , NO. 4 POST
630											37			630	06100	37	LIN.FT.	GROUND MOUNTED SUPPORT , NO. 6 POST
630											93			630	07600	93	LIN.FT	GROUND MOUNTED SUPPORT , W10 X 12 BEAM
630											4			630	09000	4	EACH	BREAKAWAY BEAM CONNECTION
630											5.5			630	00100	5.5	CU.YD.	CONCRETE FOR EMBEDDED FOUNDATION
630											1			630	82000	1	EACH	SIGN BACKING ASSEMBLY
802				46	50	90	77	44	54					802	00100	361	EACH	BARRIER REFLECTOR, TYPE A
802							8							802	00200	8	EACH	BARRIER REFLECTOR, TYPE B
																		MAINTENANCE OF TRAFFIC
614		34.69												614	20400	34.69	MILE	TEMPORARY LANE LINE , CLASS II
614		14												614	12460	14	EACH	WORK ZONE MARKING SIGN
614			22											614	12470	22	EACH	WORK ZONE SPEED LIMIT SIGN
614												2.00	4.27	614	22001	6.27	MILE	TEMPORARY EDGE LINE , CLASS I, AS PER PLAN (SEE SHEET 6)
615												LUMP	LUMP	615	10000	LUMP		TEMPORARY ROAD
615												702	1774	615	25001	2476	SQ.YD.	TEMPORARY PAVEMENT, CLASS B, AS PER PLAN (SEE SHEET 31)
622												1840	5210	622	40001	7050	LIN.FT.	TEMPORARY CONCRETE BARRIER, AS PER PLAN (SEE SHEET 32)
404			40											404	35000	40	CU.YD.	BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC
614												66	108	614	13300	174	EACH	BARRIER REFLECTOR , TYPE B
616		20												616	10000	20	M-GAL.	WATER
616		5												616	20000	5	TON	CALCIUM CHLORIDE
614												54	78	614	13200	132	EACH	BARRIER REFLECTOR , TYPE A
																		BRIDGES OVER 20 FEET
																		FOR REPAIR AND REHABILITATION QUANTITIES-SEE SHEET 36
619	LUMP													619	10001	LUMP		FIELD OFFICE, AS PER PLAN, TYPE B (SEE PROPOSAL NOTE)
623														623	10000	LUMP		CONSTRUCTION LAYOUT STAKES
624														624	10000	LUMP		MOBILIZATION
614			LUMP									LUMP	LUMP	614	11000	LUMP		MAINTAINING TRAFFIC

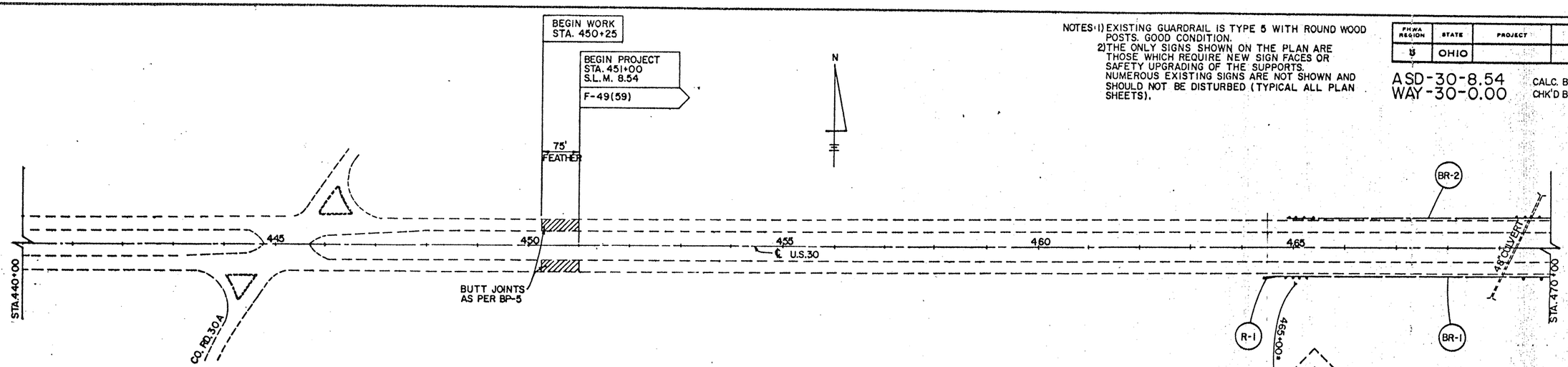
FHWA REGION	STATE	PROJECT	
5	OHIO		

10/59

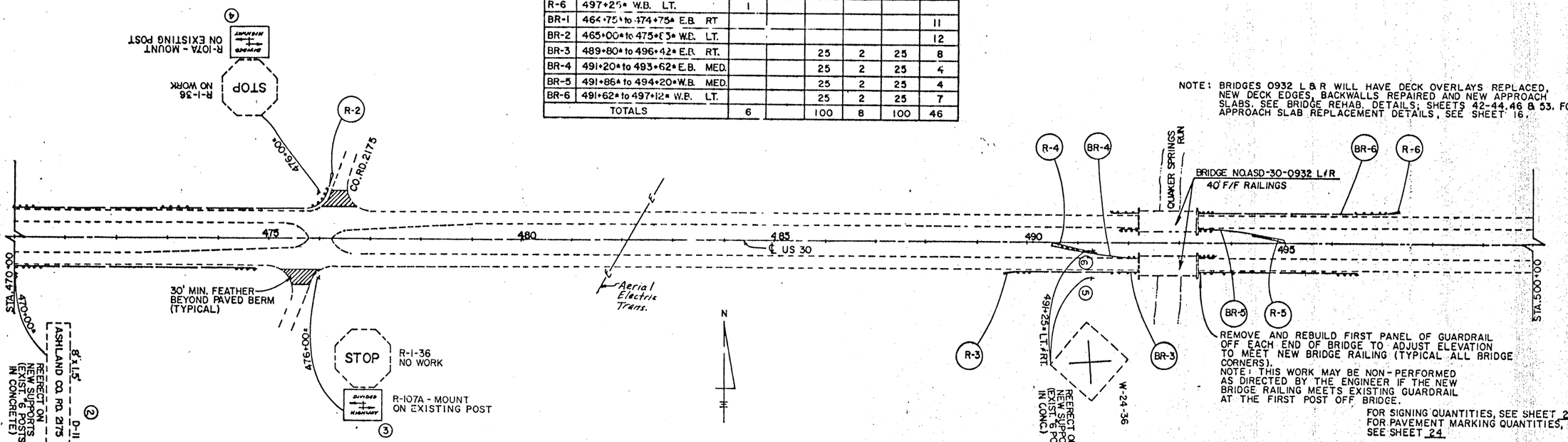
ASD-30-8.54
WAY-30-0.00

CALC. BY MGA 5/90
CHK'D BY FOH 5/90

NOTES: 1) EXISTING GUARDRAIL IS TYPE 5 WITH ROUND WOOD POSTS. GOOD CONDITION.
2) THE ONLY SIGNS SHOWN ON THE PLAN ARE THOSE WHICH REQUIRE NEW SIGN FACES OR SAFETY UPGRADING OF THE SUPPORTS. NUMEROUS EXISTING SIGNS ARE NOT SHOWN AND SHOULD NOT BE DISTURBED (TYPICAL ALL PLAN SHEETS).



REF. NO.	STATION LIMITS	202 ANCHOR POST REMOVED, AS PER PLAN	202	202 GUARDRAIL REMOVED FOR RE-USE	606 BRIDGE TERMINAL ASSEMBLY, TYPE B	606 GUARDRAIL, REBUILT TYPE 5	802 BARRIER REFLECTOR, TYPE A
		EACH		LIN.FT.	EACH	LIN. FT.	EACH
R-1	45+63* E.B. RT.	1					
R-2	476+20* W.B. LT.	1					
R-3	489+68* E.B. RT.	1					
R-4	490+63* E.B. MED.	1					
R-5	494+83* W.B. MED.	1					
R-6	497+25* W.B. LT.	1					
BR-1	464+75* to 474+75* E.B. RT						11
BR-2	465+00* to 475+00* W.B. LT.						12
BR-3	489+80* to 496+42* E.B. RT.			25	2	25	8
BR-4	491+20* to 493+62* E.B. MED.			25	2	25	4
BR-5	491+86* to 494+20* W.B. MED.			25	2	25	4
BR-6	491+62* to 497+12* W.B. LT.			25	2	25	7
TOTALS		6		100	8	100	46



NOTE: BRIDGES 0932 L & R WILL HAVE DECK OVERLAYS REPLACED, NEW DECK EDGES, BACKWALLS REPAIRED AND NEW APPROACH SLABS. SEE BRIDGE REHAB. DETAILS; SHEETS 42-44.46 & 53. FOR APPROACH SLAB REPLACEMENT DETAILS, SEE SHEET 16.

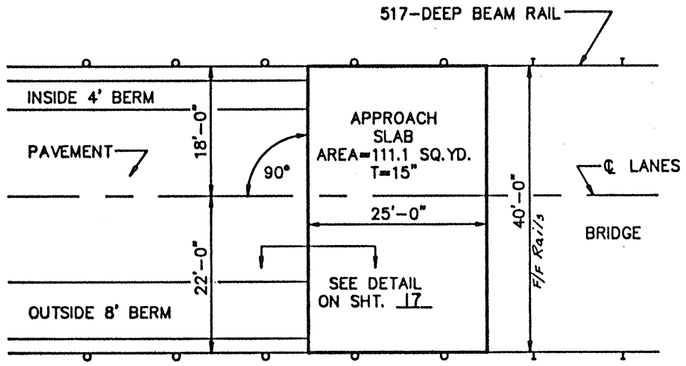
REMOVE AND REBUILD FIRST PANEL OF GUARDRAIL OFF EACH END OF BRIDGE TO ADJUST ELEVATION TO MEET NEW BRIDGE RAILING (TYPICAL ALL BRIDGE CORNERS).
NOTE: THIS WORK MAY BE NON-PERFORMED AS DIRECTED BY THE ENGINEER IF THE NEW BRIDGE RAILING MEETS EXISTING GUARDRAIL AT THE FIRST POST OFF BRIDGE.

FOR SIGNING QUANTITIES, SEE SHEET 25
FOR PAVEMENT MARKING QUANTITIES, SEE SHEET 24

STA.440+00 TO STA.500+00

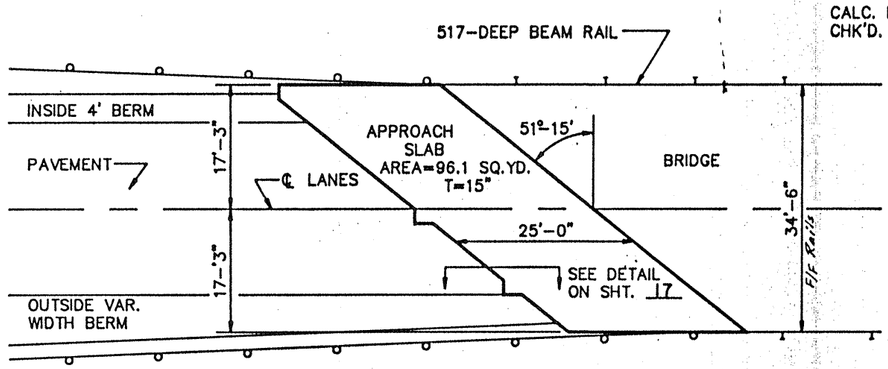
CALC. BY RJR 8/89
CHK'D. BY MBA 10/89

ASD-30-8.54
WAY-30-0.00

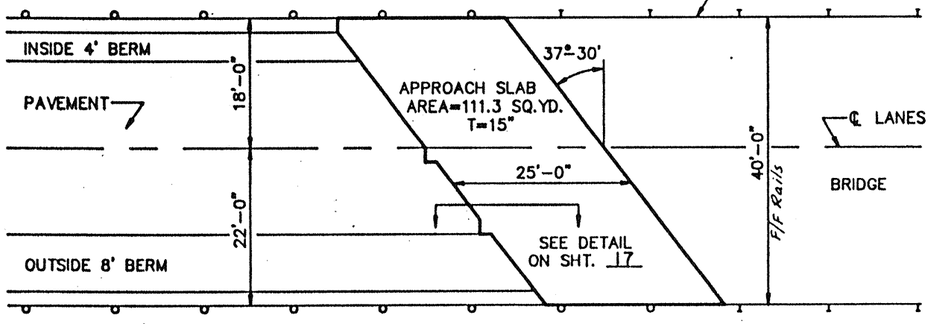


STRUCTURE NO. ASD-30-0932 L&R *

STRUCTURE NO. ASD-30-1194 L&R *



STRUCTURE NO. ASD-30-1125 L&R *



STRUCTURE NO. WAY-30-0100 L&R *

* SEE STANDARD DRAWING AS-1-81 FOR ADDITIONAL NOTES AND DETAILS.

SEE SHEET 17 FOR DETAIL OF TRANSITIONING RESURFACING TO NEW BRIDGE APPROACH SLABS.

APPROACH SLAB QUANTITIES

STATION LIMITS	202 PAVEMENT REMOVED SQ.YD.	203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION CU.YD.	304 AGGREGATE BASE, AS PER PLAN CU.YD.	605 AGGREGATE DRAINS LIN.FT.	611 REINFORCED CONCRETE APPROACH SLAB (T=15") SQ.YD.	203 SUBGRADE COMPACTION SQ.YD.
STRUCTURE NO. ASD-30-0932 L&R						
491+94.24 TO 492+19.24 EB	66.7	18.5	12.3	12	111.1	111.1
491+94.24 TO 492+19.24 WB	66.7	18.5	12.3	12	111.1	111.1
493+42.37 TO 493+67.37 EB	66.7	18.5	12.3	12	111.1	111.1
493+42.37 TO 493+67.37 WB	66.7	18.5	12.3	12	111.1	111.1
STRUCTURE NO. ASD-30-1125 L&R						
592+75.57 TO 593+00.57 WB	66.7	12.3	10.7	12	96.1	96.1
594+05.23 TO 594+30.23 EB	66.7	12.3	10.7	12	96.1	96.1
595+03.76 TO 595+28.76 WB	66.7	12.3	10.7	12	96.1	96.1
596+33.42 TO 596+58.42 EB	66.7	12.3	10.7	12	96.1	96.1
STRUCTURE NO. ASD-30-1194 L&R						
629+95.16 TO 630+20.16 EB	66.7	18.5	12.3	12	111.1	111.1
629+95.16 TO 630+20.16 WB	66.7	18.5	12.3	12	111.1	111.1
631+35.16 TO 631+60.16 EB	66.7	18.5	12.3	12	111.1	111.1
631+35.16 TO 631+60.16 WB	66.7	18.5	12.3	12	111.1	111.1
STRUCTURE NO. WAY-30-0100 L&R						
52+06.97 TO 52+31.97 WB	66.7	18.6	12.4	12	111.3	111.3
52+96.43 TO 53+21.43 EB	66.7	18.6	12.4	12	111.3	111.3
53+55.64 TO 53+80.64 WB	66.7	18.6	12.4	12	111.3	111.3
54+45.10 TO 54+70.10 EB	66.7	18.6	12.4	12	111.3	111.3
TOTALS	1067.2	271.6	190.8	192	1718.4	1718.4

GENERAL NOTES

FHWA REGION	STATE	PROJECT		33 / 59
5	OHIO			

ASD-30-8.54
WAY-30-0.00

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

SD - 1 - 69	DATED	6/12/69
EXJ - 4 - 87	DATED	1/05/89
RB - 1 - 55	DATED	2/22/59
DBR - 2 - 73	DATED	4/10/73
GR - 3	DATED	2/22/90

AND SUPPLEMENTAL SPECIFICATIONS:

852	DATED	6/10/87
952	DATED	12/14/88

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURES HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURES AND FROM FIELD 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 C.M.S. SECTIONS 102.05, 105.02, AND 513.02. THE ORIGINAL CONSTRUCTION PLANS OF THE EXISTING BRIDGES ARE AVAILABLE UPON REQUEST AT THE DISTRICT 3 OFFICE OF THE OHIO DEPARTMENT OF TRANSPORTATION, ASHLAND, OHIO.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PRE BID EXAMINATION OF THE EXISTING STRUCTURES BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

DESIGN SPECIFICATIONS:

THESE STRUCTURES CONFORM TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1989 INCLUDING THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

DESIGN DATA:

DESIGN STRESSES:

CONCRETE CLASS S — COMPRESSIVE STRENGTH 4500 PSI

REINFORCING STEEL — ASTM A615,A616,A617 — GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI

STRUCTURAL STEEL — ASTM A36-YIELD STRENGTH 36,000 PSI

WORK LIMITATIONS:

NO CONCRETE DECK OVERLAYS SHALL BE PLACED BEFORE APRIL 15. THE CONTRACTOR SHALL SCHEDULE THE WORK SO THAT ALL DECK OVERLAYS ARE PLACED BEFORE OCTOBER 15. IF FOR SOME UNFORESEEN CIRCUMSTANCES THE DECK OVERLAYS OR PORTIONS OF THE DECK OVERLAY ARE NOT PLACED BY OCTOBER 15, REGARDLESS OF THE WORK REMAINING, THE FULL DEPTH REPARS SHALL BE COMPLETED AS PER 511 AND THE UNFINISHED DECK SHALL BE RESURFACED WITH ITEM 404 - ASPHALT CONCRETE AND OPENED TO TRAFFIC. THE CONTRACTOR SHALL PLACE AND MAINTAIN AT HIS EXPENSE THE ASPHALT WEARING SURFACE UNTIL IT IS REMOVED AT HIS EXPENSE THE FOLLOWING SPRING WHEN THE DECK OVERLAY CAN BE PLACED AFTER APRIL 15.

ITEM 202 - PORTIONS OF STRUCTURES REMOVED, BACKWALLS, AS PER PLAN:
ITEM 202 - PORTIONS OF STRUCTURES REMOVED, DECK EDGES, AS PER PLAN:
ITEM 202 - PORTIONS OF STRUCTURES REMOVED, PARAPETS, AS PER PLAN:

THESE ITEMS OF WORK SHALL BE USED TO REMOVE EXISTING BACKWALLS, AS PER DETAIL ON SHEET NO. 43 AND 44. DECK EDGES AS PER PLAN ON SHEET NO. 46 AND PORTIONS OF EXISTING PARAPET INCLUDING ALUMINUM RAILING, CURBS AND BULB ANGLE FROM BRIDGE DECK AND THE ABUTMENT AND ANY OTHER ITEMS AS NEEDED AS PER DETAILS ON SHEET NOS. 49, 50, AND 51.

CONCRETE SHALL BE REMOVED BY A HYDRAULIC SPLITTING METHOD. A LINE OF HOLES SHALL BE DRILLED ALONG THE REMOVAL LINE AND A HYDRAULIC SPLITTER USED AS PER THE MANUFACTURER'S RECOMMENDATIONS. THIRTY-FIVE (35) AND FIFTEEN (15) POUND JACK HAMMERS SHALL BE USED FOR THE FINAL FINISH WORK. A HOE RAM, CONCRETE CRUSHER, OR OTHER SIMILAR IMPACT DEVICES WILL NOT BE PERMITTED TO DO ANY OF THE WORK. CONCRETE SHALL BE REMOVED IN A MANNER THAT PREVENTS CUTTING, ELONGATING, OR DAMAGING OF THE EXISTING REINFORCING STEEL WHICH IS TO SALVAGED. IF THE EXISTING REINFORCING STEEL DESIGNATED FOR PRESERVATION IS DAMAGED DURING REMOVAL OPERATIONS, DOWELED REINFORCING STEEL SHALL BE ADDED AT THE CONTRACTOR'S EXPENSE. CARE SHALL BE TAKEN NOT TO CRACK THE DECK IF THE DECK IS CRACKED, IT SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER CU.YD. FOR THE ABOVE ITEMS, WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 202 - WEARING COURSE REMOVED (1 1/4" THICKNESS), AS PER PLAN:
ITEM 202 - WEARING COURSE REMOVED (1 3/4" THICKNESS), AS PER PLAN:

WORK SHALL CONSIST OF REMOVING EXISTING LATEX MODIFIED CONCRETE OVERLAY BY GRINDING.

PAYMENT FOR ALL OF THIS ABOVE SHALL BE AT UNIT PRICE BID PER SQ.YD. FOR THE ABOVE ITEMS, WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 202 - SCUPPER REMOVAL:

WORK SHALL INCLUDE REMOVING EXISTING PLATES, BARS, CUTTING OFF EXISTING SCUPPER DRAIN PIPE 3" BELOW DECK, CUTTING OFF SCUPPER DRAIN BAR AND GRINDING AREA FLUSH WITH WEB, AND ANY OTHER ITEM AS NEEDED AS PER DETAILS ON SHEET NO. 54.

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID PER EACH FOR ITEM 202, SCUPPER REMOVAL WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 202 - REMOVAL OF BEARING DEVICES:

THIS ITEM SHALL BE USED TO JACK BRIDGE NOS. ASD-30-0932, ASD-30-1125, ASD-30-1194 AND WAY-30-0100 TO REMOVE THE EXISTING SLIDING ABUTMENT BEARINGS AND THE EXISTING ROCKER BEARINGS. THE EXISTING ANCHOR BARS SHALL BE CUT OFF FLUSH WITH THE ABUTMENT SEAT.

ALL WELDS SHALL BE GROUND SMOOTH, THE AREA AROUND THE BEARINGS SHALL BE SANDBLASTED PRIOR TO SEATING THE NEW BEARINGS. ALL EXISTING BEARINGS REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

THE SUPERSTRUCTURE SHALL BE JACKED ABOVE THE EXISTING ABUTMENT SEAT, A UNIFORM AMOUNT NOT TO EXCEED ONE (1) INCH. DETAIL PLANS AND PROCEDURES OF THE JACKING OF THE SUPERSTRUCTURE SHALL BE PREPARED BY A REGISTERED PROFESSIONAL ENGINEER AND SHALL BEAR HIS SIGNATURE AND NUMBER OR PROFESSIONAL ENGINEERING SEAL. APPROVAL OF THE ABOVE PLANS AND PROCEDURES SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR THE BEHAVIOR OF THE PROPOSED JACKING PROCEDURES.

THE CONTRACTOR SHALL SUBMIT THREE (3) COPIES OF THE PLANS AND PROCEDURES AND TWO (2) COPIES OF THE CALCULATIONS TO THE DIRECTOR, THIRTY (30) DAYS PRIOR TO THE JACKING OPERATION AND RECEIVE APPROVAL BEFORE BEGINNING THE JACKING OPERATIONS.

THE FOLLOWING JACKING REQUIREMENTS AND PROCEDURES SHALL APPLY:

1) ATTACHMENTS MADE BY WELDING TO ANY MAIN STRUCTURAL MEMBER SHALL BE APPROVED BY THE DIRECTOR BEFORE SUCH ATTACHMENTS ARE MADE. DETAILS OF THE ATTACHMENTS SHALL BE SUBMITTED FOR APPROVAL AS PART OF THE JACKING PLANS AND PROCEDURES OR INDEPENDENTLY BY A SIMILAR SUBMISSION.

2) THE SUPPORT AND JACKING SYSTEM SHALL BE CAPABLE OF SUPPORTING THE STRUCTURE WITH TRAFFIC LOADS HAVING THE FOLLOWING MAXIMUM ABUTMENT REACTIONS INCLUDING DEAD LOAD, LIVE LOAD AND IMPACT.

BRIDGE NO.	TOTAL REACTION PER BEARING
ASD-30-0932 L/R	37K
ASD-30-1125 L/R	57K
ASD-30-1194 L/R	37K
WAY-30-0100 L/R	43K

3) JACK ALL BEAMS SIMULTANEOUSLY AT A UNIFORM RATE. VERTICAL DIFFERENTIAL MOVEMENT SHALL NOT BE PERMITTED BETWEEN ANY BEAMS. THE CONTRACTOR SHALL REPLACE AT HIS EXPENSE, ANY PART OF THE STRUCTURE MADE UNSATISFACTORY BY MOVEMENT, AS DETERMINED AND DIRECTED BY THE DIRECTOR.

4) PROPERLY ARRANGE ALL TEMPORARY SUPPORTS SO AS NOT TO DAMAGE OR INDUCE EXCESS STRESS IN ANY MEMBER, INCLUDING CROSSFRAMES.

5) CONSTRUCTION "BUMP" SIGNS (OW-62-36) SHALL BE ERECTED AND MAINTAINED DURING THE PERIOD THAT THE SUPERSTRUCTURE IS JACKED. THE SUPERSTRUCTURE SHALL NOT BE KEPT JACKED OVERNIGHT.

THE DETAIL PLANS AND PROCEDURES SHALL INCLUDE THE FOLLOWING:

1) METHOD OF KEEPING BEAMS SOCKETED IN THE DECK AND VERIFICATION OF SUCH

2) METHOD OF VERIFYING THAT ALL NEW BEARINGS ARE SEATED IN THE FINAL LOCATION

3) METHOD OF VERIFYING THAT THE ACTUAL HIGH AND LOW BEARING REACTIONS AT EACH ABUTMENT BEARING HAVE ONLY A MAXIMUM DIFFERENCE OF 20% BASED UPON THE HIGH REACTION

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE LUMP SUM PRICE BID FOR ITEM 202, REMOVAL OF BEARING DEVICES WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO PERFORM THE ABOVE WORK.

GENERAL NOTES

ITEM 510 – DOWEL HOLES, AS PER PLAN:

ALL DOWEL HOLES SHALL BE GROUTED AS PER SUPPLEMENTAL SPECIFICATIONS 852 AND 952.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER EACH FOR ITEM 510, DOWEL HOLES, AS PER PLAN, WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 511 – CLASS S CONCRETE, PARAPETS, AS PER PLAN:

THIS ITEM SHALL BE USED TO FACE THE EXISTING PARAPETS AS PER DETAILS ON SHEET NOS. 49, 50, AND 51 AND AS INDICATED ON ANY OTHER SHEET IN THE PLAN.

NOT MORE THAN 48 HRS. PRIOR TO PLACING THE CONCRETE, ALL EXISTING SURFACES TO WHICH THE CONCRETE IS TO BOND, INCLUDING EXPOSED REINFORCING AND STRUCTURAL STEEL SHALL BE CLEANED BY ABRASIVE BLASTNG. THESE SURFACES SHALL BE MADE FREE OF SPALLS, LAITANCE, AND ALL OTHER CONTAMINATES DETRIMENTAL TO ACHIEVING AN ADEQUATE BOND.

IN LIEU OF THE PROPORTIONING SPECIFIED IN 499.03 AND 511.02, THE FOLLOWING TABLE SHALL BE USED TO ESTABLISH THE QUANTITIES PER CUBIC YARD FOR CONCRETE, THE COARSE AGGREGATE SHALL BE LIMESTONE.

QUANTITIES PER CUBIC YARD
(USING NO. 8 LIMESTONE)

AGGREGATE FINE (LB)	AGGREGATE COARSE (LB)	TOTAL (LB)	CEMENT CONTENT	WATER/CEMENT RATIO
1555	1100	2655	715	0.44

AIR CONTENT – 8% PLUS OR MINUS 2%

TYPE A CHEMICAL ADMIXTURE SHALL BE USED

ALL OTHER PROVISIONS OF ITEM 511 SHALL REMAIN IN EFFECT

IF DURING PLACEMENT OF THE PARAPET; THE LATEX MODIFIED CONCRETE OVERLAY IS DAMAGED, IT SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER.

CURING SHALL BE IN ACCORDANCE WITH 511.14 TYPE A OR B.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT UNIT PRICE BID PER CUBIC YARD FOR ITEM 511 CLASS S CONCRETE, PARAPETS, AS PER PLAN WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 516 – STRUCTURAL EXPANSION JOINTS INCLUDING ELASTOMERIC STRIP SEALS, AS PER PLAN:

THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO REMOVE EXISTING ANGLES, RETAINERS, DECK CONCRETE, TRIMMING ENDS OF BEAMS FOR EXPANSION AND OTHER ITEMS AS NEEDED TO INSTALL THE NEW JOINTS, AS PER DETAILS IN THE PLANS AND ON STANDARD DRAWING EXJ – 4 – 87.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT UNIT PRICE BID PER LINEAR FOOT FOR THE ITEM 516 – STRUCTURAL STEEL EXPANSION JOINTS INCLUDING ELASTOMERIC STRIP SEALS, AS PER PLAN WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 516 – STRUCTURAL EXPANSION JOINT EXTENSIONS INCLUDING ELASTOMERIC STRIP SEALS, AS PER PLAN:

THIS ITEM SHALL INCLUDE REMOVING EXISTING STRIP SEAL GLANDS, RETAINERS IN CURBS, SANDBLASTING INSIDE EXISTING PRESERVED RETAINERS, REMOVING CONCRETE, EXTENDING BARS AND ANGLES, INSTALLING NEW NEOPRENE STRIP SEAL GLANDS, EXPANDED POLYSTYRENE AND OTHER ITEMS NEEDED TO EXTEND THE EXISTING JOINTS AS PER DETAILS IN THE PLANS.

IT IS BELIEVED THAT THE EXISTING RETAINER IS A TYPE E AS FORMERLY MANUFACTURED BY WATSON BOWMAN-ACME CORP. CONTRACTOR SHALL VERIFY EXISTING RETAINER TYPE ANDMAKE USE OF THE SAME. NEW NEOPRENE STRIP SEAL GLAND SHALL BE COMPATIBLE WITH RETAINERS. RETAINERS REMOVED FROM CURBS SHALL NOT BE RE-USED.

THE STEEL RETAINER EXTENSIONS SHALL BE WELDED TO THE EXISTING RETAINERS TO FORM A WATERTIGHT JOINT. THE NEW NEOPRENE STRIP SEAL GLAND SHALL BE ONE CONTINUOUS PIECE ACROSS THE ENTIRE DECK. THE NEOPRENE STRIP SEAL GLAND SHALL NOT BE INSTALLED UNTIL ALL OTHER WORK IS COMPLETE ON THE STRUCTURE. A LUBRICANT-ADHESIVE SHALL BE USED TO FACILITATE PLACEMENT OF THE NEOPRENE STRIP SEAL GLAND.

PHYSICAL PROPERTIES:

A) THE STEEL RETAINER SHALL MATCH THE EXISTING PRESERVED RETAINER

B) ADHESIVE SHALL BE A ONE – PART MOISTURE CURING POLYURETHANE AND HYDROCARBON SOLVENT MIXTURE AS SPECIFIED BY THE SEAL MANUFACTURER UNLESS OTHERWISE APPROVED BY THE DIRECTOR. IT SHALL HAVE A SUITABLE CONSISTENCY AT THE TEMPERATURE AT WHICH THE SEALS ARE INSTALLED AND SHALL BE COMPATIBLE WITH THE SEALS AND THE STEEL RETAINERS.

C) THE NEOPRENE STRIP SEAL GLAND SHALL CONFORM TO THE PHYSICAL PROPERTIES SPECIFIED FOR AASHTO M220 EXCEPT FOR THE RECOVERY TEST. IT SHALL BE ONE CONTINUOUS PIECE FOR EACH JOINT.

D) SET SCREWS FOR FASTENING OF OPTIONAL SPLIT RETAINER SHALL BE STAINLESS STEEL.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER LINEAR FOOT FOR ITEM 516, STRUCTURAL EXPANSION JOINT EXTENSIONS INCLUDING ELASTOMERIC STRIP SEALS, AS PER PLAN WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 516 – BEARING DEVICES:

ON BRIDGE NO. ASD-30-1125 L/R NEW R-100 ROCKERS SHALL BE INSTALLED ON ALL ABUTMENTS, SEE STANDARD DRAWING RB-1-55 FOR DETAILS.

ON BRIDGE NOS. ASD-30-0932 L/R, ASD-30-1194 L/R, AND WAY-30-0100 L/R NEW LAMINATED ELASTOMERIC BEARINGS SHALL BE INSTALLED ON ALL ABUTMENTS, SEE DETAILS ON SHEET NO. 45.

ITEM 518 – POROUS BACKFILL, AS PER PLAN:

POROUS BACKFILL SHALL BE INSTALLED AS PER THE DETAILS IN THE PLANS. THE AGGREGATE SHALL BE NO. 57 CRUSHED GRAVEL. THE GEOTEXTILE FABRIC SHALL BE TYPE A AS PER 712.09. DURING ALL PERIODS OF SHIPMENT AND STORAGE THE FABRIC SHALL BE WRAPPED IN A HEAVY DUTY PROTECTIVE COVERING TO PROTECT IT FROM DIRECT SUNLIGHT, MUD, DIRT, DUST AND OTHER DEBRIS. THE GEOTEXTILE FABRIC SHALL BE CONTINUOUS EXCEPT AT THE CENTER JOINT. ALL JOINTS SHALL BE LAPPED A MINIMUM OF TWO (2) FEET.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER CUBIC YARD FOR ITEM 518, POROUS BACKFILL, AS PER PLAN, WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 519 – PATCHING CONCRETE STRUCTURES, AS PER PLAN:

THIS ITEM SHALL BE USED TO REPAIR THE ABUTMENT. WITHIN TWENTY FOUR (24) HOURS BEFORE PLACING CONCRETE. THE EXISTING SURFACE AGAINST WHICH THE CONCRETE SHALL BE PLACED, AND EXISTING REINFORCING STEEL SHALL BE THOROUGHLY CLEANED BY SANDBLASTING. SANDBLASTING SHALL BE AT LEAST EQUAL TO SA 2 "THOROUGH BLAST CLEANING" AS OUTLINED IN ASTM D-2200 OR SSPC-SP6. ALL LOOSE AND DETERIORATED CONCRETE AND CALCIUM CARBONATE DEPOSITS SHALL BE REMOVED WITH HAND TOOLS BEFORE SANDBLASTING.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER SQUARE FOOT FOR ITEM 519, PATCHING CONCRETE STRUCTURES, AS PER PLAN, WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM SPECIAL – SCUPPER EXTENSION:

WORK SHALL INCLUDE EXTENDING SCUPPERS 8" BELOW THE BEAMS, REMOVING EXISTING CONCRETE FROM SCUPPERS, REMOVING EXISTING BARS ON SCUPPERS, TRIMMING PLATES, PLACING NEW BARS ON SCUPPERS AND OTHER ITEMS NEEDED TO LENGTHEN SCUPPERS AS PER DETAILS ON SHEET NO. 54.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER EACH FOR ITEM SPECIAL, SCUPPER EXTENSION WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM SPECIAL – MICRO-SILICA MODIFIED CONCRETE OVERLAY (1 3/4" THICK):

COARSE AGGREGATE SHALL BE LIMESTONE OR SLAG.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER SQUARE YARD FOR SPECIAL MICRO – SILICA MODIFIED CONCRETE OVERLAY, (1-3/4" INCHES THICK , WHICH SHALL INCLUDE ALL LABOR, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM SPECIAL – SEALING OF CONCRETE SURFACES:

THE PROPOSED CONCRETE PARAPET SURFACES AND THE PROPOSED DECK EDGES SHALL BE SEALED USING AN EPOXY SEALER. SEE THE DETAILS ON SHEET NO. 53. FOR AREAS TO BE SEALED. SEE THE PROPOSAL FOR SURFACE PREPARATION REQUIREMENTS, APPLICATION RATES, MATERIAL REQUIREMENTS AND APPLICATION PROCEDURES.

ITEM SPECIAL – ADJUSTING BEAM SEAT ELEVATIONS:

WORK SHALL INCLUDE REMOVING EXISTING CONCRETE AND PLACING NON SHRINK GROUT TO REQUIRED HEIGHT AS PER MANUFACTURERS RECOMMENDATIONS, AND DETAILS ON SHEET NO. 45.

EPOXY GROUT USED FOR ADJUSTING THE BEAMS SEAT ELEVATIONS SHALL BE FURNISHED BY ONE OF THE FOLLOWING OR AN APPROVED EQUAL:

MANUFACTURER	GROUT DESIGNATION
CELTITE, INC. 150 CARLEY COURT GEORGETOWN, KENTUCKY 403_4 TELEPHONE (800) 626-2948	CELTITE 42 – 76 HI – FILL
DURAL INTERNATIONAL CORP. 95 BROOK AVENUE DEER PARK, NEW YORK 11729 TELEPHONE (516) 586-1655	DURALITH
U.S. GROUT CORPORATION 401 STILLSON ROAD FAIRFIELD, CONNECTICUT 06430 TELEPHONE (203) 336-7900	FIVE STAR RAPID EPOXY GROUT

PAYMENT FOR ADJUSTING THE BEAM SEAT ELEVATIONS SHALL BE MADE AT THE SQUARE YARD PRICE BID FOR THIS ITEM WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

GENERAL NOTES

FHWA REGION	STATE	PROJECT		
5	OHIO			

35/59

ASD-30-8.54
WAY-30-0.00

CLASS S CONCRETE, AS PER PLAN:

THIS ITEM SHALL BE USED TO RECAST THE DECK EDGES AS PER DETAILS ON SHEET NO. 46, RECAST BACKWALLS AS PER DETAILS ON SHEET NOS. 43 AND 44, FACE ABUTMENTS AS PER DETAILS ON SHEET NO. 48 AND ENCASE PILING AS PER DETAILS ON SHEET NO. 47.

NOT MORE THAN 24 HRS. PRIOR TO PLACING THE CONCRETE, ALL EXISTING SURFACES TO WHICH THE CONCRETE IS TO BOND, INCLUDING EXPOSED REINFORCING AND STRUCTURAL STEEL SHALL BE CLEANED BY ABRASIVE BLASTING. THESE SURFACES SHALL BE MADE FREE OF SPALLS, LAITANCE, AND ALL CONTAMINANTS DETRIMENTAL TO ACHIEVING AN ADEQUATE BOND.

IMMEDIATELY BEFORE THE THE DECK EDGE CONCRETE IS PLACED ALL ADJACENT CONCRETE SURFACES SHALL BE COVERED WITH A THIN LAYER OF BONDING GROUT. THE BONDING GROUT SHALL CONSIST OF EQUAL PARTS BY VOLUME OF PORTLAND CEMENT AND SAND, MIXED WITH ENOUGH WATER TO FORM A SLURRY OF PAINT LIKE CONSISTANCY WHICH SHALL BE SUCH AS TO ALLOW IT TO BE APPLIED WITH A STIFF BRUSH OR BROOM TO EXISTING CONCRETE SURFACES IN A THIN EVEN COATING THAT WILL NOT RUN OR PUDDLE. THE GROUT SHALL BE APPLIED FOR A SHORT DISTANCE IN ADVANCE OF THE PLACEMENT OF THE CONCRETE AND SHALL NOT BE DRY.

IN LIEU OF THE PROPORTIONING SPECIFIED IN 499.03 AND 511.02, THE FOLLOWING TABLE SHALL BE USED TO ESTABLISH THE QUANTITIES PER CUBIC YARD FOR CONCRETE, THE COARSE AGGREGATE SHALL BE LIMESTONE.

QUANTITIES PER CUBIC YARD
(USING NO. 8 LIMESTONE)

AGGREGATE FINE (LB)	AGGREGATE COARSE (LB)	TOTAL (LB)	CEMENT CONTENT (LB)	WATER/CEMENT RATIO
1591	1127	2718	715	0.40

AIR CONTENT – 8% PLUS OR MINUS 2%

A HIGH RANGE WATER REDUCER (SUPERPLASTICIZER) MAY BE USED AT THE OPTION OF THE CONTRACTOR. THE DOSAGE RATE SHALL BE DETERMINED BY THE CONTRACTOR BASED ON THE MANUFACTURER'S RECOMMENDATIONSTO ACHIEVE THE DESIRED WORKABILITY LEVEL.

THE HIGH RANGE WATER REDUCER SHALL CONFORM TO 705.12, ASTM-C494 TYPE F AND SHALL NOT CONTAIN CALCIUM CHLORIDE.

TYPE A OR D CHEMICAL ADMIXTURE CONFORMING TO 705.12, ASTM-C494 AND NOT CONTAINING CHLORIDE SHALL BE ADDED TO THE CONCRETE AT THE PLANT.

ALL ADDITIVES, INCLUDING AIR ENTRAINMENT, SHALL BE MANUFACTURED BY THE SAME COMPANY AND CERTIFIED AS COMPATIBLE BY THE MANUFACTURING CO.

THE CEMENT CONTENT SHALL BE MAINTAINED AND A MAXIMUM WATER-CEMENT RATIO OF 0.40 SHALL NOT BE EXCEEDED. THE SLUMP OF THE SUPERPLASTICIZED CONCRETE DELIVERED TO THE JOB SITE SHALL BE 1 1/2" PLUS OR MINUS 1/2". THE SUPERPLASTICIZED ADMIXTURE SHALL BE ADDED AT THE JOB SITE AND MIXED FOR A MINIMUM OF FIVE (5) MINUTES. AFTER THE SUPERPLASTICIZER HAS BEEN ADDED, THE SLUMP SHALL BE 6 1/2" PLUS OR MINUS 1/2". THE CONTRACTOR SHALL FURNISH A VOLUMERIC DISPENSER FOR THE SUPERPLASTICIZER.

CONCRETE MIXTURES CONTAINING A HIGH RANGE WATER REDUCER SHALL MEET THE SAME REQUIREMENTS FOR ENTRAINED AIR CONTENT, MAXIMUM STRENGTH, AND MAXIMUM WATER-CEMENT RATIO AS REQUIRED FOR THE RESPECTIVE GRADE OF CONCRETE WITHOUT A HIGH RANGE WATER REDUCER.

SAMPLING AND TESTING FOR ENTRAINED AIR CONTENT AND MINIMUM STRENGTH SHALL BE TAKEN FROM THE CONCRETE THAT HAS BEEN TREATED WITH A HIGH RANGE WATER REDUCER.

DECK EDGES SHALL BE IN CURED IN ACCORDANCE WITH 511.14 TYPE A WATER CURING ALL OTHERS SHALL BE CURED IN ACCORDANCE WITH 511.14 TYPE A OR B.

PAYMENT SHALL BE AT THE UNIT PRICE BID PER CUBIC YARD FOR THE FOLLOWING ITEMS WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM	UNIT	DESCRIPTION
511	CU.YD.	CLASS S CONCRETE, ABUTMENTS, AS PER PLAN
511	CU.YD.	CLASS S CONCRETE, BACKWALLS, AS PER PLAN
511	CU.YD.	CLASS S CONCRETE, DECK EDGES, AS PER PLAN
511	CU.YD.	CLASS S CONCRETE, PILING ENCASEMENT, AS PER PLAN
511	CU.YD.	CLASS S CONCRETE, PARAPETS, AS PER PLAN

CALC. BY D.M. 12/89
CHK'D BY KW 2/16/90

BRIDGE ESTIMATED QUANTITIES

SHEET NUMBER 37	38	39	40	41					ITEM	ITEM EXT	PLAN TOTAL	UNIT	DESCRIPTION
238									202	11301	238	CU.YD.	PORTIONS OF STRUCTURES REMOVED, BACKWALLS, AS PER PLAN (SEE SHT. 33)
290									202	11301	290	CU.YD.	PORTIONS OF STRUCTURES REMOVED, DECK EDGES, AS PER PLAN (SEE SHT. 33)
59									202	11301	59	CU.YD.	PORTIONS OF STRUCTURES REMOVED, PARAPETS, AS PER PLAN (SEE SHT. 33)
2500									202	38500	2500	LIN.FT.	BRIDGE RAILING REMOVED
3272									202	23501	3272	SQ.YD.	WEARING COURSE REMOVED (1 1/4" THICK), AS PER PLAN (SEE SHT. 33)
	1486								202	23501	1486	SQ.YD	WEARING COURSE REMOVED (1 3/4" THICK), AS PER PLAN (SEE SHT. 33)
	64								202	98100	64	EACH	SCUPPER REMOVAL
	80								202	98100	80	EACH	REMOVAL OF EXISTING BEARING DEVICES
	60,930								509	15800	60,930	POUND	EPOXY COATED REINFORCING STEEL, GRADE 60
	2144								510	11101	2144	EACH	DOWEL HOLES, AS PER PLAN (SEE SHT. 34)
	43								511	34450	43	CU.YD.	CLASS S CONCRETE, ABUTMENTS, AS PER PLAN (SEE SHT. 35)
	238								511	34450	238	CU.YD.	CLASS S CONCRETE, BACKWALLS, AS PER PLAN (SEE SHT. 35)
	294								511	34450	294	CU.YD.	CLASS S CONCRETE, DECK EDGES, AS PER PLAN (SEE SHT. 35)
		60							511	34450	60	CU.YD.	CLASS S CONCRETE, PARAPETS, AS PER PLAN (SEE SHT. 38)
		30							511	34450	30	CU.YD.	CLASS S CONCRETE, PILING ENCASEMENT, AS PER PLAN (SEE SHT. 35)
		217							513	00100	217	POUND	STRUCTURAL STEEL (AISC CERTIFICATION NOT REQUIRED)
		40							516	44000	40	EACH	LAMINATED ELASTOMERIC BEARINGS (5" X 11" X 1 1/8" LAMINATED ELASTOMERIC PAD WITH 6" X 12" X 1 1/2" STEEL LOAD PLATE)
		20							516	44000	20	EACH	LAMINATED ELASTOMERIC BEARINGS (7" X 11" X 1 5/8" LAMINATED ELASTOMERIC PAD WITH 8" X 13" X 1 1/2" STEEL LOAD PLATE)
		748							516	11201	748	LIN.FT.	STRUCTURAL EXPANSION JOINTS INCLUDING ELASTOMERIC STRIP SEALS, AS PER PLAN (SEE SHT. 34)
		17							516	14600	17	LIN.FT.	STRUCTURAL EXPANSION JOINT EXTENSIONS INCLUDING ELASTOMERIC STRIP SEALS, AS PER PLAN (SEE SHT. 34)
		20							516	46900	20	EACH	BEARING DEVICES
			2500						517	72300	2500	LIN.FT.	RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP AND TYPE 2 STEEL POSTS AND ANCHOR BOLTS) (SEE PROPOSAL NOTE)
			294						518	21101	294	CU.YD.	POROUS BACKFILL, AS PER PLAN (SEE SHT. 34)
			345					*	519	11101	345	SQ.FT.	PATCHING CONCRETE STRUCTURES, AS PER PLAN (SEE SHT. 34)
			10						SPECIAL	51812700	10	EACH	SCUPPER EXTENSION (SEE SHT. 34)
				4980					SPECIAL	51922006	4980	SQ.YD.	MICRO-SILICA MODIFIED CONCRETE OVERLAY (1 3/4" THICK) (SEE PROPOSAL NOTE)
				166					SPECIAL	51922100	166	CU.YD.	MICRO-SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS) (SEE PROPOSAL NOTE)
			LUMP						SPECIAL	51922300	LUMP		TEST SLAB (SEE PROPOSAL NOTE)
			~~—~~	~~LUMP~~					SPECIAL	51400100	~~LUMP~~		~~FIELD PAINTING OF EXISTING STEEL, SURFACE PREPARATION, SYSTEM OZEU (SEE PROPOSAL NOTES)~~
			~~—~~	~~LUMP~~					SPECIAL	51400200	~~LUMP~~		~~FIELD PAINTING OF EXISTING STEEL, PRIME COAT, SYSTEM OZEU (SEE PROPOSAL NOTE)~~
			~~—~~	~~LUMP~~					SPECIAL	51400300	~~LUMP~~		~~FIELD PAINTING OF EXISTING STEEL, INTERMEDIATE COAT, SYSTEM OZEU (SEE PROPOSAL NOTE)~~
			~~—~~	~~LUMP~~					SPECIAL	51400400	~~LUMP~~		~~FIELD PAINTING OF EXISTING STEEL, FINISH COAT, SYSTEM OZEU (SEE PROPOSAL NOTE)~~
			~~—~~	~~LUMP~~					SPECIAL	51426000	~~LUMP~~		~~CONTAIN, COLLECT, STORE, AND EVALUATE ABRASIVES AND PAINT CHIPS (SEE PROPOSAL NOTE)~~
			~~—~~	~~LUMP~~					SPECIAL	51426010	~~LUMP~~		~~SHIPMENT AND DISPOSAL OF NON-HAZARDOUS WASTE (SEE PROPOSAL NOTE)~~
			~~—~~	~~LUMP~~					SPECIAL	51426020	~~LUMP~~		~~SHIPMENT AND DISPOSAL OF HAZARDOUS WASTE (SEE PROPOSAL NOTE)~~
				1034					SPECIAL	51267502	1034	SQ.YD.	SEALING OF CONCRETE SURFACES (EPOXY) (SEE PROPOSAL NOTE)
				60					SPECIAL	53000800	60	SQ.YD.	ADJUSTING BEAM SEAT ELEVATIONS (SEE SHT. 34)

* 50 % FEDERAL PARTICIPATION

A100/BRGEVSUM

REVISED 10-13-90

CALC. BY DM 12/89
CHK'D BY KW 2/16/90

ASD-30-8.54
WAY-30-0.00

57
59

BRIDGE QUANTITIES

		STRUCTURE FILE NUMBER	BRIDGE NUMBER	SKEW	DECK LENGTH	EXISTING WIDTH	PROPOSED WIDTH	AREA	NUMBER OF SCUPPERS TO BE REMOVED	NUMBER OF SCUPPERS TO BE EXTENDED	PAVEMENT WIDTH		TYPE OF PROPOSED WEARING SURFACE	202 PORTIONS OF STRUCTURES REMOVED, BACKWALLS AS PER PLAN CU.YD.	202 PORTIONS OF STRUCTURES REMOVED, DECK EDGES, AS PER PLAN CU.YD.	202 PORTIONS OF STRUCTURES REMOVED, PARAPETS, AS PER PLAN CU.YD.	202 BRIDGE RAILING REMOVED LIN.FT.	202 WEARING COURSE REMOVED (1 1/4" THICK) AS PER PLAN SQ.YD.
				DEGREES	FEET	FEET	FEET	SQ.YD.	EACH	EACH	FEET							
		0300578	ASD-30-0932 L OVER QUAKER SPRINGS RUN	0°-0'	111.7	40.0'	40.0'	497			24		MSMC	23	25		237.50	497
		0300608	ASD-30-0932 R OVER QUAKER SPRINGS RUN	0°-0'	111.7	40.0'	40.0'	497			24		MSMC	23	25		237.50	497
		0300632	ASD-30-1125 L OVER JEROME FORK	51°-15' R.F.	222.86	30.0'	34.5'	855	32		24		MSMC	41	63		462.50	
		0300667	ASD-30-1125 R OVER JEROME FORK	51°-15' R.F.	222.86	30.0'	34.5'	855	32		24		MSMC	41	63		462.50	
		0300691	ASD-30-1194 L OVER GLENN RUN	0°-0'	111.7	40.0'	40.0'	497			24		MSMC	23	25		237.50	497
		0300721	ASD-30-1194 R OVER GLENN RUN	0°-0'	111.7	40.0'	40.0'	497			24		MSMC	23	25		237.50	497
		0300756	ASD-30-1284 UNDER ASD CO.RD. 1975	56°-59'-13"L.F.	304.14	24.0'	26.6'	917		10	18					59		
		8501440	WAY-30-0100 L OVER MUDDY FORK	37°-30' R.F.	144.4	40.0'	40.0'	642			24		MSMC	32	32		312.50	642
		8501475	WAY-30-0100 R OVER MUDDY FORK	37°-30' R.F.	144.4	40.0'	40.0'	642			24		MSMC	32	32		312.50	642
			TOTALS											238	290	59	2500	3272

MSMC = MICRO - SILICA MODIFIED CONCRETE

CALC. BY DM 12/99
CHK'D BY KW 2/16/00

ASD-30-8.54
WAY-30-0.00

38
39

BRIDGE QUANTITIES

BRIDGE NUMBER	202 WEARING COURSE REMOVED (1 3/4" THICK), AS PER PLAN SQ.YD.	202 SCUPPER REMOVAL EACH	202 REMOVAL OF EXISTING BEARING DEVICES EACH	509 EPOXY COATED REINFORCING STEEL POUND	510 DOWEL HOLES AS PER PLAN EACH	511 CLASS S CONCRETE, ABUTMENTS, AS PER PLAN CU.YD.	511 CLASS S CONCRETE, BACKWALLS, AS PER PLAN CU.YD.	511 CLASS S CONCRETE, DECK EDGES, AS PER PLAN CU.YD.
ASD-30-0932 L OVER QUAKER SPRINGS RUN			10	5177	92		23	28
ASD-30-0932 R OVER QUAKER SPRINGS RUN			10	5177	92		23	28
ASD-30-1125 L OVER JEROME FORK	743	32	10	9017	126		41	55
ASD-30-1125 R OVER JEROME FORK	743	32	10	9017	126		41	55
ASD-30-1194 L OVER GLENN RUN			10	5177	92		23	28
ASD-30-1194 R OVER GLENN RUN			10	5177	92		23	28
ASD-30-1284 UNDER ASD CO.RD. 1975				9394	1296	43		
WAY-30-0100 L OVER MUDDY FORK			10	6397	114		32	36
WAY-30-0100 R OVER MUDDY FORK			10	6397	114		32	36
TOTALS	1486	64	80	60,930	2144	43	238	294

QUANT

BRIDGE QUANTITIES

BRIDGE NUMBER	511 CLASS S CONCRETE, PARAPETS, AS PER PLAN (CU.YD.)	511 CLASS S CONCRETE, PILING ENCASEMENT AS PER PLAN (CU.YD.)	513 STRUCTURAL STEEL (AISC CERTIFICATION NOT REQUIRED) (POUND)		516 LAMINATED ELASTOMERIC BEARINGS (5" X 11" X 1 1/8" LAMINATED ELASTOMERIC PAD WITH 6" X 12" X 1 1/2" STEEL LOAD PLATE) (EACH)	516 LAMINATED ELASTOMERIC BEARINGS (7" X 11" X 1 5/8" LAMINATED ELASTOMERIC PAD WITH 8" X 13" X 1 1/2" STEEL LOAD PLATE) (EACH)	516 STRUCTURAL EXPANSION JOINTS INCLUDING ELASTOMERIC STRIP SEALS, AS PER PLAN (LIN.FT.)	516 STRUCTURAL EXPANSION JOINT EXTS. INCL. ELASTOMERIC STRIP SEALS, AS PER PLAN (LIN.FT.)	516 BEARING DEVICES (EACH)		
ASD-30-0932 L OVER QUAKER SPRINGS RUN		15			10		80				
ASD-30-0932 R OVER QUAKER SPRINGS RUN		15			10		80				
ASD-30-1125 L OVER JEROME FORK							112		10		
ASD-30-1125 R OVER JEROME FORK							112		10		
ASD-30-1194 L OVER GLENN RUN					10		80				
ASD-30-1194 R OVER GLENN RUN					10		80				
ASD-30-1284 UNDER ASD CO.RD. 1975	60							17			
WAY-30-0100 L OVER MUDDY FORK			125			10	102				
WAY-30-0100 R OVER MUDDY FORK			92			10	102				
TOTALS	60	30	217		40	20	748	17	20		

A1830/QUAN3

CALC. BY DM 12/19
CHK'D BY KW 1/16/20

ASD-30-8.54
WAY-30-0.00

40/59

BRIDGE QUANTITIES

BRIDGE NUMBER	517 RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP AND TYPE 2 STEEL POSTS AND BOLTS) LIN.FT.	518 POROUS BACKFILL, AS PER PLAN CU.YD.	519 PATCHING CONCRETE STRUCTURES, AS PER PLAN SQ.FT.	601 ROCK CHANNEL PROTECTION, TYPE B, WITHOUT FILTER # CU.YD.	SPECIAL SCUPPER EXTENSION EACH	SPECIAL TEST SLAB LUMP SUM
ASD-30-0932 L OVER QUAKER SPRINGS RUN	237.50	31		198		LUMP
ASD-30-0932 R OVER QUAKER SPRINGS RUN	237.50	31		198		
ASD-30-1125 L OVER JEROME FORK	462.50	52				
ASD-30-1125 R OVER JEROME FORK	462.50	52				
ASD-30-1194 L OVER GLENN RUN	237.50	31				
ASD-30-1194 R OVER GLENN RUN	237.50	31				
ASD-30-1284 UNDER ASD CO.RD. 1975					10	
WAY-30-0100 L OVER MUDDY FORK	312.50	33	197	378		
WAY-30-0100 R OVER MUDDY FORK	312.50	33	148	336		
TOTALS	2500	294	345	1110	10	LUMP

QUANTITY CARRIED TO ROADWAY GENERAL SUMMARY.

AM30/QUAN6

CALC. BY DM 12/89
CHK'D BY KW 2/16/90

ASD-30-8.54
WAY-30-0.00

41/59

BRIDGE QUANTITIES

BRIDGE NUMBER	SPECIAL MICRO-SILICA MODIFIED CONCRETE OVERLAY (1 3/4" THICK) SQ.YD.	SPECIAL MICRO-SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS) CU.YD.	SPECIAL CONTAIN, COLLECT, STORE AND EVALUATE ABRASIVES AND PAINT CHIPS LUMP SUM	SPECIAL SHIPMENT AND DISPOSAL OF NON-HAZARDOUS WASTE LUMP SUM	SPECIAL SHIPMENT AND DISPOSAL OF HAZARDOUS WASTE LUMP SUM	SPECIAL FIELD PAINTING OF EXISTING STEEL, SURFACE PREPARATION, SYSTEM OZEU LUMP SUM	SPECIAL FIELD PAINTING OF EXISTING STEEL, PRIME COAT, SYSTEM OZEU LUMP SUM	SPECIAL FIELD PAINTING OF EXISTING STEEL, INTERMEDIATE COAT, SYSTEM OZEU LUMP SUM	SPECIAL FIELD PAINTING OF EXISTING STEEL, FINISH COAT, SYSTEM OZEU LUMP SUM	SPECIAL SEALING OF CONCRETE SURFACES (EPOXY) SQ.YD.	SPECIAL ADJUSTING BEAM SEAT ELEVATIONS SQ.YD.
ASD-30-0932 L OVER QUAKER SPRINGS RUN	497	15	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	60	10
ASD-30-0932 R OVER QUAKER SPRINGS RUN	497	32	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	60	10
ASD-30-1125 L OVER JEROME FORK	854	28	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	119	
ASD-30-1125 R OVER JEROME FORK	854	21	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	119	
ASD-30-1194 L OVER GLENN RUN	497	19	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	60	10
ASD-30-1194 R OVER GLENN RUN	497	16	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	60	10
ASD-30-1284 UNDER ASD CO.RD. 1975			LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	402	
WAY-30-0100 L OVER MUDDY FORK	642	16	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	77	10
WAY-30-0100 R OVER MUDDY FORK	642	19	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	77	10
TOTALS	4980	166	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	1034	60

* THE COLOR OF PAINT SHALL BE BLUE

REVISED 10-13-90

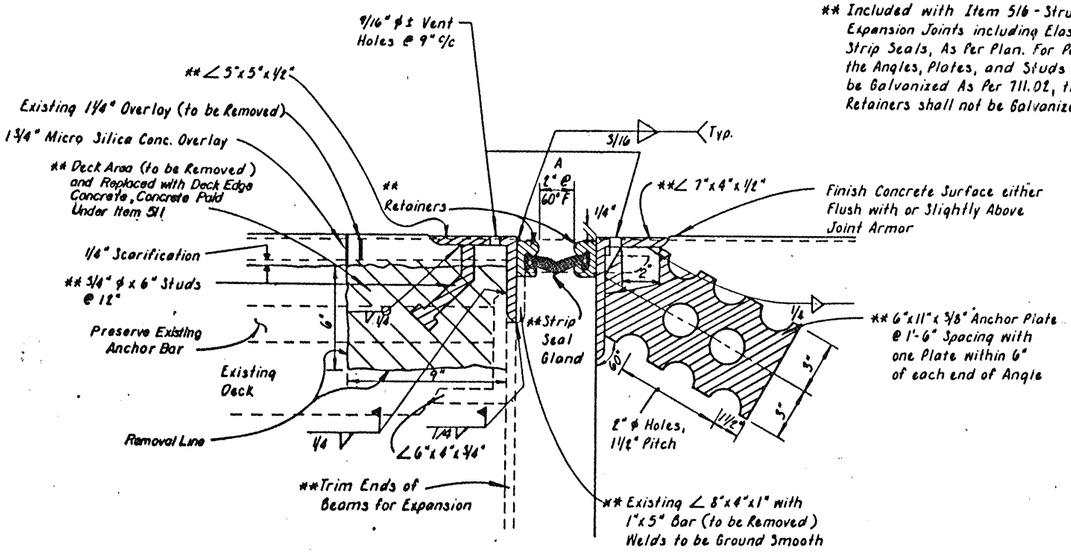
BRIDGE QUANTITIES (CONTINUED)

ASD/QUANS

FHWA REGION	STATE	PROJECT	
5	OHIO		

42
59

ASD-30-8.54
WAY-30-0.00



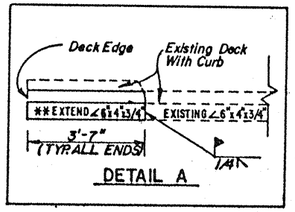
** Included with Item 516 - Structural Expansion Joints including Elastomeric Strip Seals, As Per Plan. For Payment, the Angles, Plates, and Studs shall be Galvanized As Per 711.02, the Retainers shall not be Galvanized

Abutment

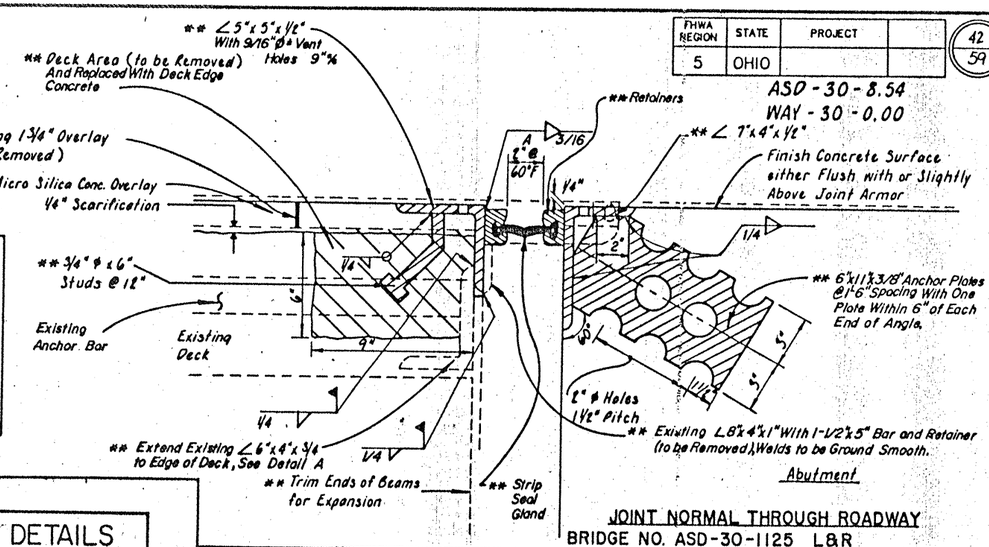
JOINT NORMAL THROUGH ROADWAY

BRIDGE NOS: ASD-30-0932 L&R
ASD-30-1194 L&R
WAY-30-0100 L&R

AMBIENT TEMPERATURE °F	OPENING A INCHES
90°	1 5/8"
80°	1 3/4"
70°	1 7/8"
60°	2"
50°	2 1/8"
40°	2 1/4"
30°	2 3/8"



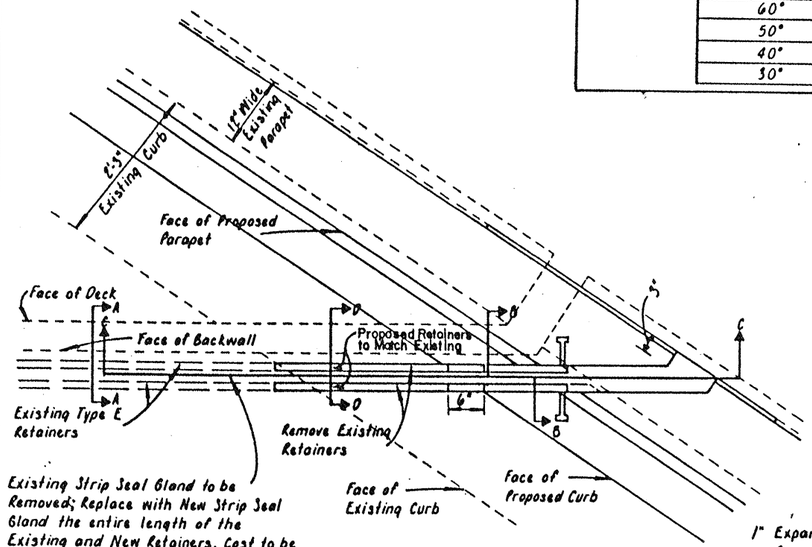
DETAIL A



JOINT NORMAL THROUGH ROADWAY
BRIDGE NO. ASD-30-1125 L&R

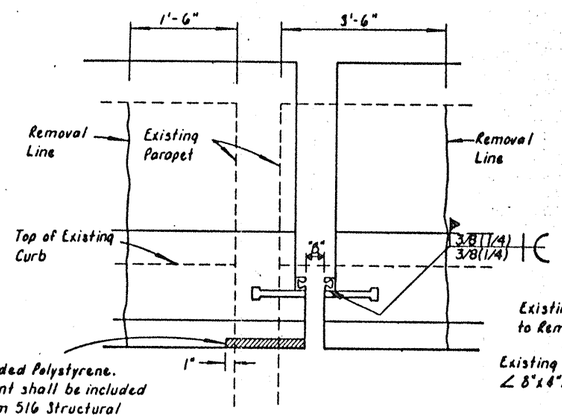
FOR ADDITIONAL DETAILS SEE STANDARD DRAWING EXJ-4-87

*** Extend 2"x ¾" Edge Bar, 1½"x 5" Bar, 6"x4"x ½" and 8"x4"x ¾" Angles from Face of Existing Curb to Face of Proposed Curb Cost to be included in Linear Foot of Item 516 Structural Expansion Joint Extensions including Elastomeric Strip Seals, As Per Plan

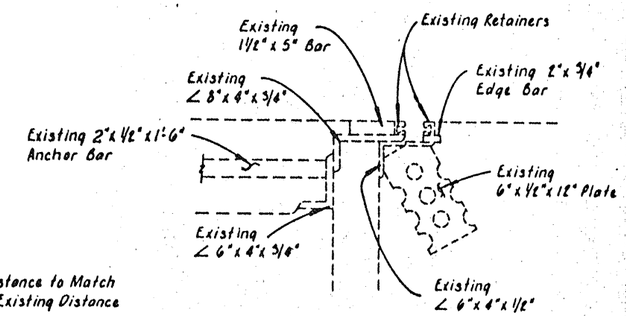


EXPANSION JOINT PLAN VIEW
BRIDGE NO. ASD-30-1284

"B" - Set Distance to Match with Existing Distance

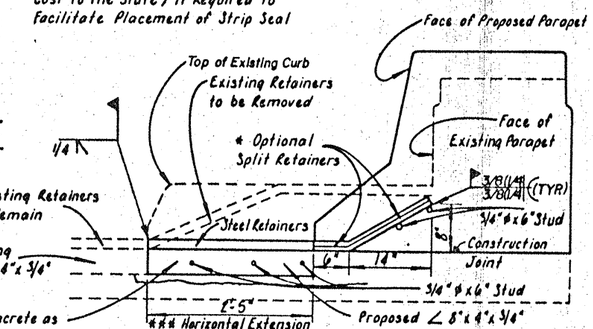


SECTION B-B
JOINT NORMAL THROUGH PARAPET
BRIDGE NO. ASD-30-1284

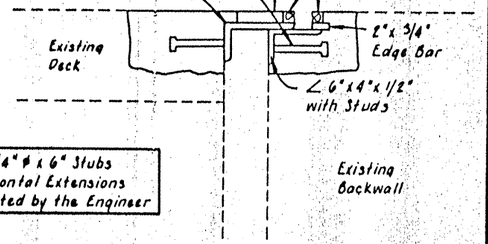


SECTION A A
JOINT NORMAL THROUGH ROADWAY
BRIDGE NO. ASD-30-1284

* Contractor shall Split Retainers as Shown at His Option (at No Additional Cost to the State) if Required to Facilitate Placement of Strip Seal



SECTION C-C
JOINT TRANSVERSE THROUGH PARAPET
BRIDGE NO. ASD-30-1284



Weld ¾" ϕ x 6" Studs to Horizontal Extensions as Directed by the Engineer

SECTION D-D
JOINT NORMAL THROUGH ROADWAY
BRIDGE NO. ASD-30-1284

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT THREE

EXPANSION JOINT DETAILS
BRIDGE NOS: ASD - 30 - 0932 L&R
ASD - 30 - 1125 L&R
ASD - 30 - 1194 L&R
ASD - 30 - 1284
WAY - 30 - 0100 L&R

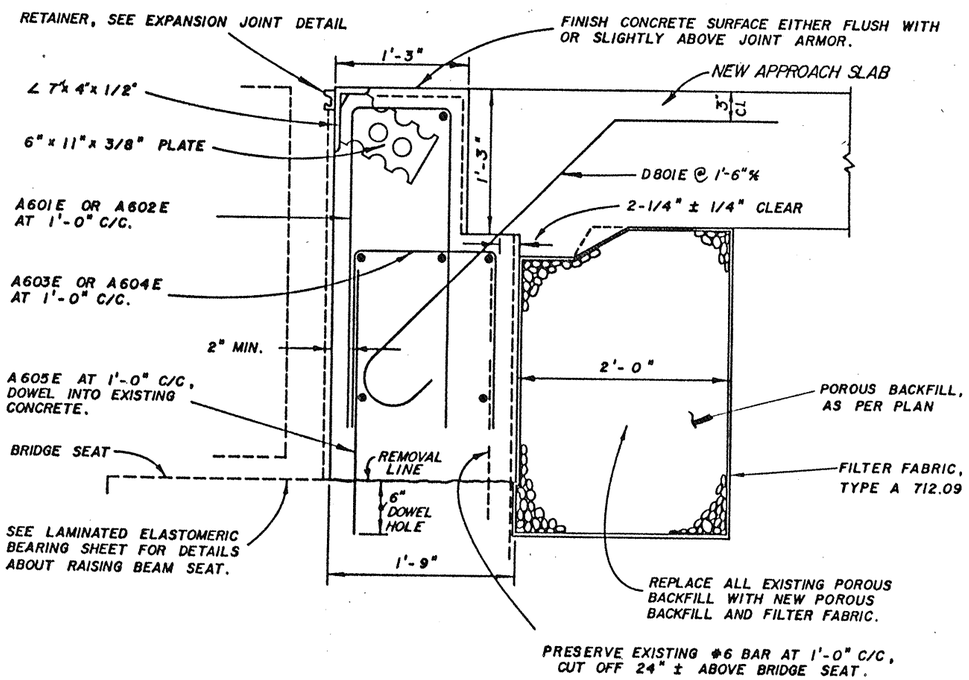
DESIGNED	DRAWN	CHECKED	REVIEWED DATE	REVISED
D.M. 10/17/89	M.A. 2/13/90	KW 2/16/90		

FHWA REGION	STATE	PROJECT	
5	OHIO		

45
59

ASD-30-8.54
WAY-30-0.00

ALL BARS NORMAL TO THIS SECTION ARE
A501E, A502E, A503E, A504E, A505E



TYPICAL BACKWALL REPLACEMENT

BRIDGE NOS:

ASD-30-0932 L&R
ASD-30-1125 L&R
ASD-30-1194 L&R
WAY-30-0100 L&R

ITEM 509 – EPOXY COATED REINFORCING STEEL (BACKWALL REPLACEMENT)

BAR DATA			QUANTITIES									
			ASD						WAY			
MARK	LENGTH	SHAPE	30-0932 L	30-0932 R	30-1125 L	30-1125 R	30-1194 L	30-1194 R	30-0100 L	30-0100 R	TOTAL NO.	WEIGHT
A501E	17'-8"	S	12	12			12	12			48	884
A502E	21'-8"	S	12	12			12	12			48	1085
A503E	27'-3"	S			32	32					64	1819
A504E	22'-4"	S							12	12	24	559
A505E	27'-5"	S							12	12	24	686
A506E	2'-6"	S	12	12	16	16	12	12	12	12	104	271
A601E	8'-7"	B			110	110					220	2836
A602E	6'-7"	B	80	80			80	80	102	102	524	5181
A603E	6'-0"	B			110	110					220	1983
A604E	4'-0"	B	80	80			80	80	102	102	524	3148
A605E	2'-6"	S	80	80	110	110	80	80	102	102	744	2794
D801E	5'-8"	B	54	54	48	48	54	54	54	54	420	6355

ITEM	QUANTITY	UNIT	DESCRIPTION
202	238 *	CU. YD.	PORTIONS OF STRUCTURES REMOVED, BACKWALLS, AS PER PLAN
509	27,601 *	POUND	EPOXY COATED REINFORCING STEEL
510	848 *	EACH	DOWEL HOLES, AS PER PLAN
511	238 *	CU. YD.	CLASS S CONCRETE, BACKWALLS, AS PER PLAN
518	294 *	CU. YD.	POROUS BACKFILL, AS PER PLAN

* QUANTITIES CARRIED TO BRIDGE QUANTITY SHEETS

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT THREE

BACKWALL REPLACEMENT

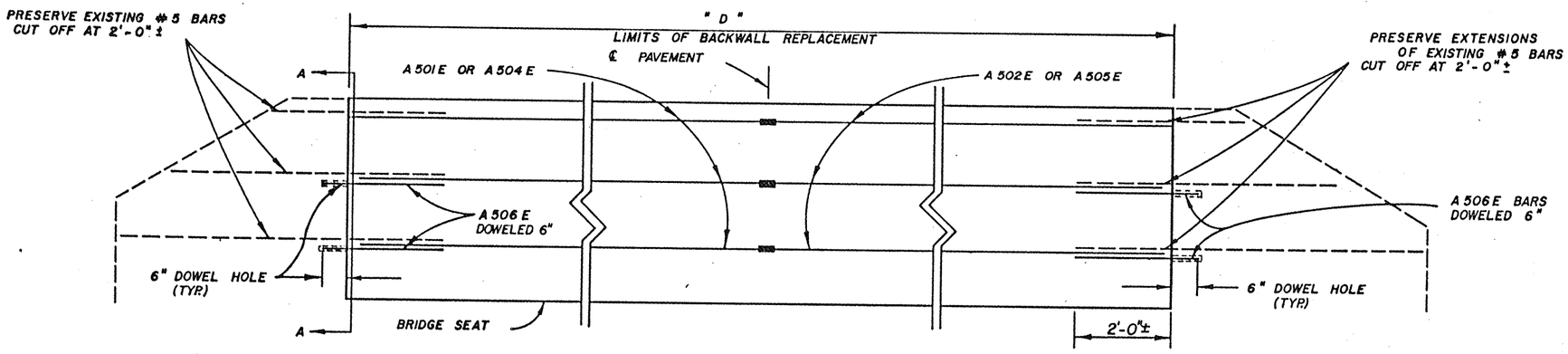
BRIDGE NOS:
ASD 30-0932 L&R
ASD 30-1125 L&R
ASD 30-1194 L&R
WAY 30-0100 L&R

DESIGNED	DRAWN	CHECKED	REVIEWED DATE	REVISED
DM 9/29/89	TO 11/89	KW 2/16/90		

FHWA REGION	STATE	PROJECT	
5	OHIO		

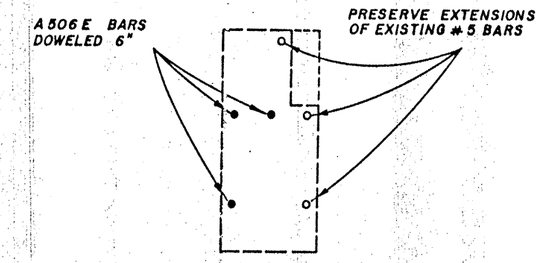
44
59

ASD-30-8.54
WAY-30-0.00

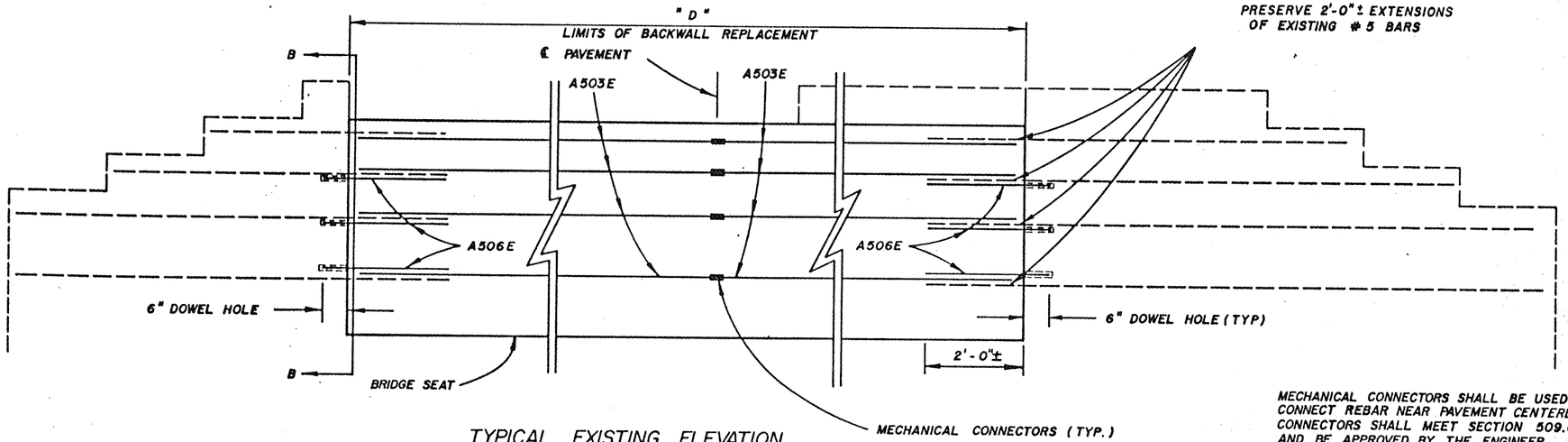


TYPICAL EXISTING ELEVATION

BRIDGE NOS. ASD-30-0932 L&R
ASD-30-1194 L&R
WAY-30-0100 L&R

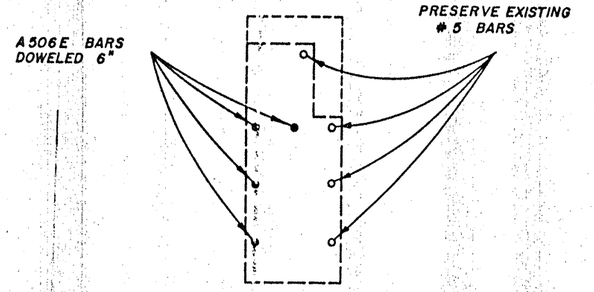


SECTION A-A



TYPICAL EXISTING ELEVATION

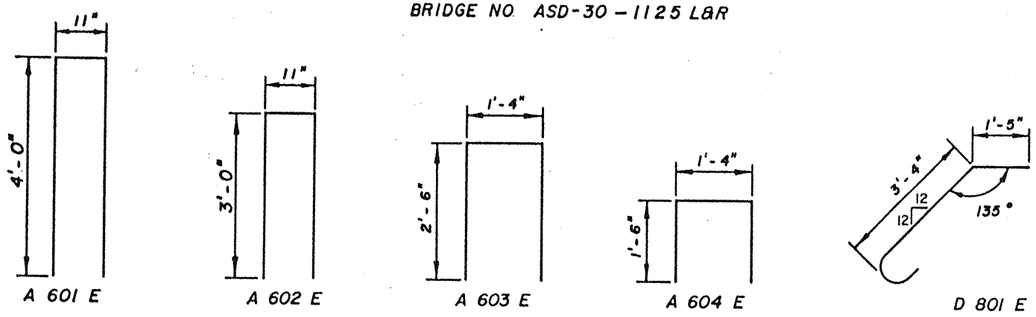
BRIDGE NO. ASD-30-1125 L&R



SECTION B-B

MECHANICAL CONNECTORS SHALL BE USED TO CONNECT REBAR NEAR PAVEMENT CENTERLINE. CONNECTORS SHALL MEET SECTION 509.08 AND BE APPROVED BY THE ENGINEER. INCLUDE COST IN ITEM 509.

#5 AND #6 BARS SHALL LAP EXISTING BARS 1'-8" MIN.



BENDING DIAGRAMS

BACKWALL REPLACEMENT LENGTH "D"	
BRIDGE NO.	"D"
ASD-30-0932 L&R	40'-0"
ASD-30-1125 L&R	55'-1"
ASD-30-1194 L&R	40'-0"
WAY-30-0100 L&R	50'-5"

NOTE: BACKWALL REPLACEMENT LOCATION SHALL CORRESPOND WITH NEW APPROACH SLAB LOCATION.

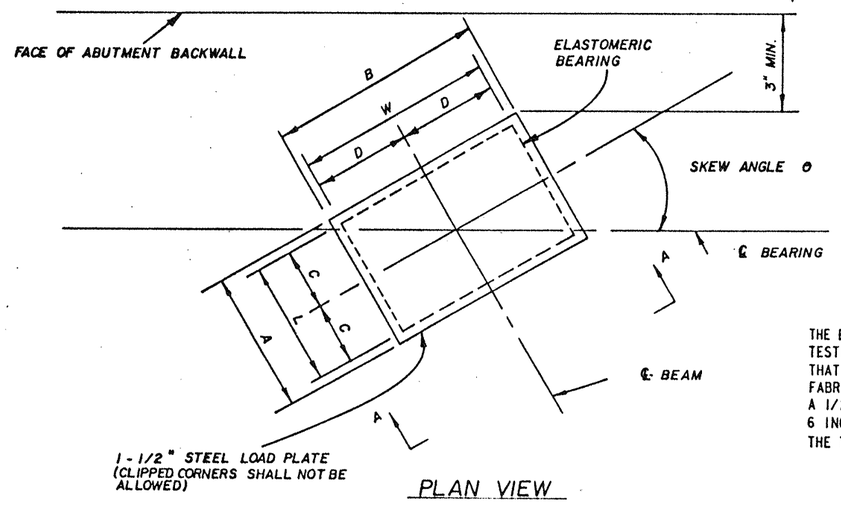
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT THREE

BACKWALL REPLACEMENT
BRIDGE NOS:
ASD-30-0932 L&R
ASD-30-1125 L&R
ASD-30-1194 L&R
WAY-30-0100 L&R

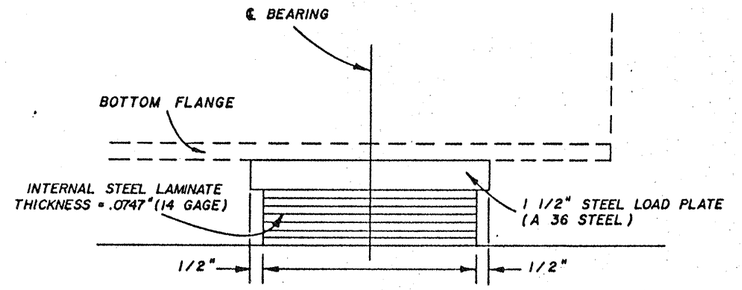
DESIGNED	DRAWN	CHECKED	REVIEWED DATE	REVISED
D.M. 8/15/89	T.D. 9/89	KW 2/16/90		

FHWA REGION	STATE	PROJECT		45 / 39
5	OHIO			

ASD-30-8.54
WAY-30-0.00



PLAN VIEW



SECTION B-B

ELASTOMERIC TEST PAD

THE ELASTOMERIC BEARING MANUFACTURER SHALL SUPPLY A PLAIN ELASTOMERIC PAD FOR TESTING PURPOSES. THE PAD SHALL BE FURNISHED FROM THE SAME BATCH OF NEOPRENE THAT IS USED IN THE FABRICATION OF THE LAMINATED ELASTOMERIC BEARING AND THE FABRICATOR SHALL CERTIFY THE IDENTITY OF THE ELASTOMER. THE PAD SHALL HAVE A 1/2 INCH THICKNESS, AND SHALL HAVE MINIMUM LENGTH AND WIDTH DIMENSIONS OF 6 INCHES. ONLY ONE BEARING OF EACH SIZE NEEDS TO BE PROOF LOADED. PAYMENT FOR THE TEST PAD WILL BE INCLUDED IN THE PRICE BID FOR THE BEARINGS.

NOTES

TOLERANCES:

INDIVIDUAL ELASTOMER LAYER THICKNESS	± 20 % OF DESIGN VALUE (NOT TO EXCEED ± 1/8")
PLAN DIMENSIONS	-0. + 1/4"
DESIGN THICKNESS ≤ 1-1/4"	-0. + 1/8"
DESIGN THICKNESS > 1-1/4"	-0. + 1/4"
EDGE COVER OF EMBEDDED LAMINATES	-0. + 1/8"

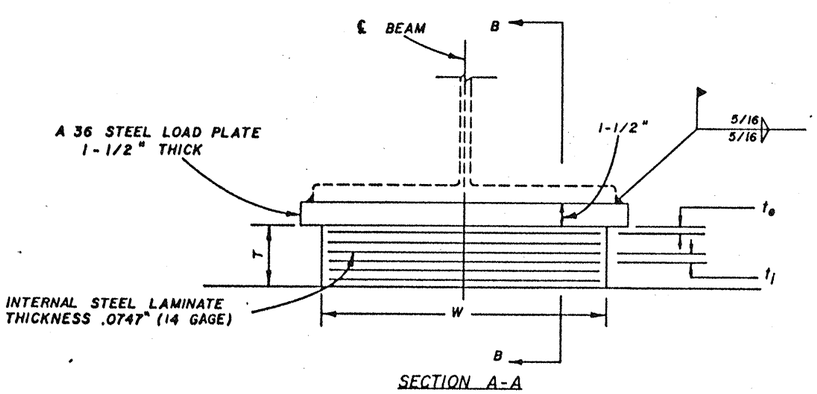
LOAD PLATE. THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.

WELDING OF THE LOAD PLATE TO THE SUPERSTRUCTURE SHALL BE CONTROLLED SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE SHALL NOT EXCEED 400 °F AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

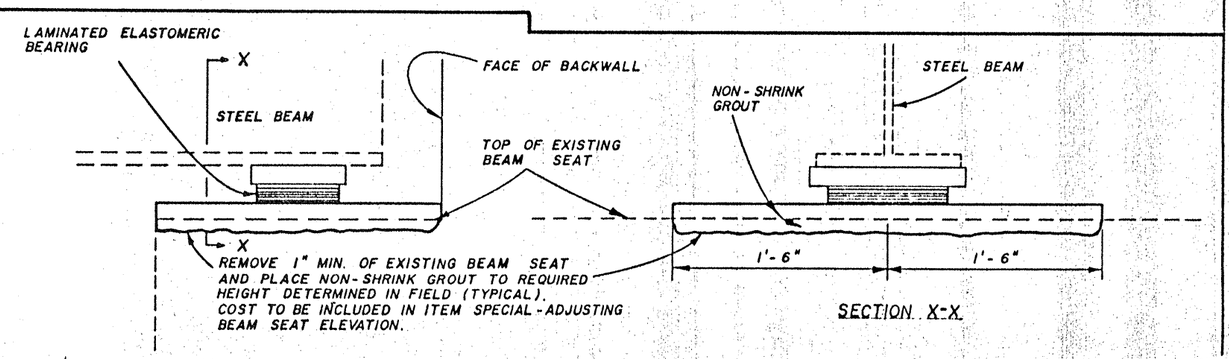
BEARINGS SHALL BE SET AT AN AMBIENT TEMPERATURE OF 60 °F ± 10 °F

BASIS OF PAYMENT:

THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR, AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL EXPANSION LAMINATED ELASTOMERIC BEARINGS. PAYMENT WILL BE MADE AT THE CONTRACT BID PRICE FOR ITEM 516, EACH, LAMINATED ELASTOMERIC BEARINGS (5" X 11" X 1-1/8" LAMINATED ELASTOMERIC PAD WITH 6" X 12" X 1-1/2" STEEL LOAD PLATE) OR LAMINATED ELASTOMERIC BEARINGS (7" X 11" X 1-5/8" LAMINATED ELASTOMERIC PAD WITH 8" X 13" X 1-1/2" STEEL LOAD PLATE).



SECTION A-A



ELEVATION VIEW

SECTION X-X

ADJUSTING BEAM SEAT ELEVATIONS

BRIDGE NUMBER	LOCATION	BEARING PAD DATA (50 DUROMETER HARDNESS) A	B	C	D	L	T	W	t_o LAYERS	t_i LAYERS	NO. STEEL LAMINATES .0747" THICK	SKEW ANGLE θ	DEAD LOAD (KIPS)	LIVE LOAD (KIPS)	TOTAL LOAD (KIPS)
ASD-30-0932 L&R	REAR ABUTS	6"	12"	2-1/2"	5-1/2"	5"	1-1/8"	11"	2 AT .130"	3 AT .182"	4	0° 00'	20.8	15.2	36.0
	FORWARD ABUTS	6"	12"	2-1/2"	5-1/2"	5"	1-1/8"	11"	2 AT .130"	3 AT .182"	4	0° 00'	20.8	15.2	36.0
ASD-30-1194 L&R	REAR ABUTS	6"	12"	2-1/2"	5-1/2"	5"	1-1/8"	11"	2 AT .130"	3 AT .182"	4	0° 00'	20.8	15.2	36.0
	FORWARD ABUTS	6"	12"	2-1/2"	5-1/2"	5"	1-1/8"	11"	2 AT .130"	3 AT .182"	4	0° 00'	20.8	15.2	36.0
WAY-30-0100 L&R	REAR ABUTS	8"	13"	3-1/2"	5-1/2"	7"	1-5/8"	11"	2 AT .130"	5 AT .182"	6	37° 30'	27.8	16.3	44.1
	FORWARD ABUTS	8"	13"	3-1/2"	5-1/2"	7"	1-5/8"	11"	2 AT .130"	5 AT .182"	6	37° 30'	27.8	16.3	44.1

STATE OF OHIO
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DISTRICT THREE

LAMINATED ELASTOMERIC BEARINGS

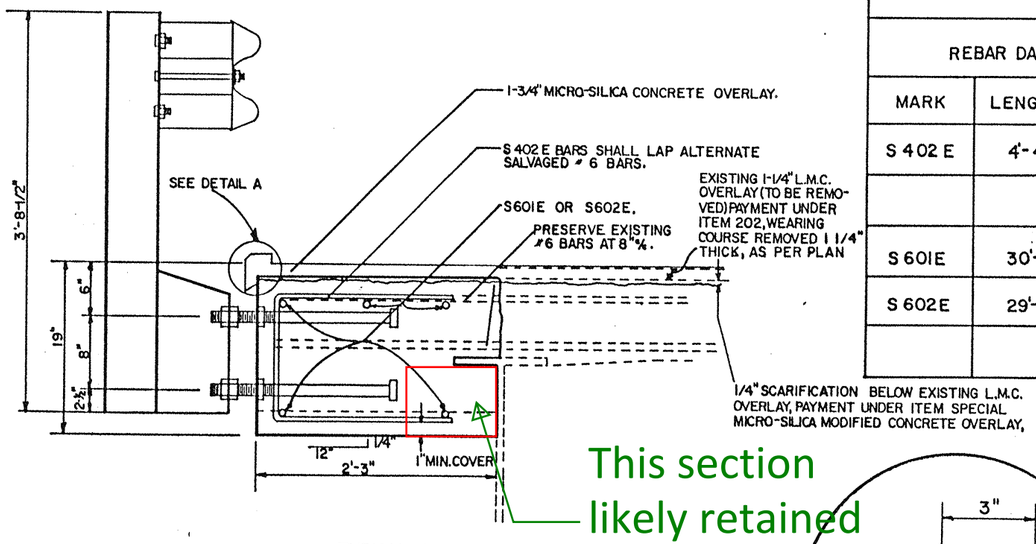
BRIDGE NOS: ASD-30-0932 L&R
ASD-30-1194 L&R
WAY-30-0100 L&R

DESIGNED	DRAWN	CHECKED	REVIEWED DATE	REVISED
D.M. 10/11/89	4/12/90	KW 2/16/90		

FHWA REGION	STATE	PROJECT	
5	OHIO		

46
59

ASD-30-8.54
WAY-30-0.00



TYPICAL DECK EDGE

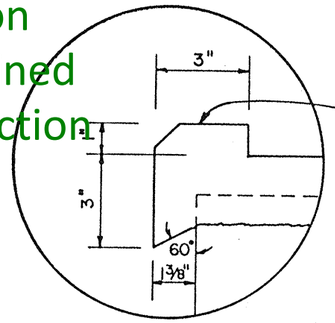
BRIDGE NOS: ASD 30-0932 L&R
ASD 30-1194 L&R
WAY 30-0100 L&R

NOTE: ALL S601E AND S602E BARS SHALL BE LAPPED 1'-8" MINIMUM

This section likely retained in construction.

ITEM 509—EPOXY COATED REINFORCING STEEL (DECK EDGE)

REBAR DATA			QUANTITIES									
			ASD						WAY			
MARK	LENGTH	SHAPE	30-0932L	30-0932R	30-1125L	30-1125R	30-1194L	30-1194R	30-0100L	30-0100R	TOTAL	WEIGHT
S 402 E	4'-4"	B	170	170	336	336	170	170	218	218	1788	5,175
S 601E	30'-6"	S							50	50	100	4,581
S 602E	29'-6"	S	40	40	80	80	40	40			320	14,179



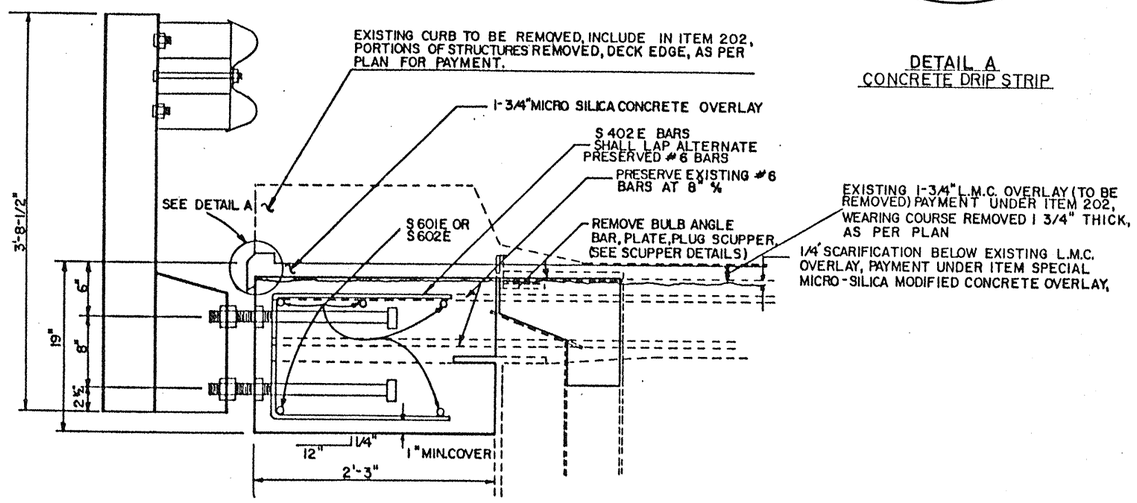
DETAIL A
CONCRETE DRIP STRIP

CONCRETE DRIP STRIP EXTENDS THE LENGTH OF THE BRIDGE ON BOTH SIDES.

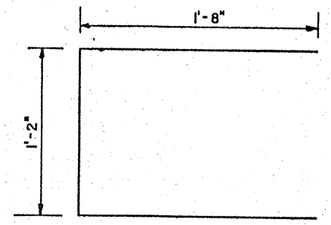
18" LONG CONCRETE HUMP TO BE CENTERED IN FRONT OF EACH GUARDRAIL POST.

ITEM	QUANTITY	UNIT	DESCRIPTION
202	290 *	CU.YD.	PORTIONS OF STRUCTURES REMOVED, DECK EDGES, AS PER PLAN
509	23,935*	POUND	EPOXY COATED REINFORCING STEEL
511	294 *	CU.YD.	CLASS S CONCRETE, DECK EDGE, AS PER PLAN

* QUANTITIES CARRIED TO BRIDGE QUANTITY SHEETS



TYPICAL DECK EDGE
BRIDGE NO. ASD 30-1125 L&R

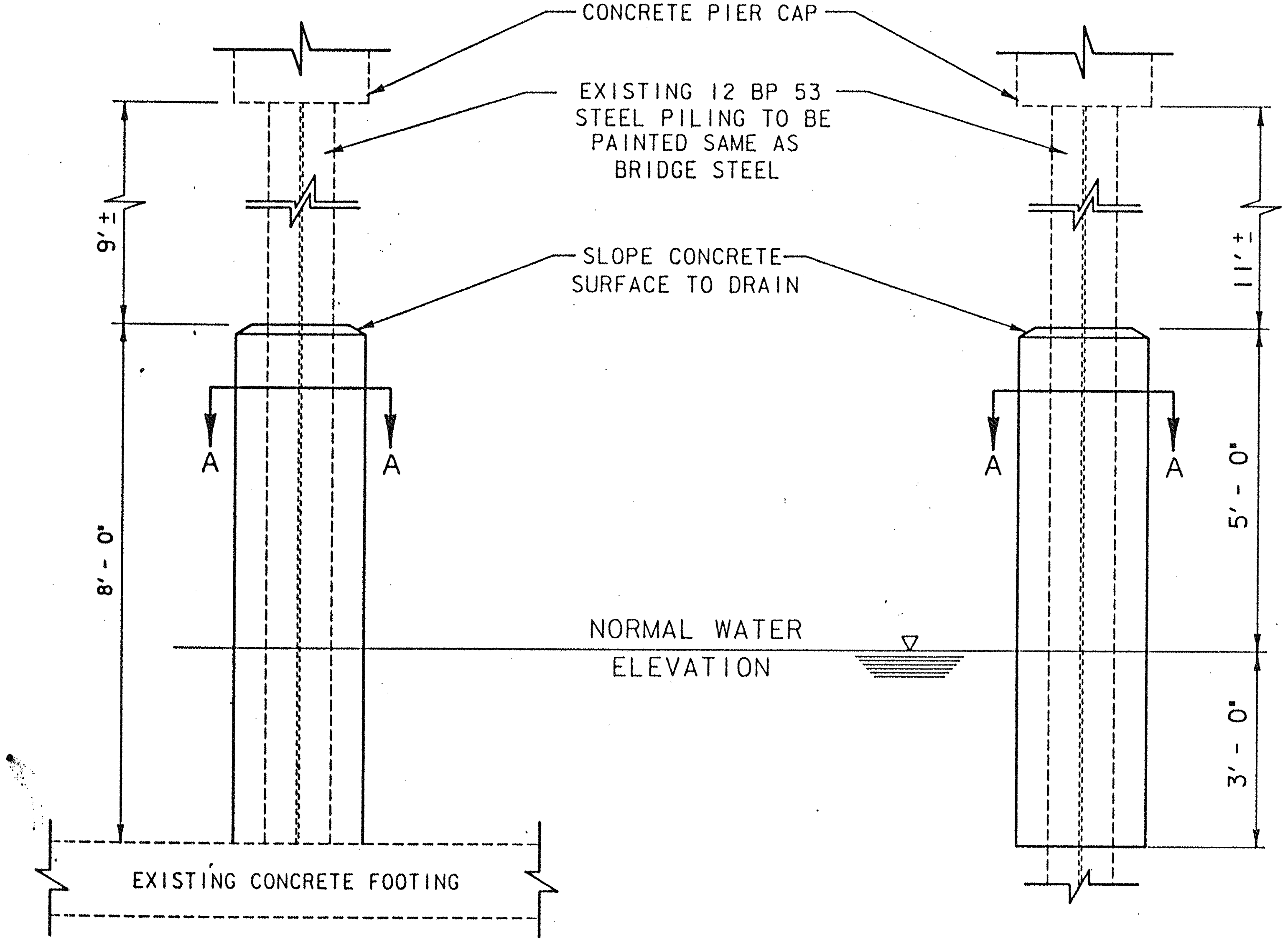


S 402 E BENDING DIAGRAM

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT THREE

DECK EDGE REPLACEMENT
BRIDGE NOS: ASD-30-0932 L&R
ASD-30-1125 L&R
ASD-30-1194 L&R
WAY-30-0100 L&R

DESIGNED	DRAWN	CHECKED	REVIEWED DATE	REVISED
D.M. 8/2/89	DEB 3/14/90	KW 2/16/90		

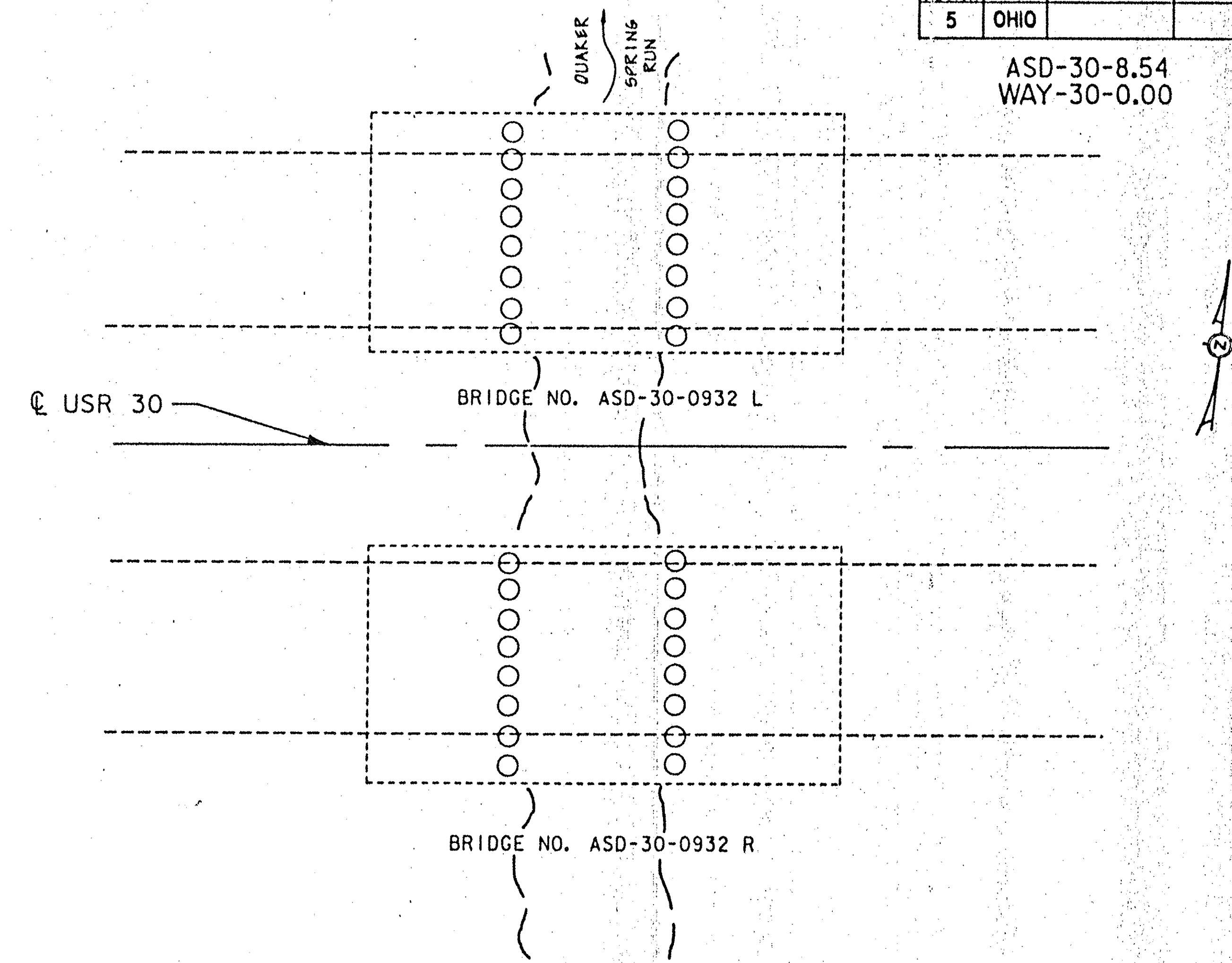


TYPICAL PILING PIER ON FOOTING

BRIDGE NO. ASD-30-0932 R

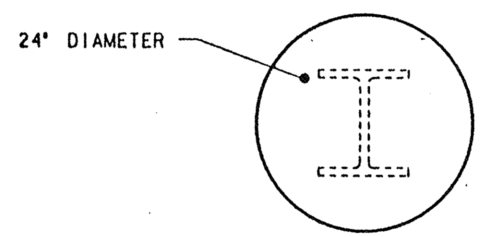
TYPICAL PILING PIER

BRIDGE NO. ASD-30-0932 L



LOCATION OF PIER ENCASEMENTS

NOTE: EXISTING STEEL PILING SHALL BE SANDBLASTED AND PAINTED BETWEEN CONCRETE PIER CAP AND PILING ENCASEMENT



SECTION A-A

PIER ENCASEMENT QUANTITIES

BRIDGE NO.	PIER COLUMNS TO BE ENCASED	NUMBER OF PIER COLUMNS	PIER COLUMNS ENCASEMENT LENGTH	511 CLASS S CONCRETE, PILING ENCASEMENT, AS PER PLAN (CU. YD.)		
ASD-30-0932 L	ALL	16	8' - 0"	15.0		
ASD-30-0932 R	ALL	16	8' - 0"	15.0		
TOTAL				30		

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT THREE

PILING ENCASEMENT DETAILS

BRIDGE NO. ASD-30-0932 L/R

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
DM 7/17/89	T.R.O.	KW 2/16/90			

DATE: 23-MAY-1990 PRF NAME: PILNCAS DESIGN FILE: ZF1:[970.7]A30PIER.DGN;1

FHWA REGION	STATE	PROJECT	
5	OHIO		

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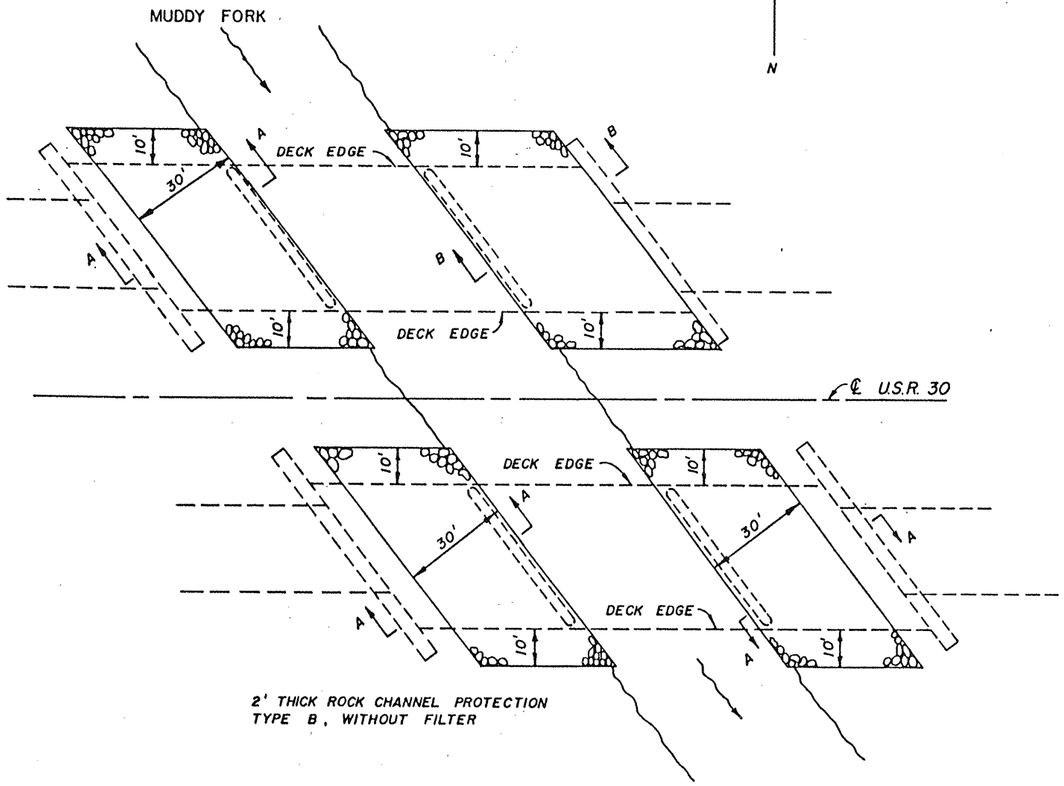
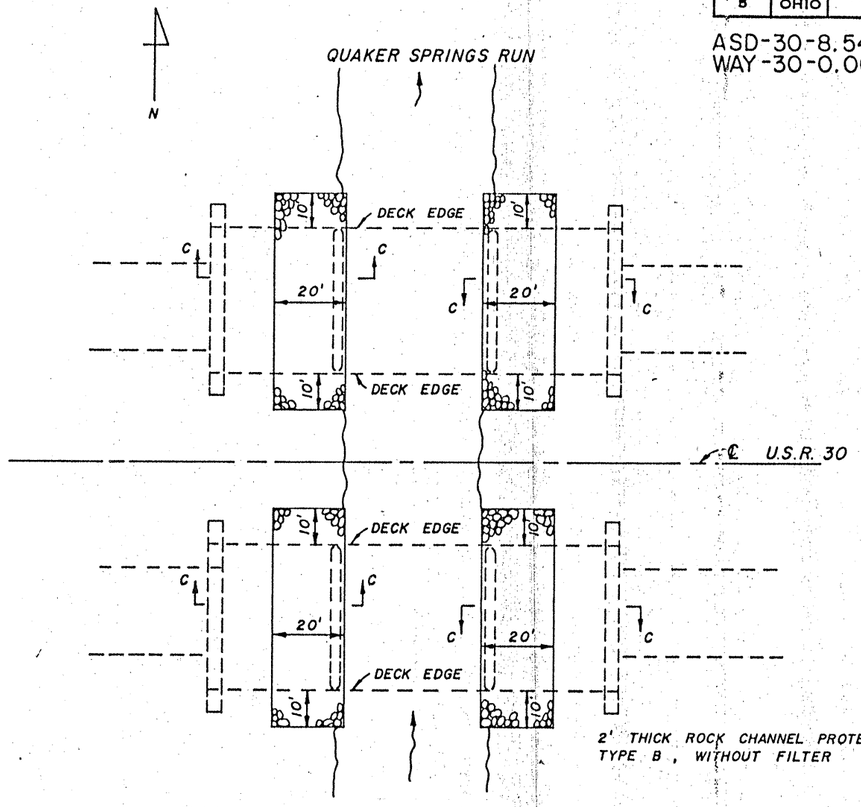
ASD-30-8.54
WAY-30-0.00



2' THICK ROCK CHANNEL PROTECTION
TYPE B, WITHOUT FILTER

PLAN VIEW OF WAY 30-0100 L/R FOR PLACEMENT OF ROCK CHANNEL PROTECTION



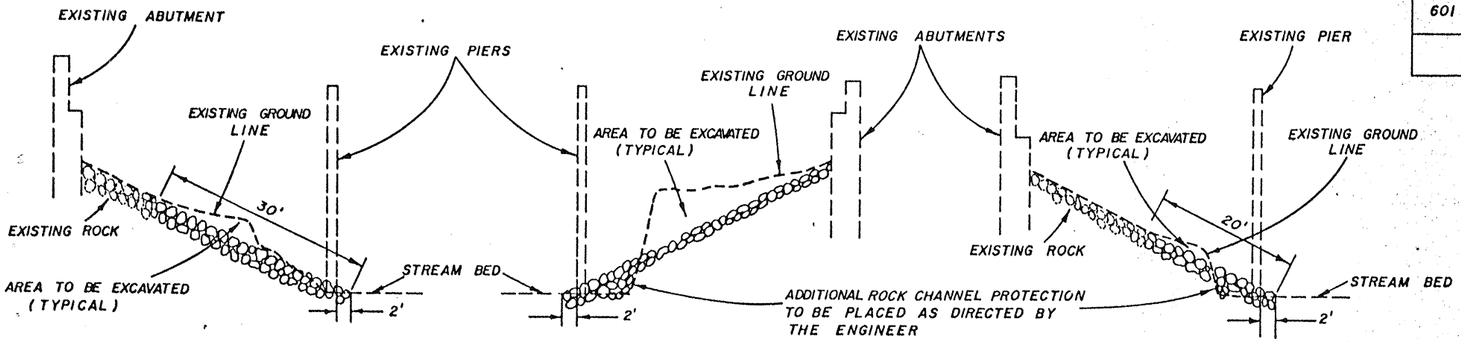
2' THICK ROCK CHANNEL PROTECTION
TYPE B, WITHOUT FILTER

PLAN VIEW OF ASD 30-0932 L/R FOR PLACEMENT OF ROCK CHANNEL PROTECTION

	QUANTITIES						
	WAY		ASD				
ITEM	30-0100L	30-0100R	30-0932L	30-0932R	UNIT	TOTAL	DESCRIPTION
601	*378	*336	*198	*198	CU. YD.	1110	ROCK CHANNEL PROTECTION, TYPE B WITHOUT FILTER

* QUANTITIES CARRIED TO BRIDGE QUANTITY SHEETS

ALL NEEDED EXCAVATION TO BE INCLUDED IN ITEM 601 FOR PAYMENT.



SECTION A-A SECTION B-B SECTION C-C

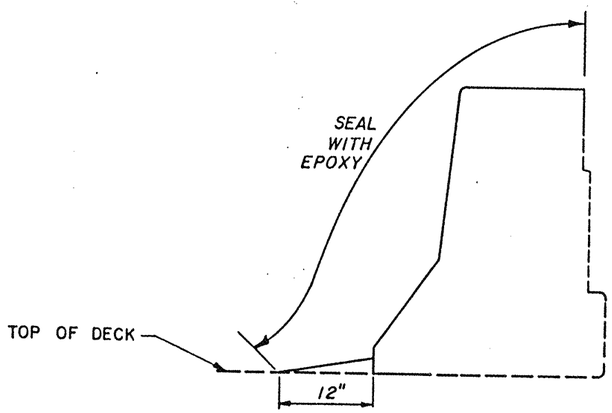
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT THREE

ROCK CHANNEL PROTECTION
BRIDGE NOS.
ASD-30-0932 L/R
WAY-30-0100 L/R

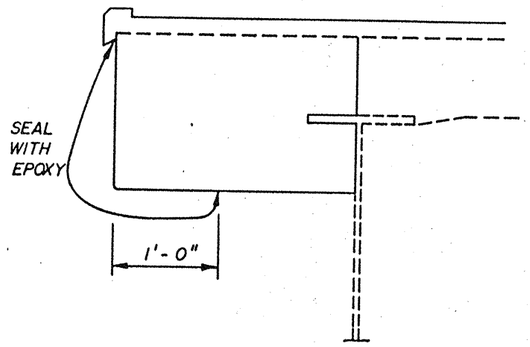
DESIGNED	DRAWN	CHECKED	REVIEWED DATE	REVISED
DM 9/20/89	TD 10/89	KW 2/16/90		

FHWA REGION	STATE	PROJECT		53 / 59
5	OHIO			

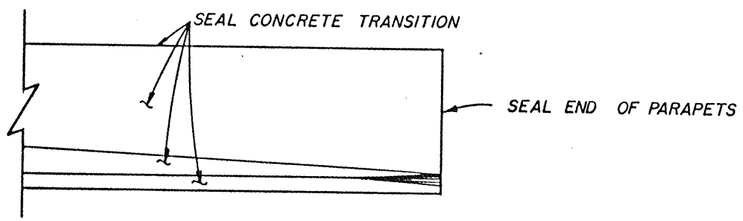
ASD-30-8.54
WAY-30-0.00



SECTION THROUGH PARAPET
BRIDGE NO. ASD-30-1284



DECK EDGE
BRIDGE NOS: ASD-30-0932 L&R
ASD-30-1125 L&R
ASD-30-1194 L&R
WAY-30-0100 L&R



PARAPET
TRANSITION SIDE VIEW
BRIDGE NO. ASD-30-1284

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT THREE

SEALING OF CONCRETE SURFACE DETAILS

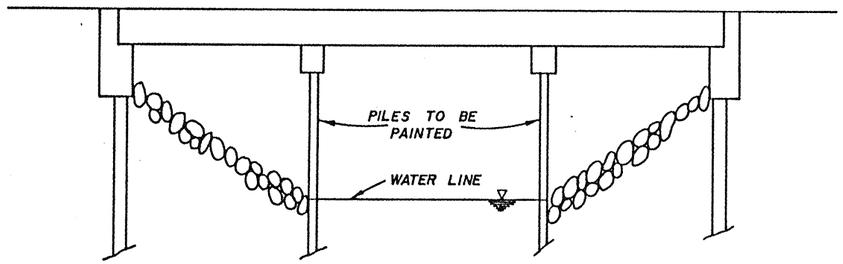
BRIDGE NOS.
ASD-30-0932 L/R ASD-30-1125 L/R ASD-30-1194 L/R
ASD-30-1284 L/R WAY-30-0100 L/R

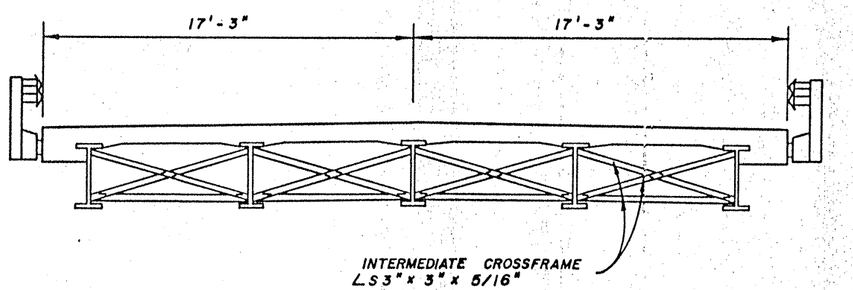
DESIGNED	DRAWN	CHECKED	REVIEWED DATE	REVISED
DM 11/30/89	TD 12/89	KW 2/16/90		

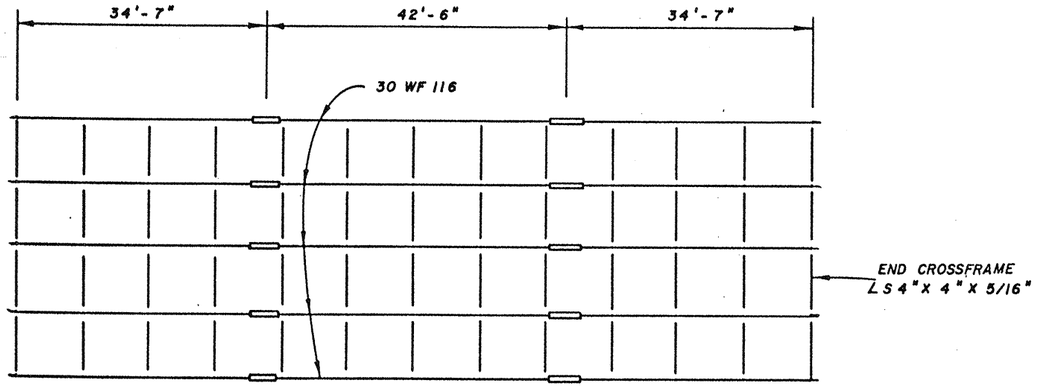
FHWA REGION	STATE	PROJECT	
5	OHIO		

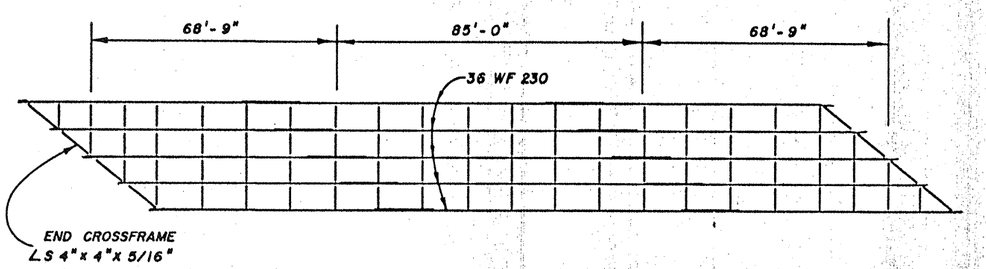
57/59

ASD-30-8.54
WAY-30-0.00

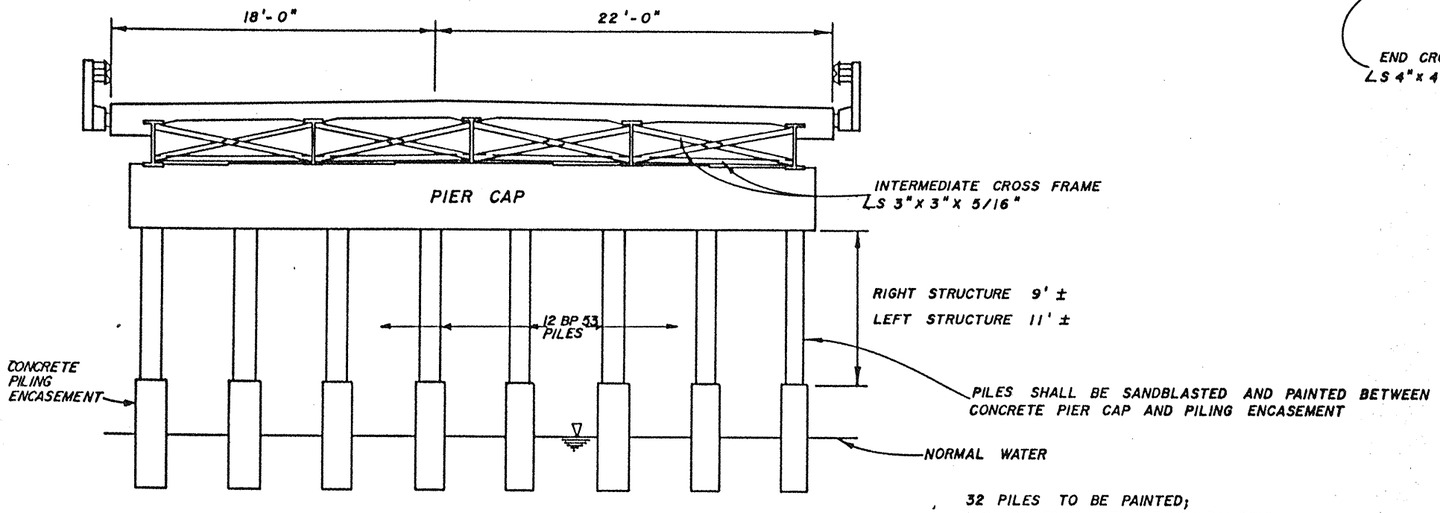








BRIDGE NO. ASD-30-1125 L&R



BRIDGE NO. ASD-30-0932 L&R

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT THREE

STRUCTURAL STEEL FOR PAINTING

BRIDGE NOS: ASD-30-0932 L&R
ASD-30-1125 L&R

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
DM 11/20/89	TD 12/89	KW 2/16/90			