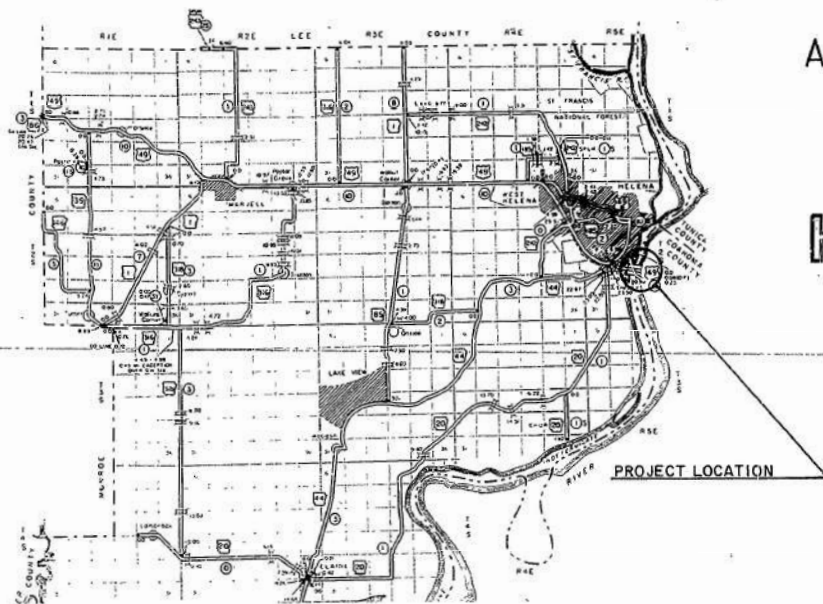




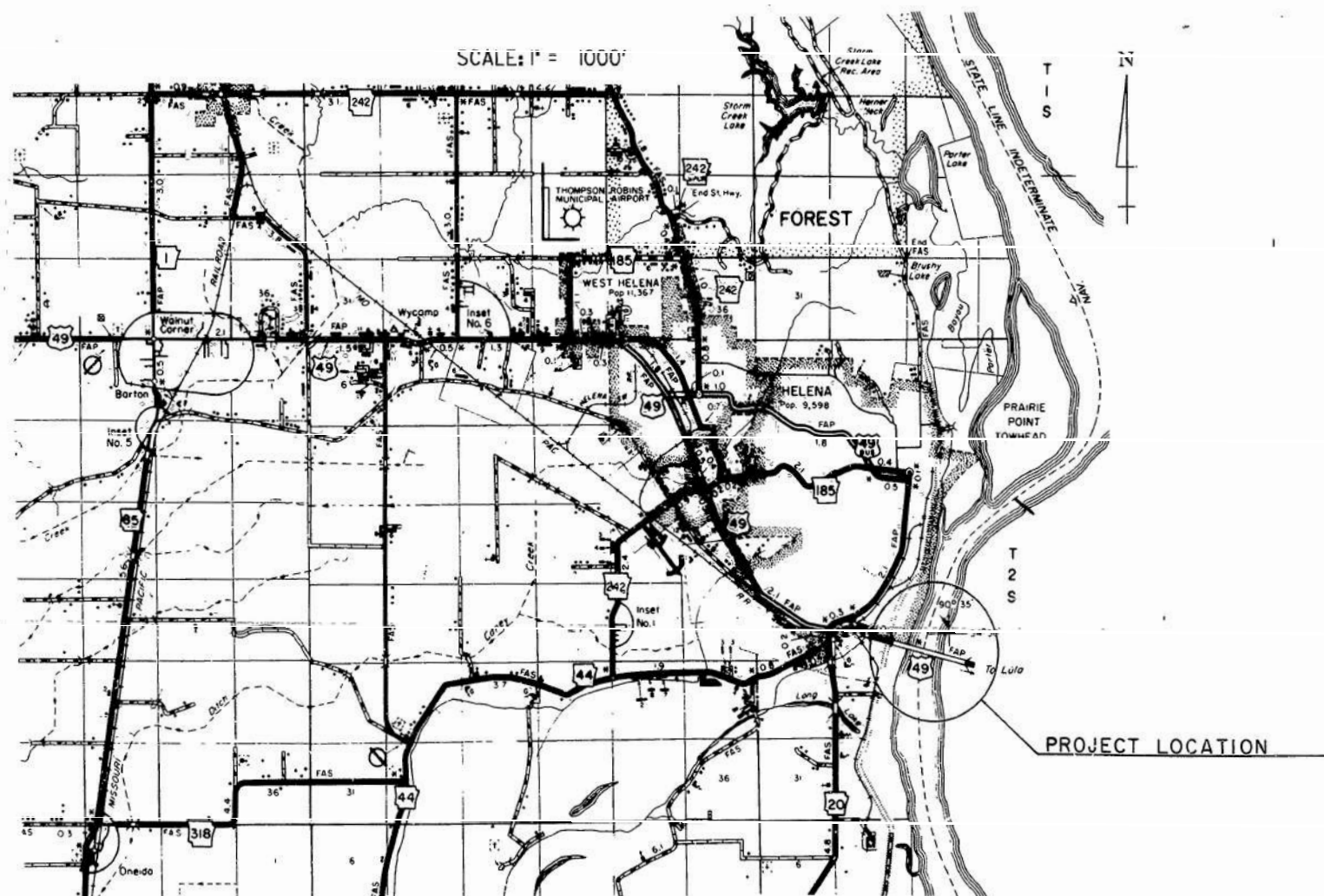
PHILLIPS COUNTY

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT CONSTRUCTION PLANS FOR STATE HIGHWAY

HELENA BRIDGE DECK REHAB.

PHILLIPS COUNTY, ARK.
COAHOMA COUNTY, MISS.
ROUTE 49 SECTION II

ARK. BHF-018-1(23)
MISS. BH-057-1(2)
ARK. JOB 110104
MISS. JOB 85-0057-01-002-10



GROSS LENGTH OF PROJECT
NET . . .
NET . . .
NET . . .

FEET OR
. . .
. . .
. . .

MILES
. . .
. . .
. . .

P.E. JOB 110104
NON-PART

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. DIST. NO.	STATE	MISS. JOB NO.	SHEET NO.	TOTAL SHEETS
2-3-89	586-3-9-89			6	AR/MS	85-5700-01-002-10		
2-24-89	804-2-24-89					ARK. JOB NO. 110104	1	58
(2) HELENA BRIDGE DECK REHAB.								



VICINITY MAP

RECOMMENDED FOR APPROVAL

BRIDGE DESIGN ENGINEER

ROADWAY DESIGN ENGINEER

DISTRICT ENGINEER

APPROVED

CHEF ENGINEER

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
RECOMMENDED FOR APPROVAL

DATE

APPROVED

DIVISION ENGINEER

DATE

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	MISS. JOB NO.	SHEET NO.	TOTAL SHEETS
1-04-89	537-132-89	2-24-89	806-224-89	6	MS.	85-0057-01-002-10		
1-26-89	513-2-1-89	3-8-89	501-3-9-89			ARK. JOB NO.	110104	2
2-3-89	587-2-9-89							58

② INDEX, SPEC. PROV. & GEN. NOTES

INDEX OF SHEETS

SHEET NO.	TITLE	DRWG. NO.	DATE
1.	TITLE SHEET		
2.	INDEX OF SHEETS, SPECIAL PROVISIONS AND GENERAL NOTES		
3-5.	TYPICAL SECTION OF IMPROVEMENT & SPECIAL ROADWAY DETAILS		
6-7.	TEMPORARY SIGNAL DETAILS		
8-9.	QUANTITY SHEETS		
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11.	SUMMARY OF QUANTITIES AND REVISION BOX		
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16.	DETAILS OF WEST ABUTMENT SHEET 2 OF 2	29549	
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45.	DETAILS OF STANDARD TYPE C BRIDGE NAME PLATES	2389A	1-16-89
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51.	GUARD RAIL DETAILS	GR-8(37)	7-15-88
52.	GUARD RAIL DETAILS	GR-8A(38)	7-15-88
53.	GUARD RAIL DETAILS	GR-9(39)	10-9-87
54.	PIPE UNDERDRAINS	PU-1(45A)	7-15-88
55.	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-1(67)	11-17-88
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40B.	MEMBER M7-L7	29573B	

NOTE: CROSS SECTIONS NOT NORMALLY INCLUDED IN PLANS SOLD TO PROSPECTIVE BIDDERS, BUT MAY BE HAD UPON REQUEST.

GENERAL NOTES

- LEVEL DATUM U.S.C. & G.S.
- GRADE LINE DENOTES FINISHED PROFILE WHERE SHOWN ON PLANS.
- ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210-UNCLASSIFIED EXCAVATION.
- ALL PIPE LINES, POWER, TELEPHONE AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
- ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U.S. MAIL BOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.
- ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
- ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES ARE SEVERED. WIRE FENCE MAY BE CONSTRUCTED INITIALLY, OR IN LIEU THEREOF, THE CONTRACTOR AT HIS OWN EXPENSE, MAY ELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN LIVESTOCK.

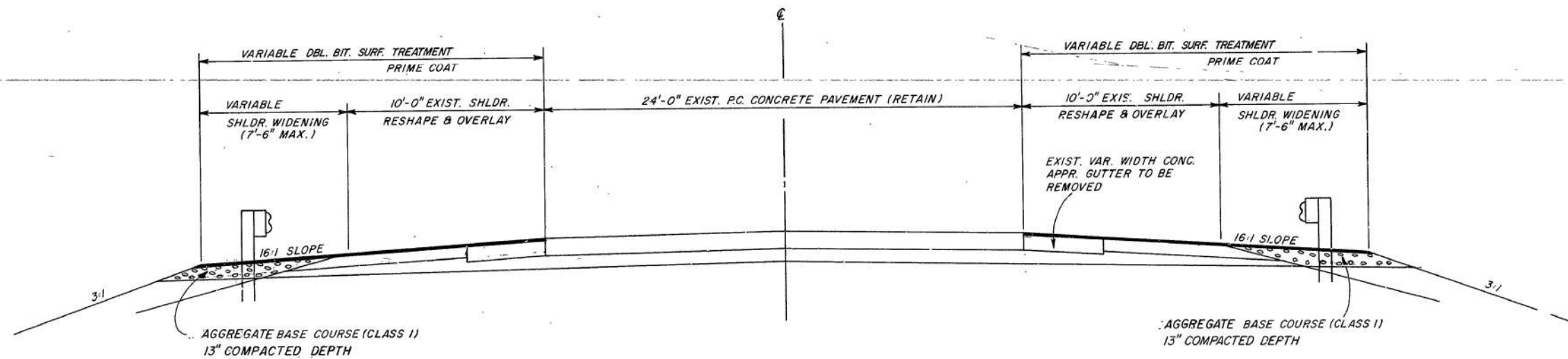
GOVERNING SPECIFICATIONS

ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 1988, AND THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS:

NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
PR-1273	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
PR-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
PR-1273	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
PR-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
PR-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
PR-1273	SUPPLEMENT - WAGE RATE DETERMINATION
PR-1273	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
102-1	PREPARATION OF PROPOSAL
105-1	PARTIAL ACCEPTANCE
107-1	PLANT PROTECTION AND QUARANTINE PROGRAMS
501-1	ALTERNATIVE MIX DESIGN FOR PORTLAND CEMENT CONCRETE PAVEMENT
501-2	MEASUREMENT OF WATER
501-3	PREFORMED JOINT FILLER
501-4	USE OF FLY ASH IN PAVING CONCRETE
603-1	PAYMENT FOR REPLACING TRAFFIC CONTROL DEVICES
606-1	JOINING AND BACKFILLING PIPE
802-1	AIR ENTRAINMENT
802-2	STRENGTH REQUIREMENT FOR CLASS (A/E) CONCRETE, TRIAL BATCHES, AND USE OF FLY ASH IN STRUCTURAL CONCRETE
807-1	A.W.S. STRUCTURAL WELDING CODE
807-2	LONGITUDINAL CHARPY V-NOTCH TEST
907-3	PROTECTION OF THE ENVIRONMENT
JOB SP.	CLOSED CELL JOINT FILLER
JOB SP.	LIGHTWEIGHT AGGREGATE CONCRETE (A.E.)
JOB SP.	REMODELING EXISTING MAIN RIVER SPANS
JOB SP.	REMODELING EXISTING ABUTMENTS
JOB SP.	REPAIR OF GIRDER SPLICE
JOB SP.	PIER REPAIR
JOB SP.	REPAIR OF WIND SHEAR DEVICE
JOB SP.	SILANE BRIDGE DECK SURFACE TREATMENT
JOB SP.	REMODELING EXISTING APPROACH SPANS
JOB SP.	PRECAUTIONARY MEASURES TO BE TAKEN DURING CONSTRUCTION
JOB SP.	RENOVATION OF NAVIGATION LIGHTING SYSTEM
JOB SP.	TEMPORARY SIGNAL INSTALLATION
JOB SP.	SEQUENCE OF CONSTRUCTION
JOB SP.	FILLING GUARD RAIL POST HOLES
100-3	DISADVANTAGED BUSINESS ENTERPRISE IN FEDERAL-AID HIGHWAY CONSTRUCTION
PR-1273	ADDENDUM CERTIFICATION REGARDING DEBARMENT, SUSPENSION INELIGIBILITY AND VOLUNTARY EXCLUSION-LOWER TIER COVERED TRANSACTIONS
PR-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - ON-THE-JOB TRAINING - JOB NUMBER ARK.110104 MISS.85-0057-01-002-10
JOB SP.	RIVET REPLACEMENT
JOB SP.	SPECIAL REQUIREMENTS AND CONDITIONS
JOB SP.	REMOVING AND REPLACING MEMBER M7-L7.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	MISS. JOB NO.	SHEET NO.	TOTAL SHEETS
1-4-82	528-1-12-89			6	AR.	85-0057-01-002-113		
2-3-89	528-2-9-89							
				ARK. JOB NO.		110104	3	58

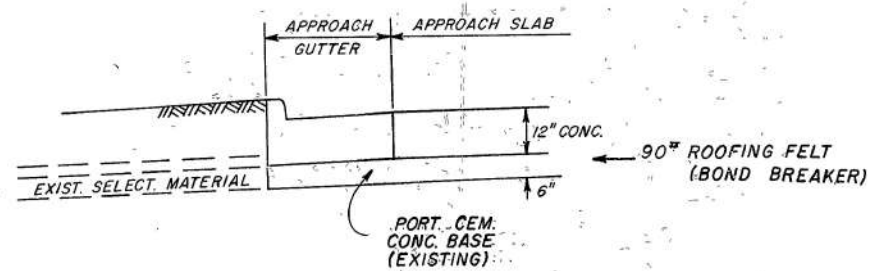
② TYPICAL SECTION OF IMPROVEMENT



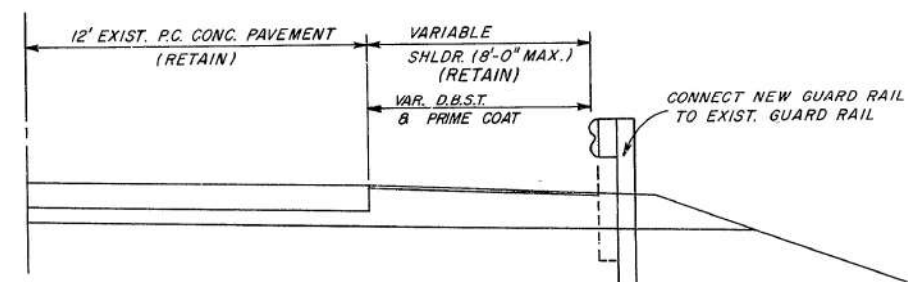
TYPICAL SECTION OF IMPROVEMENT

MAIN LANES (ARKANSAS)

STA. 16+00 - STA. 18+23



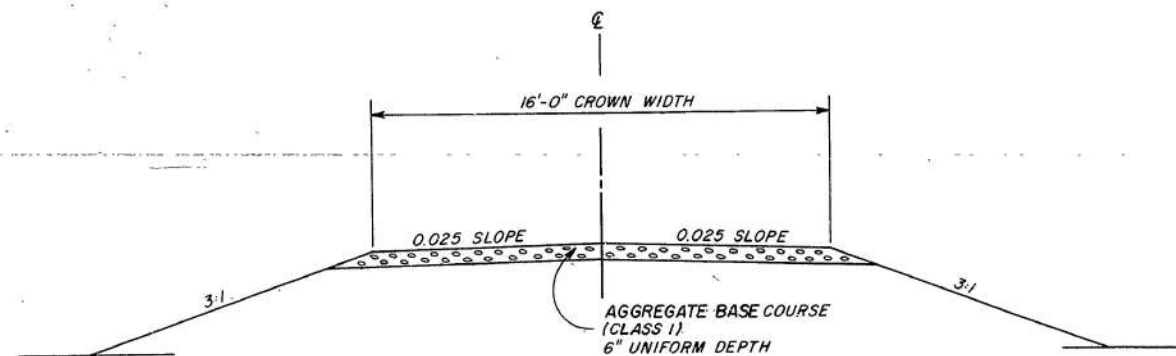
SECTION AT APPROACH SLAB & GUTTER



TYPICAL HALF-SECTION OF IMPROVEMENT

MAIN LANE (MISSISSIPPI)

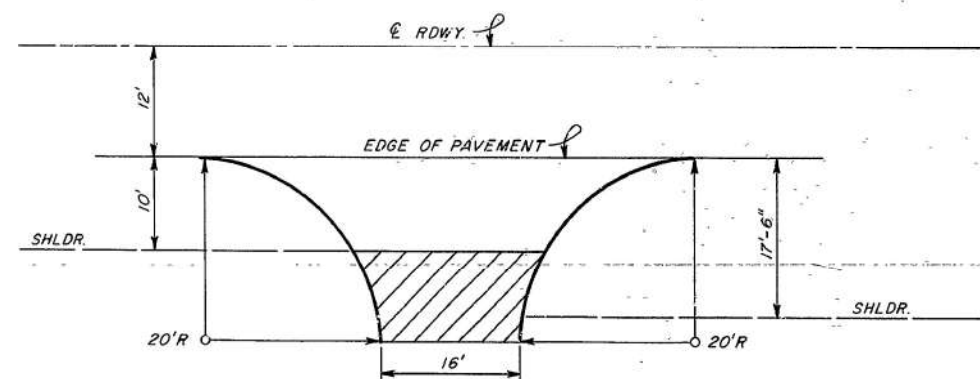
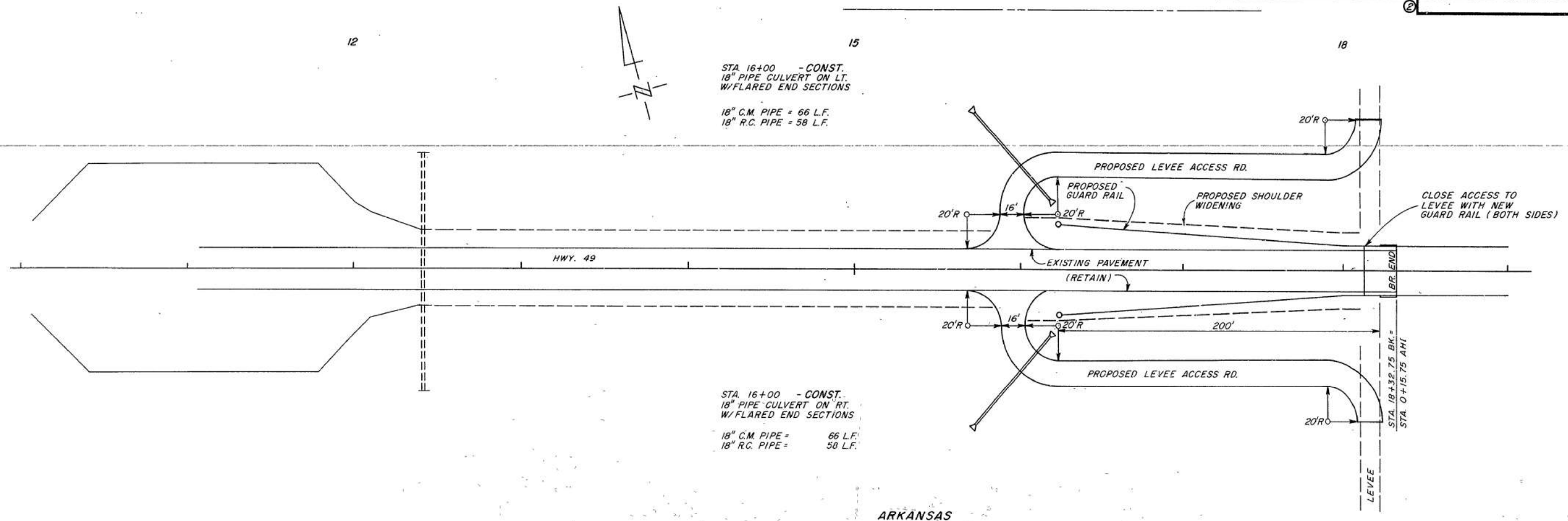
STA. 52+30 - STA. 53+30



TYPICAL SECTION OF IMPROVEMENT

ACCESS ROAD

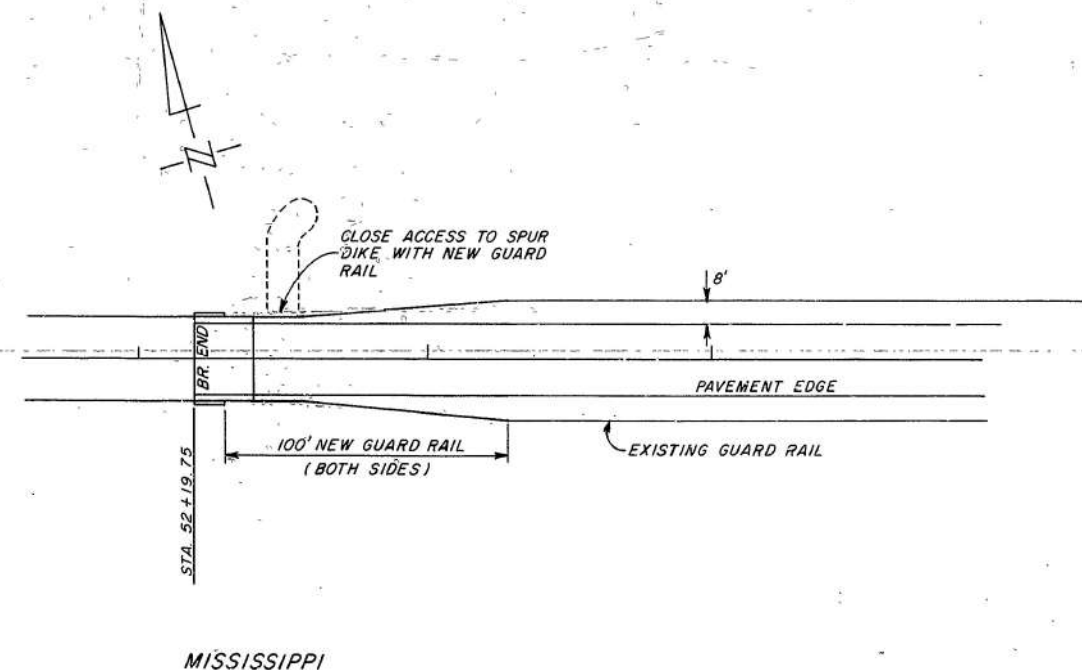
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	MISS. JOB NO.	SHEET NO.	TOTAL SHEETS
2-3-89	5-24-89			6	ARK/MO	25-00579-002-10		
						ARK. JOB NO. 110104	4	58



ADDITIONAL SURFACING
 PRIME COAT _____ 19 SQ. YDS.
 SURFACING _____ 19 SQ. YDS.
 6\"/>

DETAIL FOR LEVEE ACCESS TURNOUT

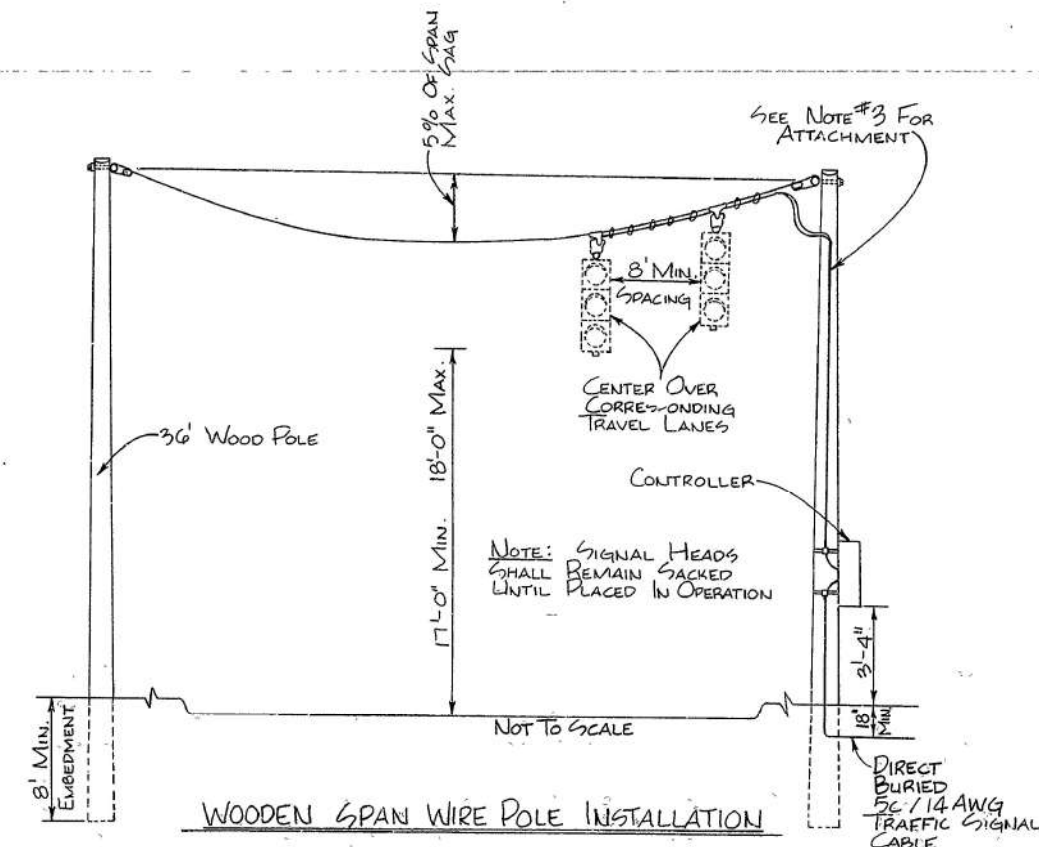
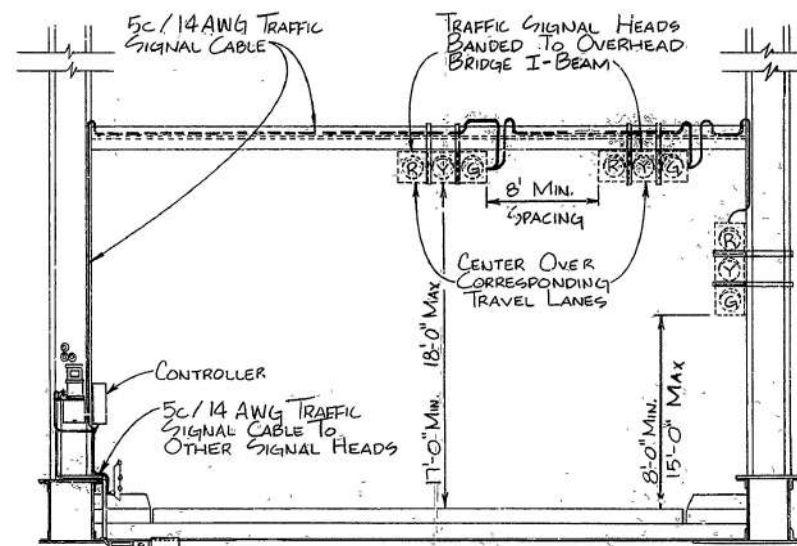
SCALE 1\"/>



MISSISSIPPI

SCALE: 1\"/>

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	MISS. JOB NO.	SHEET NO.	TOTAL SHEETS
1-4-89	5-29-12-89			6	ARK.	85-0057-01-002-10		
2-3-89	9-11-2-9-89					ARK JOB NO. 110104	6	58
④ TEMPORARY SIGNAL								



GENERAL NOTES:

1. ALL EXISTING SPEED LIMIT SIGNS CONFLICTING WITH CONSTRUCTION ZONE SIGNING SHALL BE SACKED.
2. THE CONTRACTOR SHALL LEAVE AN EMERGENCY 24 HOUR PHONE NUMBER WITH THE ENGINEER IN CASE OF SIGNAL MALFUNCTION, THE CONTRACTOR SHALL BE READILY AVAILABLE TO MAKE THE NECESSARY REPAIRS.
3. TRAFFIC SIGNAL CABLE SHALL BE EITHER STAPLED, Banded OR Taped TO THE SIGNAL POLE, BRIDGE COLUMNS OR BRIDGE RAILING.
4. THE LUMP SUM QUANTITY FOR TEMPORARY SIGNAL INSTALLATION INCLUDES ALL RELOCATION NECESSARY TO ACCOMMODATE THE VARIOUS SEQUENCES OF CONSTRUCTION.
5. QUANTITIES FOR PRECAST CONCRETE BARRIER ARE ESTIMATED TO BE THE TOTAL REQUIRED TO COMPLETE CONSTRUCTION OF THE ENTIRE BRIDGE.
6. THE SQUARE FT. QUANTITY FOR SIGNS INCLUDES ALL RELOCATION NECESSARY TO ACCOMMODATE THE VARIOUS SEQUENCES OF CONSTRUCTION.
7. THE CONTRACTOR SHALL BE REQUIRED TO HAVE READILY AVAILABLE A PORTABLE GENERATOR CAPABLE OF PROVIDING EMERGENCY POWER TO OPERATE THE TEMPORARY SIGNAL CONTROLLER(S) IN CASE OF A POWER OUTAGE.

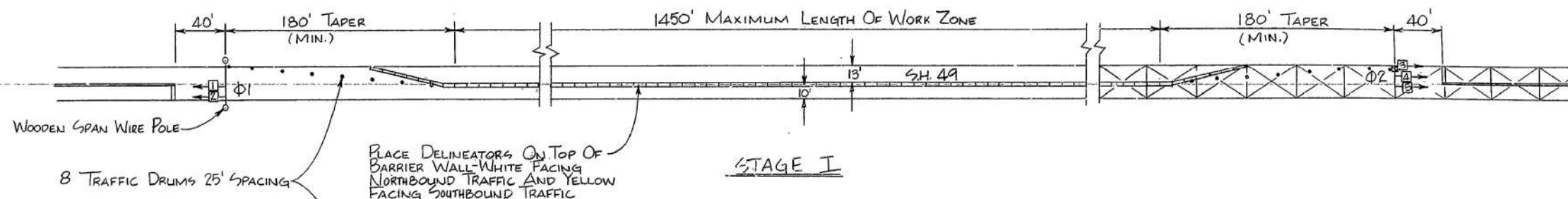
QUANTITIES

ITEM No.	ITEM	QUANTITY	UNIT
SP	TEMPORARY SIGNAL INSTALLATION	1.0	LUMP SUM
SS & 603	SIGNS (HIGH INTENSITY)	324	SQ. FT.
SS & 603	TRAFFIC DRUMS	23	EACH
SS & 603	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	31.80	LIN. FT.
SP & 603	RELOCATING PRECAST CONCRETE BARRIER	8400	LIN. FT.

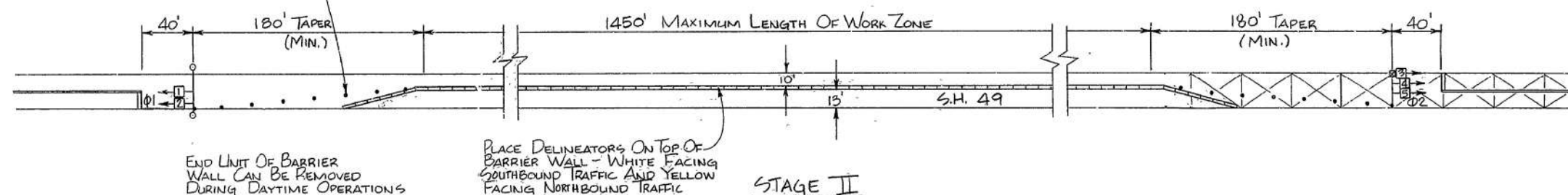
CONSTRUCTION ZONE SIGNING &
TEMPORARY SIGNAL INSTALLATION
MISSISSIPPI RIVER BRIDGE
SH. 49 - HELENA

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	MISS. JOB NO.	SHEET NO.	TOTAL SHEETS
2-3-89	5-2-89			6	ARK.	95-0057-01-002-10		
						ARK. JOB NO. 110104	7	58

④ TEMPORARY SIGNAL



1" = 50'



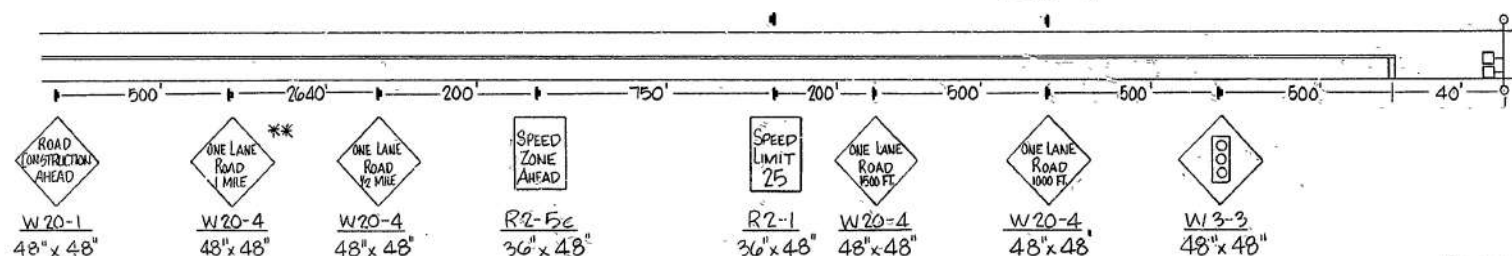
END UNIT OF BARRIER WALL CAN BE REMOVED DURING DAYTIME OPERATIONS

PLACE DELINEATORS ON TOP OF BARRIER WALL - WHITE FACING SOUTHBOUND TRAFFIC AND YELLOW FACING NORTHBOUND TRAFFIC

* THIS SIGN TO MATCH EXISTING SPEED ZONE

R2-1
36" x 48"
* SPEED LIMIT XX

G20-2
60" x 24"
END CONSTRUCTION

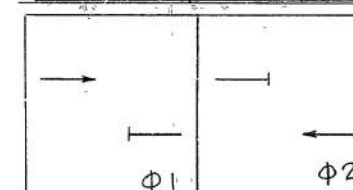


DETAIL OF SIGNING

NOTE: SIGNS AND SIGNAL TYPICAL FOR NORTHBOUND AND SOUTHBOUND APPROACHES.

** THIS SIGN MAY BE DELETED FOR THE SOUTHBOUND TRAFFIC WHEN THERE ISN'T SUFFICIENT DISTANCE FROM THE INTERSECTION OF HWY. 49B.

PHASING DIAGRAM



CYCLE LENGTHS

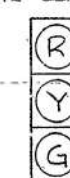
PHASE 1 GREEN - 31 SEC.
YELLOW - 3 SEC.
ALL RED - 51 SEC.
PHASE 2 GREEN - 31 SEC.
YELLOW - 3 SEC.
ALL RED - 51 SEC.

TOTAL CYCLE LENGTH - 170 SEC.

FOR WORK ZONES LESS THAN 1450 FT, TIME SETTINGS WILL BE ESTABLISHED BY THE TRAFFIC DIVISION.

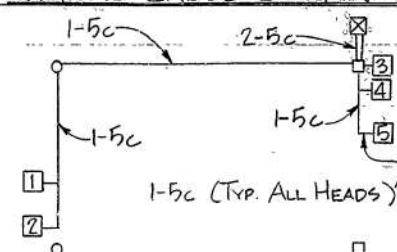
SIGNAL FACES

12" LENSES



1-4

SIGNAL CABLE DIAGRAM



INTERVAL CHART

SIGNAL No.	INTERVAL					
	Φ1	CLR.	CLR.	Φ2	CLR.	CLR.
1 & 2	G	Y	R	R	R	R
3 & 4	R	R	R	G	Y	R

CONSTRUCTION ZONE SIGNING &

TEMPORARY SIGNAL INSTALLATION

MISSISSIPPI RIVER BRIDGE

S.H. 49 - HELENA

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ID. NO.	STATE	MISS. JOB NO.	SHEET NO.	TOTAL SHEETS
1-4-89	530-12-89			6	ARMS.	85-0057-01-002-10		
2-3-89	593-2-9-89				ARK. JOB NO.	110104	8	58

(2) QUANTITIES

EROSION CONTROL

EROSION CONTROL											
STATION	STATION	LOCATION	SQ. FT.	PERMANENT					*TEMPORARY		
				SEEDING	LIME	MULCH COVER	SECOND SEEDING APPLICATION	WATER FOR GRASS	TEMPORARY SEEDING	MULCH COVER	WATER FOR GRASS
				ACRE	TON	ACRE	ACRE	M. GAL.	ACRE	ACRE	M. GAL.
ENTIRE PROJECT		NEW EMBANKMENT SLOPES •BARS, PITS & QUARRIES	24,299	0.56 2.00	1.12 4.00	0.56 2.00	0.56	54.2 96.8	0.56	0.56	27.1
TOTALS				2.56	5.12	2.56	0.56	151.0	0.56	0.56	27.1

- QUANTITY ESTIMATED
BASIS OF ESTIMATE:
LIME = 2 TONS PER ACRE
WATER FOR GRASS = 48.4 M.GAL. PER ACRE

BASE AND SURFACING

BASE AND SURFACING								
STATION	STATION	DESCRIPTION	AGGREGATE BASE COURSE (CL. I)	DBL. BIT. SURF. TREATMENT		PRIME COAT 0.4 GAL./SQ. YD.		
			TONS	SQ. YDS.	CLASS 4 MIN. AGGR.	ASPHALT	SQ. YDS.	GALLONS
					TONS	GALLONS		
16+05	18+00	MAIN LANE SHLD. WIDENING (ARKANSAS)	123	162.5	3.6	113.8	162.5	65.0
52+40	53+28	MAIN LANE SHLD. SURFACING (MISS.)		101.6	2.2	71.1	101.6	40.6
15+95		ACCESS RD. TURNOUTS (TWO) LT & RT	14	38.0	0.8	26.6	38.0	15.2
15+95	18+25	ACCESS RD. (TWO) LT & RT	208					
16+05	18+25	SHLD. PATCHING (AS NEEDED) LT & RT	10	15.0	0.3	10.5	15.0	6.0
18+12	18+32	APPROACH SLAB & GUTTER BASE	35					
	</							

BASIS OF ESTIMATE:

VOLUME CONTROL OF MINERAL AGGREGATE AND ASPHALT IN BIT. SURF. TREATMENT:

	FRIST APPLICATION	SECOND APPLICATION
CLASS 10 MINERAL AGGREGATE =	22" PER SQ. YD.	22" PER SQ. YD.
=	0.30 GAL. PER SQ. YD.	0.40 GAL. PER SQ. YD.

THE RATES OF APPLICATION FOR MINERAL AGGREGATE AND LIQUID ASPHALT WILL BE CALCULATED IN THE FIELD UTILIZING A DESIGN PROCEDURE BASED ON THE CHARACTERISTICS OF THE MATERIALS PROPOSED FOR USE.

EARTHWORK

EARTHWORK							
STATION	STATION	LOCATION	UNCLASS. EXCAVATION			BORROW	SPECIAL COMPACTION OF EARTHWORK
			NORMAL	OUTLETS ETC.	TOTAL		
16+00	18+17	MAIN LANES	481		481	5508	5989
		UNDERCUT (APPR. SLAB & GUTTER)		200	200	220	220
TOTALS			481	200	681	5728	6209

NOTE: UNDERCUT QUANTITY ESTIMATED, WORK TO BE DONE AS DIRECTED BY THE ENGINEER.

REMOVAL & DISPOSAL ITEMS

STATION	STATION	LOCATION	APPROACH	APPROACH	GUARD
			SLAB	GUTTER	RAIL
			SO. YD.	SO. YD.	LIN. FT.
12+13	18+15	LT.			602
12+13	18+15	RT.			602
12+13	18+33	HWY. 49	53.3		
18+13	52+40	HWY. 49	53.3		
52+20	18+33	RT.		15	
18+00	53+30	LT.			100
52+30	53+30	RT.			100
TOTALS			106.6	15	1404

GUARD RAIL

STATION	STATION	LOCATION	GUARD RAIL TYPE A	TERM. ANCHOR POST
			LIN.FT.	EACH
16+23	18+23	LT (ARK.)	200	
16+23	18+23	RT (ARK.)	200	
52+30	53+30	LT (MISS.)	100	
52+30	53+30	RT (MISS.)	100	
TOTAL			600	

BENCHMARK CAPS

LOCATION	EACH
WEST BRIDGE END ABUTMENT	1
TOTAL	1

NOTE: FOR INFORMATIONAL PURPOSES ONLY.
BENCHMARK CAPS WILL BE FURNISHED,
PLACED AND RECORDED BY STATE FORCES.

APPROACH SLABS & GUTTERS

LOCATION	APPROACH CUTTERS. (TYPE A)		APPROACH SLAB	
	CLASS S CONCRETE	REINF. STEEL (GR. 60)	CLASS S CONCRETE	REINF. STEEL (GR. 60)
	CU. YD.	LBS.	CU. YD.	CU. YD.
WEST BRIDGE END (ARK.)	4.2	262	18.22	1262
EAST BRIDGE END (MISS.)	4.2	262	18.22	1262
TOTAL	8.4	524	36.44	2524

2 QUANTITIES

TRAFFIC CONTROLL DEVICES

- MATCH EXISTING

NOTE:

1. ADDITIONAL SIGNS, BARRICADES AND TRAFFIC CONTROL DEVICES OF A PERMANENT NATURE DEEMED NECESSARY BY THE ENGINEER SHALL BE PAID FOR UNDER THE APPROPRIATE ITEM.

2. THE COST OF ANY ADDITIONAL SIGNS, BARRICADES OR DEVICES OF A TEMPORARY NATURE THAT MAY BE NECESSITATED BY THE CONTRACTOR'S SEQUENCE OF OPERATIONS OR STANDARD DRAWINGS TC-1 AND TC-2 SHALL BE CONSIDERED INCLUDED IN THE LUMP SUM PRICE BID FOR "MAINTENANCE OF TRAFFIC." ANY ADDITIONAL PERMANENT SIGNS, BARRICADES OR DEVICES PLACED BY THE CONTRACTOR FOR HIS OWN CONVENIENCE SHALL NOT BE PAID FOR.

3. DETOUR SIGNS, BARRICADES AND DEVICES MADE NECESSARY BY STAGE CONSTRUCTION, AS DETERMINED BY THE ENGINEER, SHALL BE PAID FOR UNDER THE APPROPRIATE ITEM.

4. SIGNS, BARRICADES OR DEVICES PREVIOUSLY AUTHORIZED AND PAID FOR, WHICH BECOME DAMAGED BEYOND USE BY TRAFFIC AND NEED TO BE REPLACED SHALL BE REPLACED AND PAID FOR. REPLACEMENT FOR ANY STOLEN SIGNS, BARRICADES OR DEVICES WILL NOT BE PAID FOR BUT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

5. THE SPEED LIMIT THROUGH CONSTRUCTION ZONES SHALL BE AS SHOWN ON THE PLANS OR AS DESIGNATED BY THE ENGINEER AS DIRECTED BY THE TRAFFIC DIVISION.

TEMPORARY PAVEMENT MARKINGS

NOTE: APPROXIMATELY 1150' OF TEMPORARY PAVEMENT MARKING SHALL BE WHITE 24" STOP BARS AS SHOWN ON TEMPORARY SIGNAL PLAN. THE REMAINING QUANTITY IS TO PLACE DOUBLE YELLOW ON EACH COMPLETED SECTION OF BRIDGE DECK. ALL TEMPORARY PAVEMENT MARKING QUANTITIES ARE BASED ON 4".

NOTE: APPROXIMATELY 1150' OF TEMPORARY PAVEMENT MARKING SHALL BE WHITE 24" STOP BARS AS SHOWN ON TEMPORARY SIGNAL PLAN. THE REMAINING QUANTITY IS TO PLACE DOUBLE YELLOW ON EACH COMPLETED SECTION OF BRIDGE DECK. ALL TEMPORARY PAVEMENT MARKING QUANTITIES ARE BASED ON 4".

STRUCTURES

NOTE: ALL PIPES TO HAVE CLASS C BEDDING

NOTE: ALL PIPES TO HAVE CLASS C BEDDING

4" PIPE UNDERDRAINS

NOTE: WORK TO BE DONE
AS DIRECTED BY THE
ENGINEER.

NOTE: WORK TO BE DONE
AS DIRECTED BY THE
ENGINEER.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	MISS. JOB NO.	SHEET NO.	TOTAL SHEETS
1-20-89	886-1-26-89	5-31-89	620-5-31-89	6	ARK.	85-0057-01-002-10		
2-3-89	595-2-9-89							
3-8-89	602-3-4-89							

① 2899R - QUANTITIES - 29544

SCHEDULE OF BRIDGE QUANTITIES-ARK. JOB 110104 , MISS. JOB 85-0057-01-002-10

BRIDGE NO.	CODE NO.	NAME PLATE TITLE	UNIT OF STRUCTURE	ITEM NO.	SS & 802	SS & 802	JOB SPEC. PROV.	803	804	804	804	804	SS & 807	SS & 807	812	820	822	JOB SPEC. PROV.	JOB SPEC. PROV.	JOB SPEC. PROV.	JOB SPEC. PROV.	JOB SPEC. PROV.	JOB SPEC. PROV.	JOB SPEC. PROV.	JOB SPEC. PROV.
				ITEM	CLASS S CONCRETE	CLASS S(AE) CONCRETE	LIGHTWEIGHT AGGREGATE CONCRETE (A.E.)	BOILED LINSEED OIL	REINFORCING STEEL (GRADE 60)	EPOXY COATED REINFORCING STEEL (GR. 60)	REINFORCING STEEL (GRADE 40)	EPOXY COATED REINFORCING STEEL (GR. 40)	STRUCTURAL STEEL IN TRUSS SPANS (A36)	STRUCTURAL STEEL IN PLATE GIRDER SPANS (A36)	BRIDGE NAME PLATE (TYPE C)	CLEANING AND PAINTING EXISTING STRUCTURAL STEEL (TYPE II)	BRIDGE DECK REPAIR	REPAIR OF GIRDER SPLICE	REMODELING EXISTING ABUTMENTS	REMODELING EXISTING MAIN RIVER SPANS	REMODELING EXISTING APPROACH SPANS	PIER REPAIR	SILANE BRIDGE DECK SURFACE TREATMENT	CLOSED CELL JOINT FILLER	REPAIR OF WIND SHEAR DEVICE
				UNIT	CU. YD.	CU. YD.	CU. YD.	GAL.	LB.	LB.	LB.	LB.	LB.	LB.	EACH	TON	SQ. YD.	LB.	LUMP SUM	LUMP SUM	LUMP SUM	CU. FT.	SQ. YD.	LIN. FT.	LB.
2899R	X075	MISSISSIPPI RIVER	WEST ABUTMENT		15.90			0.3	1,865		273			825	1				0.5					84.0	
			APPROACH UNIT NO. 1			247.96		22.7	28,482	32,297	3,216	1,105		4,318				415			0.14				133
			APPROACH UNIT NO. 2			374.50		33.8	42,470	49,959	4,788	1,643		5,244				732			0.20				190
			APPROACH UNIT NO. 3			410.81		37.1	46,712	54,063	5,272	1,805		5,853				1,111			0.23				121
			APPROACH UNIT NO. 4			410.81		37.1	46,712	54,063	5,272	1,805		5,853				1,111			0.23				121
			APPROACH UNIT NO. 5			356.22		32.1	40,422	45,645	4,572	1,562		5,402				581			0.20				95
			TRUSS UNIT NO. 1				178.47		37,360	12,193			20,274	29,363			182				0.20			2,461.7	249.4
			TRUSS UNIT NO. 2				119.54		25,060	8,152			14,750	20,781			123				0.14			1,648.4	187.8
			TRUSS UNIT NO. 3				213.82		44,857	14,558			25,222	36,160			219				0.24			2,949.4	344.7
			TRUSS UNIT NO. 4				190.20		39,790	12,983			22,588	32,366			194				0.22			2,621.6	344.7
			TRUSS UNIT NO. 5				178.37		37,361	12,197			20,416	29,693			182				0.20			2,457.3	344.7
			PIER NO. 12																			210			
			EAST ABUTMENT		25.00			0.3	2,449		367			825					0.5					56.0	
TOTALS FOR JOB 110104 (85-0057-01-002-10)					40.90	1,800.30	880.40	163.4	393,540	296,110	23,760	7,920	103,250	28,320	1	8,026	900	3,950	1.0	1.00	1.00	210	12,138.4	1,611.3	660

△ 148,363

EXISTING NEW
* APPROACH UNITS WEST - 858 TONS - 8 TONS
TRUSS UNITS - 6,446 TONS - 52 TONS
APPROACH UNITS EAST - 656 TONS - 6 TONS

BRIDGE NO.	CODE NO.	NAME PLATE TITLE	UNIT OF STRUCTURE	ITEM NO.	JOB SPEC. PROV.	JOB SPEC. PROV.	633	JOB SPEC. PROV.
				ITEM	RENOVATION OF NAVIGATION LIGHTING SYSTEM	HIGH STRENGTH BOLTS	BRIDGE CONSTRUCTION CONTROL	REMOVING AND REPLACING MEMBER M7-L7
				UNIT	LUMP SUM	LB.	LUMP SUM	LUMP SUM
2899R	X075	MISSISSIPPI RIVER	WEST ABUTMENT					
			APPROACH UNIT NO. 1					
			APPROACH UNIT NO. 2					
			APPROACH UNIT NO. 3			2		
			APPROACH UNIT NO. 4					
			APPROACH UNIT NO. 5					
			TRUSS UNIT NO. 1					
			TRUSS UNIT NO. 2			5		
			TRUSS UNIT NO. 3			7		
			TRUSS UNIT NO. 4			4		
			TRUSS UNIT NO. 5			5		
			PIER NO. 12					
			EAST ABUTMENT					
TOTALS FOR JOB 110104 (85-0057-01-002-10)					1.0	23	1.0	1.0

△ Revised: Str. Steel in Truss Spans 5-31-89, D-H:P.

DALE LOE
DESIGN SECTION SUPERVISOR

SCHEDULE OF BRIDGE QUANTITIES
HELENA BRIDGE DECK REHAB.
PHILLIPS COUNTY
ROUTE 49 SEC. 11
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 14 JAN 88

CHECKED BY: DHP DATE: 1-20-88

DESIGNED BY: DATE:

BRIDGE NO. 2899R

DRAWING NO. 29544

Carol Pinkerton
BRIDGE ENGINEER

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. NO. OF 6	STATE	11/55 JOB NO	SHEET NO.	TOTAL SHEETS
1-09-89	533-1-12-89	2-3-89	534-2-9-89		AR. #115	BS-0057-01-002-89		
1-20-89	887-1-24-89	2-24-89	886-2-24-89					
1-34-89	514-2-1-89	3-8-89	523-3-4-89					
5-31-89	621-5-31-89	2-22-90	2-26-90	ARX. JOB NO.		110104	11	58
SUMMARY & REVISION BOX								

REVISIONS

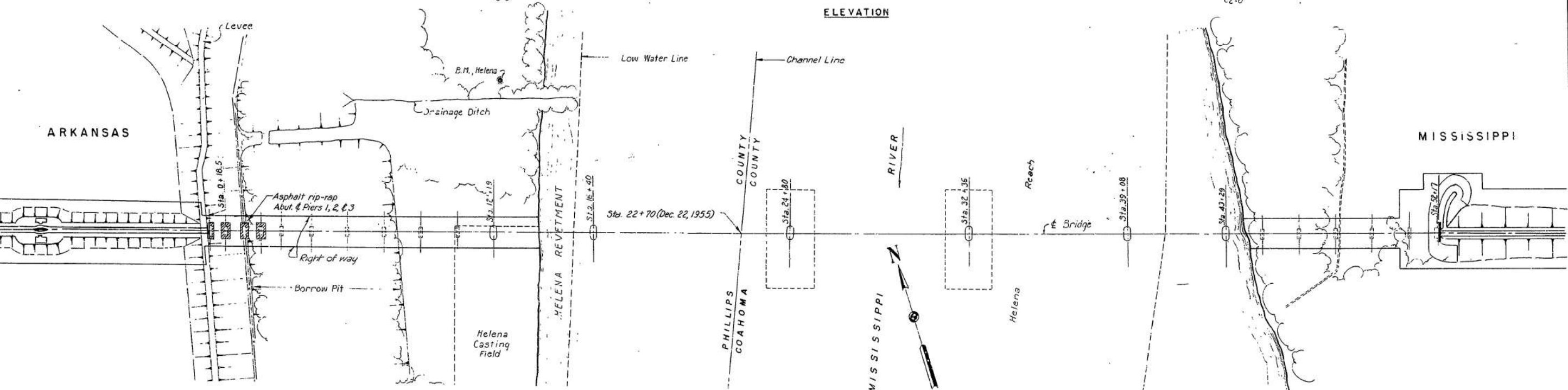
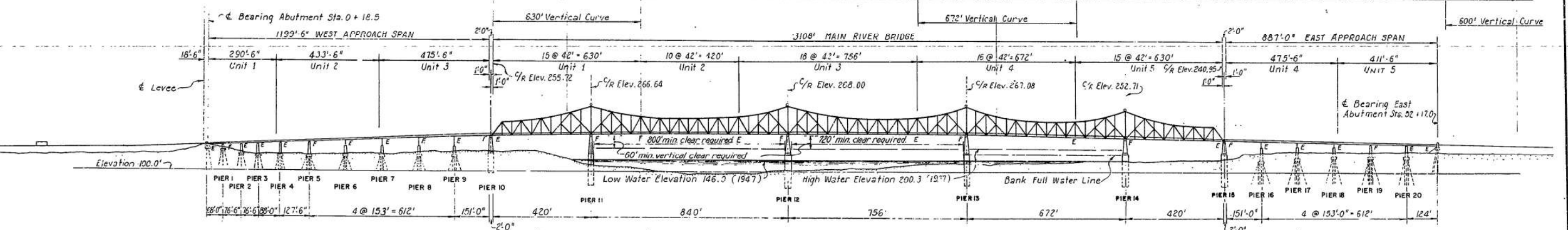
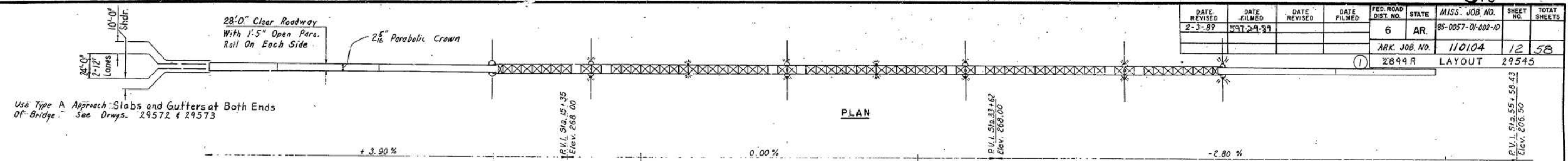
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SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
202	REMOVAL AND DISPOSAL OF APPROACH SLAB	107	SQ. YD.
202	REMOVAL AND DISPOSAL OF APPROACH GUTTERS	15	SQ. YD.
SP & 202	REMOVAL AND DISPOSAL OF GUARD RAIL	1404	LIN. FT.
210	UNCLASSIFIED EXCAVATION	681	CU. YD.
210	BORROW	528	CU. YD.
210	SPECIAL COMPACTION OF EARTHWORK	6209	CU. YD.
303	AGGREGATE BASE COURSE (CLASS 1)	390	TON
401	PRIME COAT	127	GALLON
402	MINERAL AGGREGATE IN ASPHALT SURFACE TREATMENT (CLASS 4)	7	TON
402	ASPHALT IN SURFACE TREATMENT	222	GALLON
SS&504	APPROACH SLABS	36.44	CU. YD.
SS&504	APPROACH GUTTERS (TYPE A)	8.4	CU. YD.
601	MOBILIZATION	1.0	LUMP SUM
602	FURNISHING FIELD OFFICE	1.0	EACH
603	MAINTENANCE OF TRAFFIC	1.0	LUMP SUM
* SS&606	18" REINFORCED CONCRETE PIPE CULVERT (CLASS III)-ALT. NO. 1	116	LIN. FT.
* SS&606	18" METALLIC COATED CORRUGATED STEEL PIPE CULVERTS (16 GAUGE)-ALT. NO. 2	132	LIN. FT.
* SS&606	18" POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE CULVERTS (16 GAUGE)-ALT. 3	132	LIN. FT.
611	4" PIPE UNDERDRAINS	100	LIN. FT.
804	REINFORCING STEEL (GRADE 60)	3048	POUND
* SS&606	18" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS-ALT. NO. 1	4	EACH
* SS&606	18" FLARED END SECTIONS FOR CORRUGATED STEEL PIPE CULVERTS-ALT. NO. 2	4	EACH
613	GUARD RAIL (TYPE A)	600	LIN. FT.
613	TERMINAL ANCHOR POSTS (TYPE A)	2	EACH
620	LIME	5.1	TON
620	SEEDING	2.56	ACRE
620	MULCH COVER	3.12	ACRE
620	WATER	178.1	M. GAL.
621	TEMPORARY SEEDING	0.56	ACRE
623	SECOND SEEDING APPLICATION	0.56	ACRE
SP	TEMPORARY SIGNAL INSTALLATION	1.0	LUMP SUM
SS&603	SIGNS (HIGH INTENSITY)	324	SQ. FT.
SS&603	TRAFFIC DRUMS (HIGH INTENSITY)	23	EACH
SS&603	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	3180	LIN. FT.
603	RELOCATING PRECAST CONCRETE BARRIER	8400	LIN. FT.
SS&603	BARRICADES (HIGH INTENSITY)	24	LIN. FT.
603	TEMPORARY PAVEMENT MARKINGS	8652	LIN. FT.
603	REMOVAL OF TEMPORARY PAVEMENT MARKINGS	8652	LIN. FT.
STRUCTURES OVER 20'-0" SPAN			
SS&802	CLASS S CONCRETE	40.90	CU. YD.
SS&802	CLASS (S/AE) CONCRETE	1800.30	CU. YD.
SP	LIGHTWEIGHT AGGREGATE CONCRETE (A.E.)	880.40	CU. YD.
803	BOILED LINSEED OIL	163	GAL.
804	REINFORCING STEEL (GRADE 60)	393,530	POUND
804	EPOXY COATED REINFORCING STEEL (GRADE 60)	236,110	POUND
SS&807	STRUCTURAL STEEL IN TRUSS SPANS (A36)	148363	POUND
SS&807	STRUCTURAL STEEL PLATE GIRDER SPANS (A36)	102,256	POUND
812	BRIDGE NAME PLATE (TYPE C)	28,320	POUND
820	CLEANING AND PAINTING EXISTING STRUCTURAL STEEL (TYPE II)	1.0	EACH
SS&822	BRIDGE DECK REPAIR	8026	TON
SP	REPAIR OF GIRDER SPLICE	900	SQ. YD.
SP	REMODELING EXISTING ABUTMENTS	3830	POUND
SP	REMODELING EXISTING MAIN RIVER SPANS	1.0	L.S.
SP	REMODELING EXISTING APPROACH SPANS	1.0	L.S.
SP	PIER REPAIR	1.0	L.S.
SP	SILANE BRIDGE DECK SURFACE TREATMENT	210	CU. FT.
SP	CLOSED CELL JOINT FILLER	12138.4	SQ. YD.
SP	REPAIR OF WIND SHEAR DEVICE	1611.3	LIN. FT.
SP	RENOVATION OF NAVIGATION LIGHTING SYSTEM	660	POUND
633	BRIDGE CONSTRUCTION CONTROL	1.0	L.S.
804	REINFORCING STEEL (GRADE 40)	1.0	L.S.
804	EPOXY COATED REINFORCING STEEL (GRADE 40)	23760	POUND
SP	HIGH STRENGTH BOLTS	7920	POUND
SP	REMOVING AND REPLACING MEMBER M7-L7	23	POUND
		1.0	L.S.

*ALTERNATE BID ITEMS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	MISS. JOB NO.	SHEET NO.	TOTAL SHEETS
2-3-89	5-9-89			6	AR.	85-0057-01-002-10		
						ARK. JOB NO.	110104	12 58
						2899R	LAYOUT	29545



GENERAL NOTES

IN GENERAL THE PROPOSED WORK CONSISTS OF WIDENING THE EXISTING ROADWAY FROM 26'-0" TO 28'-0" IN STAGES AS SHOWN ON DWG. NO. 29547 AND AS LISTED BELOW:

FOR APPROACH UNITS

- (1) REMOVE THE EXISTING CURBS, RAILINGS, AND DECK.
- (2) CONSTRUCT A NEW DECK HAVING A 28'-0" CLEAR ROADWAY AND CONCRETE PARAPET RAILS. NORMAL WEIGHT CONCRETE SHALL BE USED.
- (3) REMODEL THE EXISTING JOINTS TO MATCH THE WIDENED ROADWAY AND WATERPROOF THE JOINTS.
- (4) REMOVE AND REPLACE EACH ABUTMENT BACKWALL AND CONSTRUCT NEW TURNBACK WINGS.
- (5) CLEAN AND PAINT ALL STRUCTURAL STEEL.
- (6) REPAIR GIRDER FIELD SPLICES BY REPLACING THE BOTTOM SPLICE PLATE.

FOR THE TRUSS UNITS

- (1) REMOVE THE EXISTING CURBS AND RAILINGS.
- (2) WIDEN THE EXISTING ROADWAY TO 28'-0" AND CONSTRUCT CONCRETE PARAPET RAILS. LIGHTWEIGHT AGGREGATE CONCRETE SHALL BE USED.
- (3) REMODEL EXISTING JOINTS TO MATCH WIDENED ROADWAY AND WATERPROOF THE JOINTS.
- (4) CLEAN AND PAINT ALL STRUCTURAL STEEL.
- (5) REPLACE THE NAVIGATION LIGHTING SYSTEM.
- (6) REPAIR FAULTY CONCRETE IN PEDESTALS OF PIER 12.

ALL DIMENSIONS RELATING TO THE EXISTING BRIDGE ARE TO BE VERIFIED IN THE FIELD AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE NEW WORK TO THE EXISTING STRUCTURE. PLANS OF THE EXISTING STRUCTURE WILL BE MADE AVAILABLE TO THE CONTRACTOR UPON REQUEST.

CONSTRUCTION SPECIFICATIONS: ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 1988 AND APPLICABLE SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS.

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1983 WITH CURRENT INTERIM SPECIFICATIONS.

LIVE LOAD: HS20

METHOD OF DESIGN: LOAD FACTOR

DETAIL DRAWINGS

DETAIL DRAWINGS	DRAWING NO.
ABUTMENTS	29548-29552
APPROACH SPANS	29554-29559
TRUSS SPANS	29560-29565
JOINTS & WATERPROOFING	29566-29571
APPROACH GUTTERS & SLABS	29572-29573
GUARD RAIL CONNECTION	GR-8, GR-8A
TYPE C BRIDGE NAME PLATE	2369A
TEMPORARY BARRIERS	1896B
NAVIGATIONAL LIGHTING	E-1, E-2, E-3

SILANE BRIDGE DECK SURFACE TREATMENT SHALL BE APPLIED TO THE ROADWAY SURFACE AND TO THE ROADWAY FACE AND TOP OF THE CONCRETE PARAPET RAIL OF THE TRUSS SPANS.

BOILED LINSEED OIL TREATMENT SHALL BE APPLIED TO THE ROADWAY SURFACE AND TO THE ROADWAY FACE AND TOP OF THE CONCRETE PARAPET RAIL OF THE APPROACH SPANS.

THE ROADWAY SURFACE OF THE APPROACH SPANS SHALL BE GIVEN A TINE FINISH AS SPECIFIED FOR FINAL FINISHING IN SUBSECTION 802.20 FOR CLASS 5 ROADWAY SURFACE FINISH.

**LAYOUT OF BRIDGE
OVER MISSISSIPPI RIVER
HELENA BRIDGE DECK REHAB.
PHILLIPS COUNTY
ROUTE 49 SEC. II
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, AR.**

DRAWN BY MEC DATE 2-5-86
 CHECKED BY CJF DATE 1-21-88
 DESIGNED BY MEC DATE 2-5-86

SCALE 1" = 200'

BRIDGE NO. 2899R DRAWING NO. 29545

Kearl Pinkerton
BRIDGE ENGINEER

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	MISS. JOB NO.	SHEET NO.	TOTAL SHEETS
1-20-89	888-1-20-89			6	ARK.	85-0057-01-002-10		
2-3-89	898-2-3-89					ARK. JOB NO. 110104	13	58
				2899R	NOTES	29546		

GENERAL NOTES

APPROACH SPANS: All concrete shall be Class S(AE) with a minimum 28 day compressive strength $f'c = 4,000$ psi.

TRUSS SPANS: All concrete to be Lightweight Aggregate Concrete (AE). Minimum 28 day compressive strength, $f'c = 3,000$ psi. See Job Spec. Prov. "Lightweight Aggregate Concrete (AE)."

All exposed corners to be chamfered $3/4"$ unless otherwise noted.

Concrete in bridge superstructure shall be placed and consolidated for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent. The concrete bridge deck shall be finished in accordance with Section 802.20 of the Standard Specifications. Movement of the finishing machine across new concrete shall be on planks placed on the surface and shall be prohibited for 72 hours after finishing pour.

The concrete bridge deck of the approach spans shall be given a fine finish as specified for final finishing in subsection 802.20 for Class 5 Bridge Roadway Surface Finish.

Silane Bridge Deck Surface Treatment shall be applied to the roadway surface and the roadway face and top of the concrete parapet railing of the truss spans. See Job Spec. Prov. "Silane Bridge Deck Surface Treatment."

Reinforcing extending from the new slab in Stage I Construction on the approach spans may interfere with the finishing machine operation. The contractor shall be responsible for providing suitable forming and finishing machine support in the limited space available. See Detail "A" on Drawing No. 29554.

Stay in place forms may be used on the approach spans if they do not increase the dead load of the slab.

REINFORCING STEEL: Bars S605, S606, & S701 in the approach units (See Dwg. Nos. 29554 - 29559) and Bar S601 in the abutments (See Dwg. Nos. 29548 & 29550) shall be ASTM A617, Grade 40. No other grade shall be accepted. All other reinforcing steel shall conform to ASTM A615 or A617, Grade 60 (yield strength = 60,000 psi.). The reinforcing steel is to be accurately located in the forms and firmly held in place by steel wire supports, sufficient in number and size to prevent displacement during the course of construction. The wire supports will not be paid for directly, but will be considered subsidiary to the item of Reinforcing Steel.

All Structural Steel except for flange splice plates shall be A36. Flange splice plates shall be A572 (Gr. 50). Unless otherwise noted on the detail drawings, all new structural steel shall not be painted in the shop and shall be erected unpainted. Once erected the new structural steel and the existing structural steel shall be cleaned and painted as specified in Section 820 of the Standard Specifications, unless otherwise noted. All structural steel in the approach spans shall be paid for as "Structural Steel in Plate Girder Spans (A36)." All Structural Steel in the truss spans will be paid for as "Structural Steel in Truss Spans (A36)." Payment for the painting shall be made under the pay item "Cleaning and Painting Existing Structural Steel (Type II)." The weight of the new structural steel has been added to the total tons shown on the quantity schedule for that item.

A barge loading facility is located just downstream of the bridge on the west bank. Care shall be taken to avoid getting paint on the facility and any barges moored there.

Structural shapes of equal or greater strength may be substituted for shapes shown if approval is obtained from the Bridge Engineer. Payment will be on the basis of the shapes shown.

Splice plates for flanges shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of the main tensile and/or compressive stresses. The plates are considered main load carrying members and shall meet the Longitudinal Charpy V-Notch Test specified in Section 807.03 of the Standard Specifications and Supplemental Specification 807-2. This work and material are to be considered as subsidiary to item "Structural Steel in Plate Girder Spans (A36)" and will not be paid for directly.

Drawings show general features of design only. Shop drawings shall be made in accordance with the specifications, submitted and approval secured before fabrication is begun.

Field connections to be bolted with high strength bolts. Unless otherwise shown, bolts shall be $3/4"$ diameter, open holes $13/16"$ diameter. Bolt spacing shall be $2-1/2"$ unless otherwise noted. Minimum edge distance shall be $1-1/4"$ unless otherwise noted. Bolts shall be placed with the heads on the bottom of the girder flange.

Any bolts in the existing finger castings that are broken while being loosened or retightened to allow installation of the copper sheeting shall be replaced at the contractor's expense.

Galvanizing shall conform to ASTM A153 and be paid for subsidiary to "Structural Steel in Plate Girder Spans (A36)."

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, 1988 edition, with applicable supplemental specifications and special provisions.

DESIGN SPECIFICATIONS: AASHTO Standard Specifications for Highway Bridges, 1983 with current interim specifications.

METHOD OF DESIGN: Load Factor (New Construction)

Design Live Load: HS20

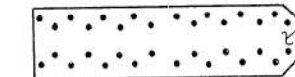
Type & Joint Seal shall be measured and paid for as Class S(AE) concrete on the approach spans and Lightweight Aggregate Concrete (AE) on the truss spans. See Section 501.03(h) and 501.04(j) of the Standard Specifications.

The $1/8"$ nylon reinforced neoprene trough material shall conform to Section 809.05(m) of the Standard Specifications. Payment shall be subsidiary to "Structural Steel in Plate Girder Spans (A36)."

Copper sheeting shall conform to ASTM B152 and shall weigh 16 oz. per square foot. Payment shall be subsidiary to "Structural Steel in Plate Girder Spans (A36)."

Closed cell foam strips used to seal finger joints on the truss spans shall fit snugly and be glued on all surfaces that come in contact with steel, concrete, or other foam. Preparation of the contact surfaces shall follow the recommendations of the manufacturer. See Job Spec. Prov. "Closed Cell Joint Filler."

All dimensions relating to the existing bridge are to be verified in the field and the contractor shall be responsible for adjusting the new work to the existing bridge.

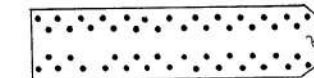


13 3/8" x 4'-2"

See Note Below.

GIRDER SPLICE APPROACH UNIT 1

N.T.S.



17 3/8" x 6'-9"

Note: See Job Special Provision "Repair of Girder Splice". Drawing is General in Nature. Specific Details are not Shown. Verify Dimensions in Field.



18 3/4" x 8'-3"

GIRDER SPLICES APPROACH UNITS 2-5

N.T.S.

GENERAL NOTES

HELENA BRIDGE

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MCC DATE: 1-21-88

CHECKED BY: C.J.F. DATE: 1-21-88

DESIGNED BY: DATE:

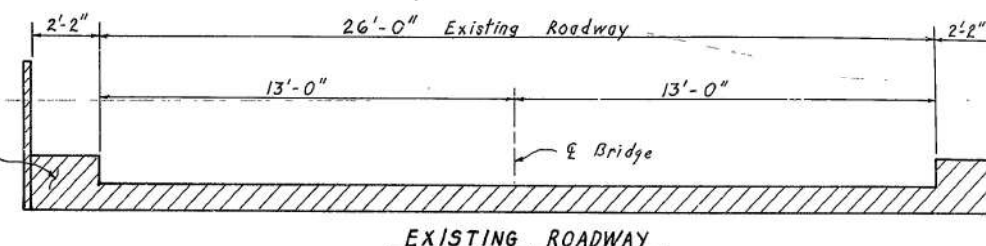
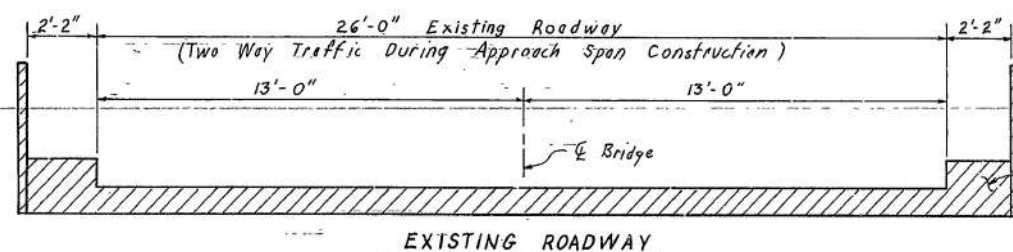
SCALE:

Veral Pinkerton
BRIDGE ENGINEER

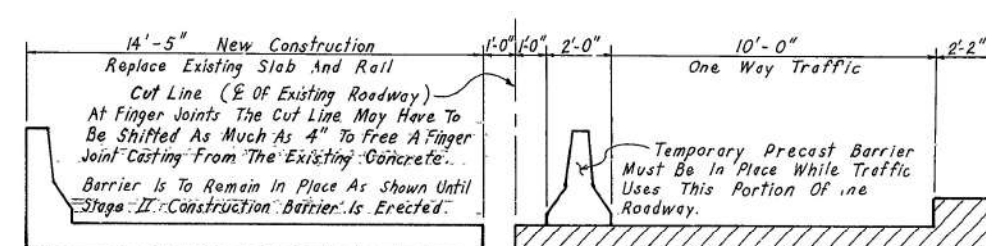
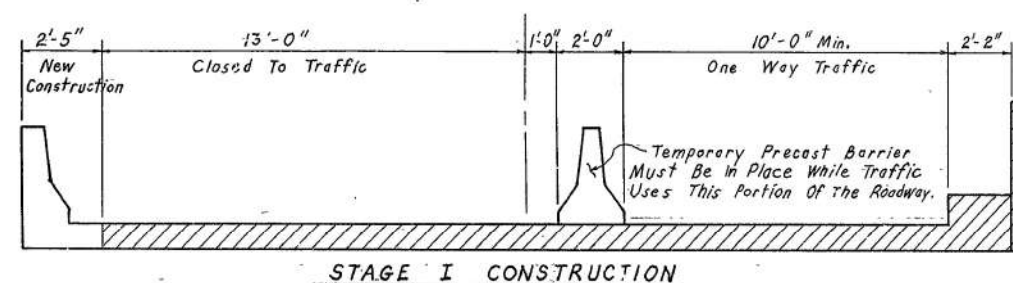
BRIDGE NO. 2899R

DRAWING NO. 29546

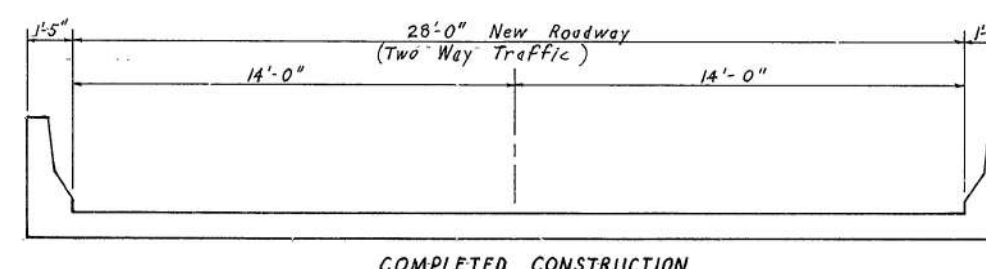
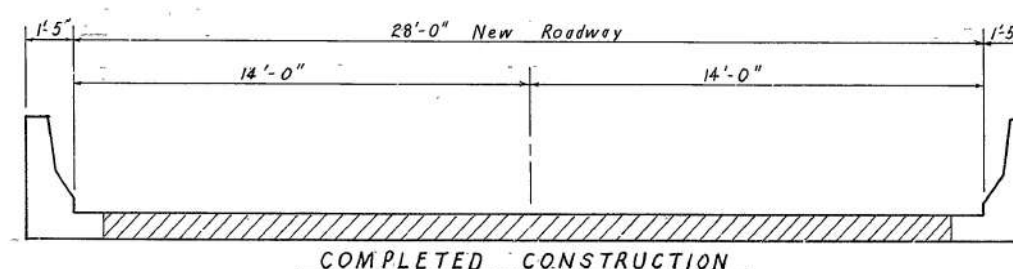
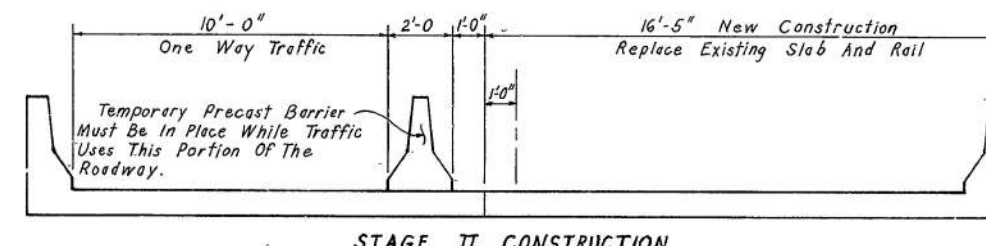
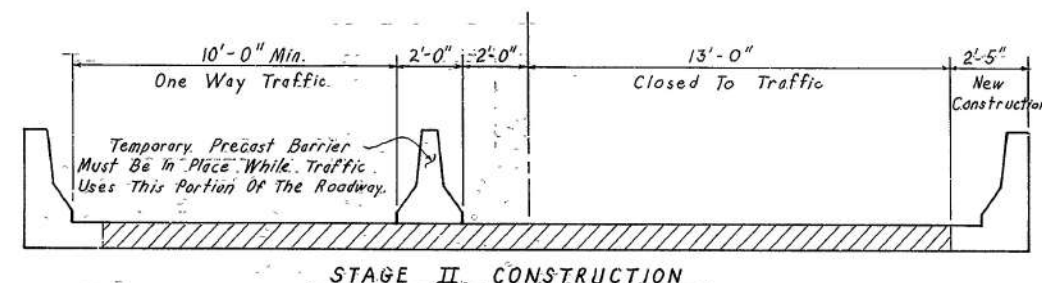
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	MISS. JOB NO.	SHEET NO.	TOTAL SHEETS
2-3-89	5-9-89			6	ARK.	85-0057-01-002-10		
						ARK. JOB NO. 110104	14	53
① 2899R CONSTR. SEQ. 29547								



Shaded Area Indicates
Existing Materials

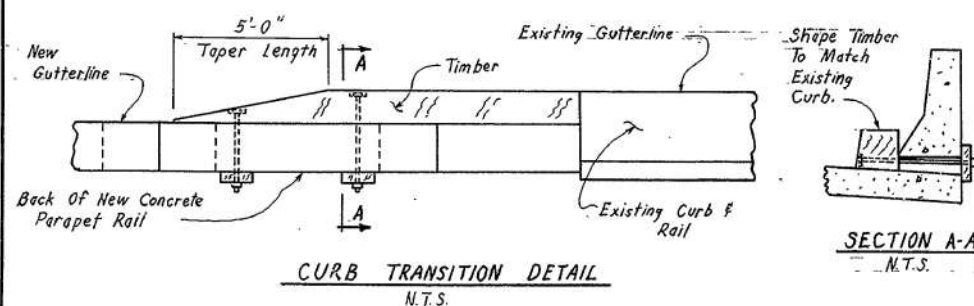


NOTE: Limited Space Is Available For Forms And Finishing Machine Support In STAGE I. The Contractor Shall Be Responsible For Providing A Suitable Forming System. See Detail A-A On Drawing 29547.



STAGE CONSTRUCTION SEQUENCE FOR TRUSS SPANS
(Looking Forward)

STAGE CONSTRUCTION SEQUENCE FOR APPROACH UNITS
(Looking Forward)



GENERAL NOTES

THE CONTRACTOR MAY ELECT TO WORK ON THE TRUSS OR APPROACH SPANS FIRST. IF THE APPROACH SPANS ARE WORKED ON FIRST, THE WORK ZONE SHALL EXTEND 250 FEET ONTO EACH END OF THE TRUSS. IF THE TRUSS SPANS ARE WORKED ON FIRST, THE WORK ZONE SHALL STOP 250 FEET FROM EACH END OF THE TRUSS.

IF THE CONTRACTOR ELECTS TO WORK ON THE APPROACH SPANS AT EACH END OF THE BRIDGE SIMULTANEOUSLY, THE COST OF THE TEMPORARY BARRIERS, SIGNALS, SIGNS, ETC., REQUIRED ABOVE THE AMOUNT REQUIRED FOR THE WEST APPROACH SPANS SHALL BE AT THE CONTRACTOR'S EXPENSE. CONSTRUCTION SHALL BE COMPLETED ON ONE SIDE OF THE ROADWAY FOR THE FULL LENGTH OF THE EAST OR WEST APPROACH SPANS BEFORE WORK BEGINS ON THE OPPOSITE SIDE. ONE WAY TRAFFIC SHALL BE MAINTAINED AS SHOWN AND AS SPECIFIED IN THE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL PROVIDE AND INSTALL AN APPROVED DEVICE TO FORM A SMOOTH TRANSITION FROM THE NEW GUTTERLINE TO THE EXISTING GUTTERLINE. THE DEVICE SHALL BE IN PLACE WHEN TRAFFIC IS ALLOWED ADJACENT TO THE GUTTERLINE. ONE SUGGESTED DEVICE IS SHOWN AT THE LEFT.

ANY CONSTRUCTION JOINTS THE CONTRACTOR ELECTS TO MAKE WHEN POURING THE DECK ON THE TRUSS MUST BE MADE AT A CROSSBEAM. THE EXISTING ALUMINUM RAIL SHALL REMAIN ATTACHED TO THE RAIL POST AT THE CROSSBEAM IF TRAFFIC IS ALLOWED ON THE DECK.

STAGE CONSTRUCTION SEQUENCE
HELENA BRIDGE DECK REHAB.
PHILLIPS COUNTY

ROUTE 66

ARKANSAS STATE HIGHWAY COMMISSION

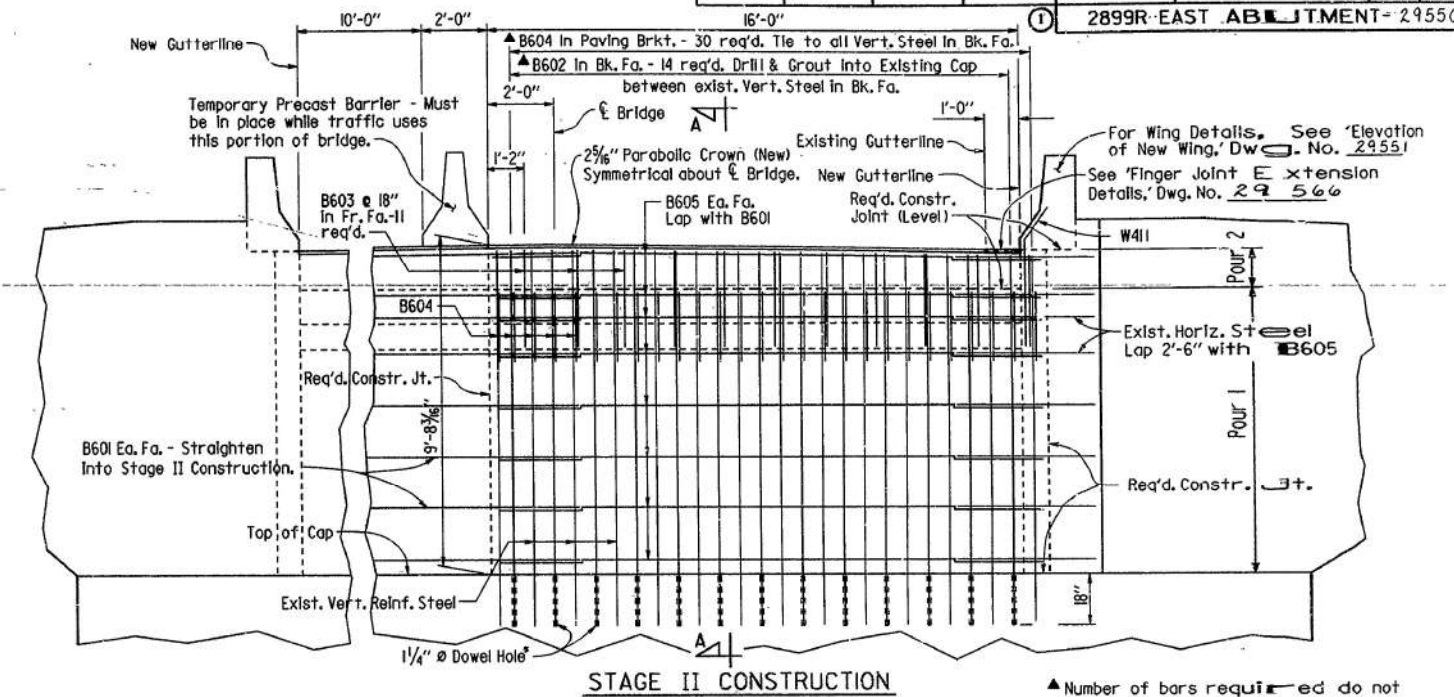
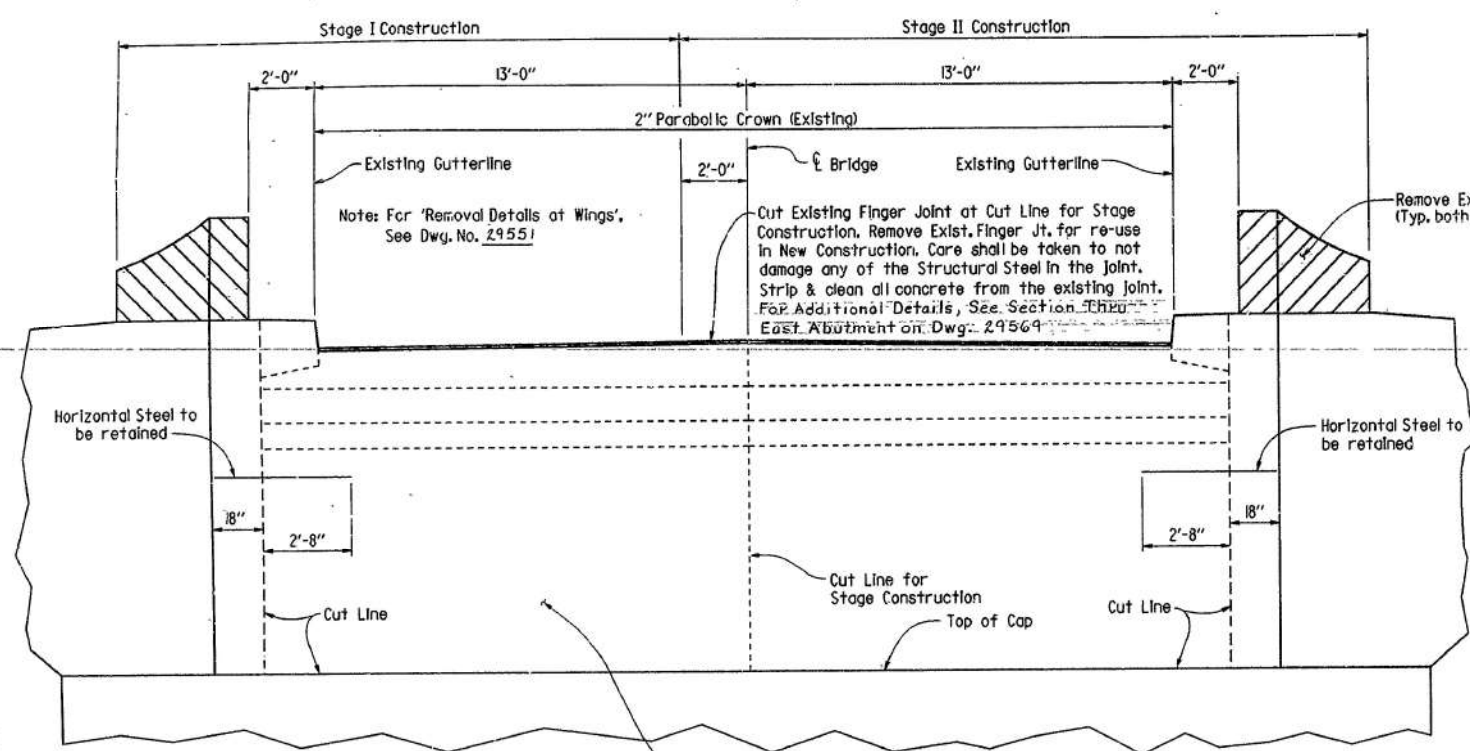
LITTLE ROCK, ARK.

DESIGNED BY: MEC DATE: 1-24-86
CHECKED BY: C.J.F. DATE: 1-19-88
BRIDGE NO. 2899R

SCALE: 3/8" = 1'-0"

DRAWING NO. 29547

Keral Pinkerton
BRIDGE ENGINEER



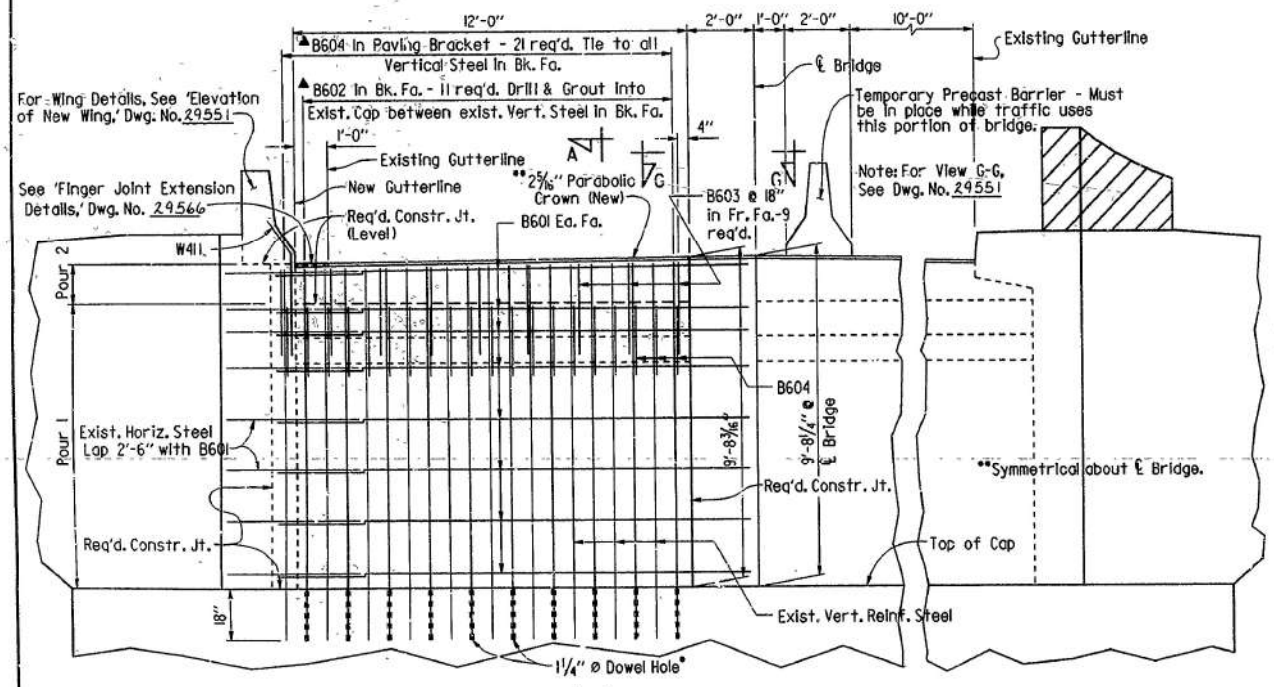
STAGE II CONSTRUCTION

Looking Forward
 Scale: 3/8" = 1'-0"

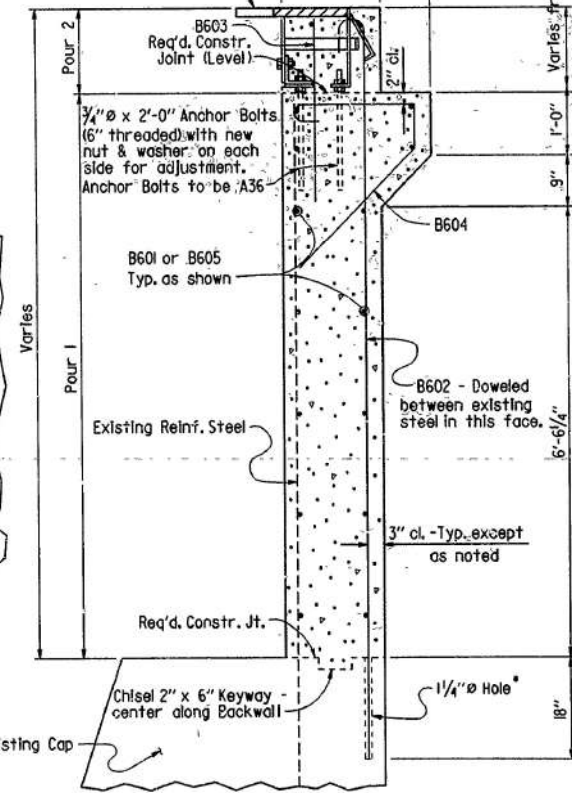
Number of bars required do not agree with number of bars shown.

BACKWALL REMOVAL DETAILS

Looking Forward
 Scale: 3/8" = 1'-0"



Existing Finger Joint Installed into New Constr. Match Rdwy. Slope



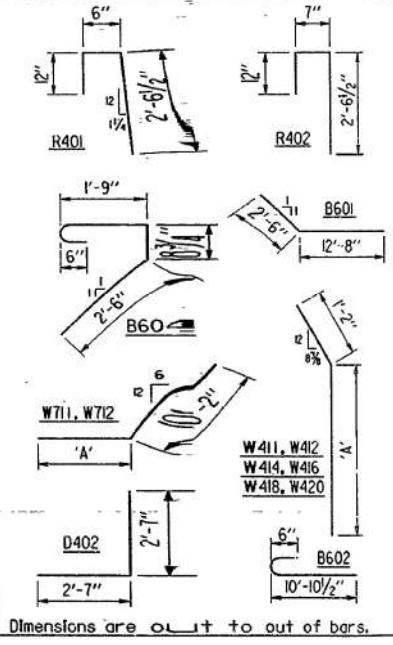
SECTION A-A

Scale: 3/4" = 1'-0"

BAR LIST

MARK	NO. REQ'D.	LENGTH	'A'	P.D.	MARK	NO. REQ'D.	LENGTH	'A'	P.D.
R401	12	3'-11"		2"	W422	4	8'-8"		Str.
R402	8	4'-0"		2"	D401	10	3'-10"		Str.
R403	12	11'-2"		Str.	D402	8	5'-1"		3"
R404	2	2'-3"		Str.	B601	16	15'-2"		4 1/2"
W401	6	7'-3"		Str.	B602	25	11'-7"		4 1/2"
W402	2	4'-6"		Str.	B603	20	2'-9"		Str.
W403	2	4'-1"		Str.	B604	51	5'-6"		4 1/2"
W404	2	3'-9"		Str.	B605	16	16'-4"		Str.
W405	2	3'-4"		Str.	R601	16	4'-5"		Str.
W406	2	3'-0"		Str.	W601	8	4'-1"		Str.
W407	2	2'-7"		Str.					
W408	2	2'-3"		Str.					
W409	2	1'-10"		Str.	W701	6	11'-2"		Str.
W410	2	1'-6"		Str.	W702	2	8'-5"		Str.
W411	4	3'-2"	2'-0"	2"	W703	2	8'-0"		Str.
W412	8	12'-0"	10'-9 1/2"	2"	W704	2	7'-8"		Str.
W413	4	13'-1"		Str.	W705	2	7'-3"		Str.
W414	2	3'-7"	2'-5"	2"	W706	2	6'-11"		Str.
W415	2	4'-8"		Str.	W707	2	6'-6"		Str.
W416	2	5'-5"	4'-3"	2"	W708	2	6'-2"		Str.
W417	2	6'-6"		Str.	W709	2	5'-9"		Str.
W418	2	7'-3"	6'-1"	2"	W710	2	5'-5"		Str.
W419	2	8'-4"		Str.	W711	2	15'-0"	5'-0"	5 1/4"
W420	2	9'-1"	7'-11"	2"	W712	2	11'-3"	1'-3"	5 1/4"
W421	2	10'-2"		Str.					

BENDING DIAGRAMS



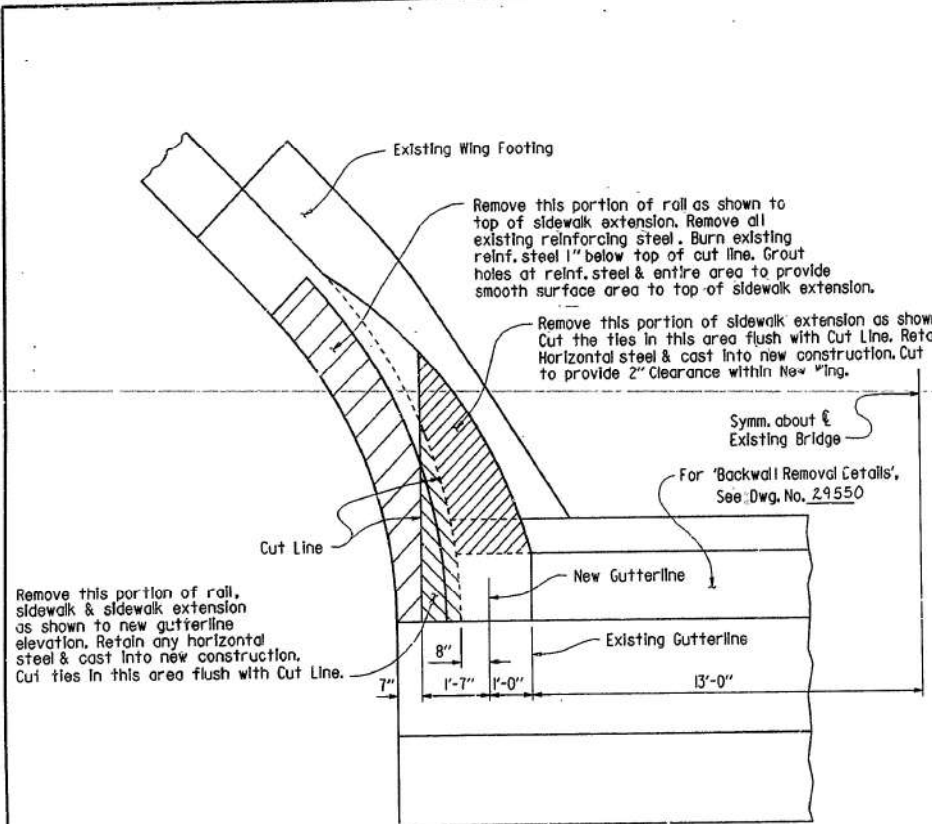
① B601 must be grade 40.

For Additional Details and 'GENERAL NOTES', See Dwg. No. 29552

SHEET 1 OF 2
 DETAILS OF EAST ABUTMENT
 HELENA BRIDGE
 ROUTE 49 SEC. 11
 ARKANSAS STATE HIGHWAY COMMISSION
 LITTLE ROCK, ARK.
 DRAWN BY: KDH DATE: 14 OCT 87
 CHECKED BY: CJF DATE: 5 NOV 87
 DESIGNED BY: MFC DATE: 9-17-87
 BRIDGE NO. 2899R
 DRAWING NO. 29550
 SCALE: AS NOTED

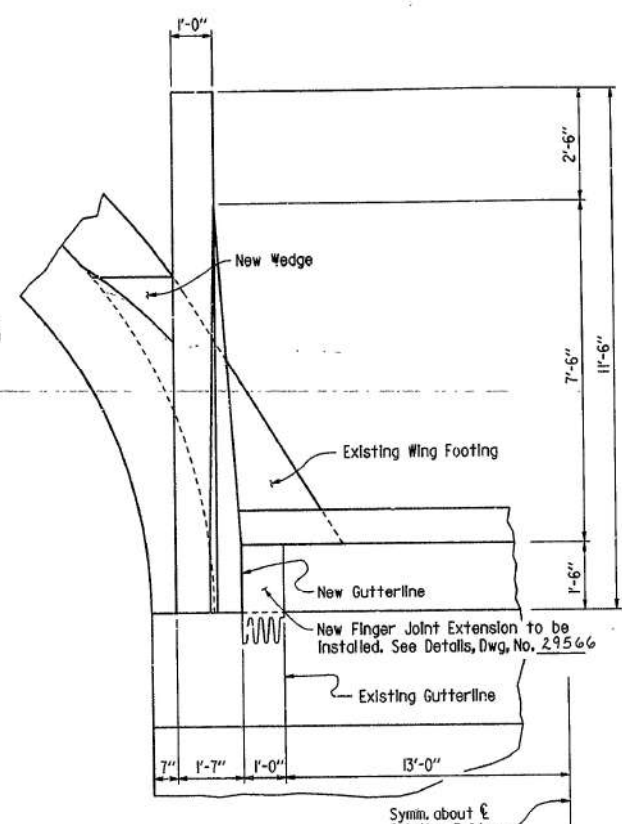
Vern P. Pemberton
 BRIDGE ENGINEER

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	MISS. JOB NO.	SHEET NO.	TOTAL SHEETS
2-3-87	6-23-87			6	ARK.	85-0057-01-002-10		
						ARK. JOB NO.	110104	18 58
							2899R-EAST ABUTMENT-29551	



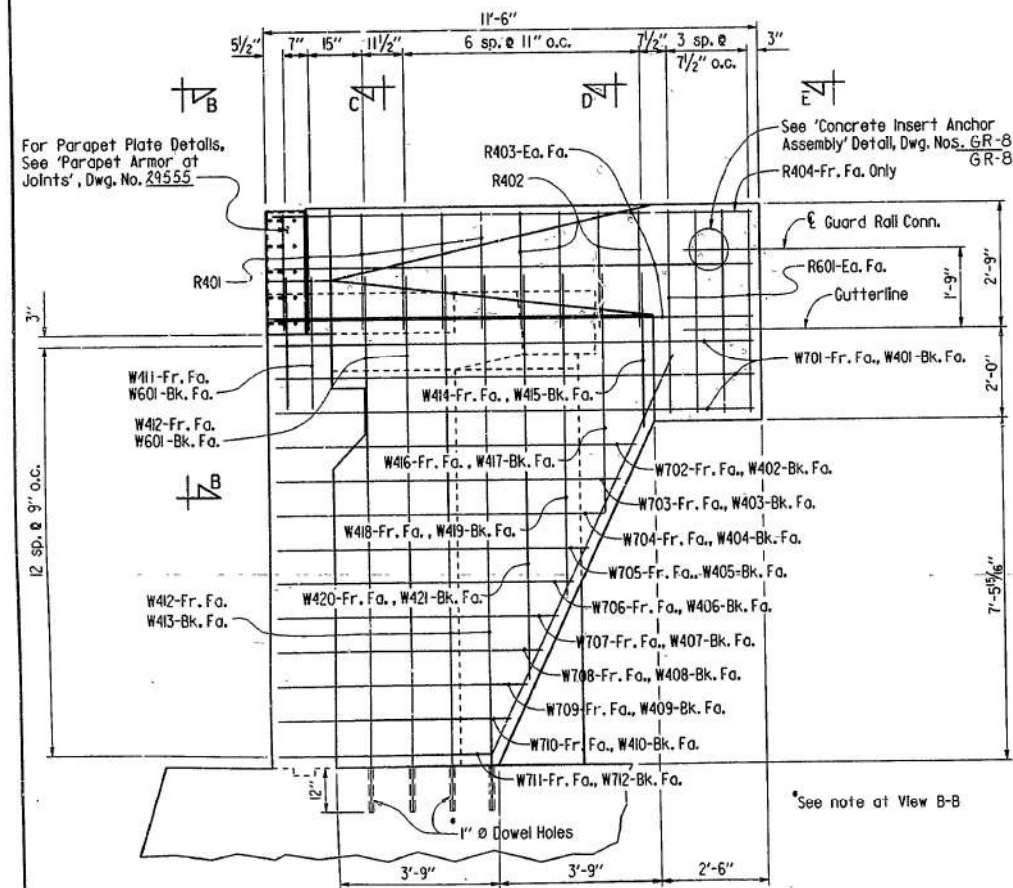
REMOVAL DETAILS AT WING

Scale: 1/2" = 1'-0"



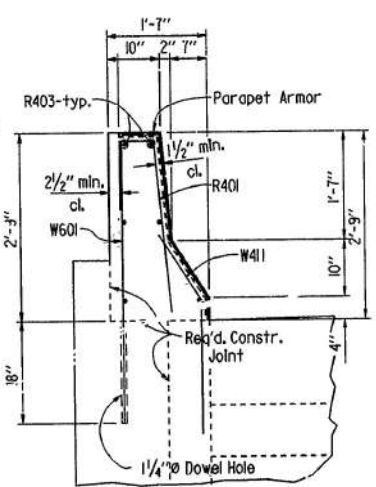
PLAN OF NEW WING

Scale: 1/2" = 1'-0"



ELEVATION OF NEW WING

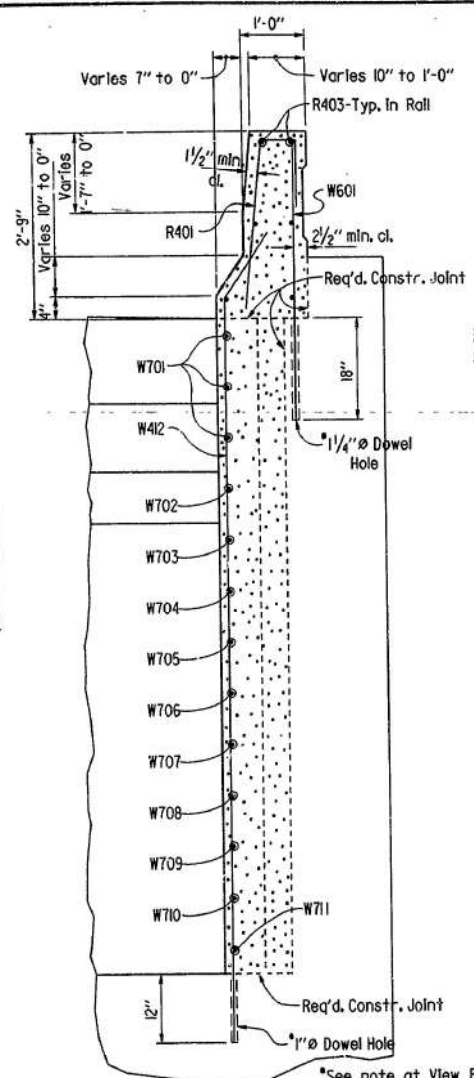
Scale: 1/2" = 1'-0"



VIEW B-B

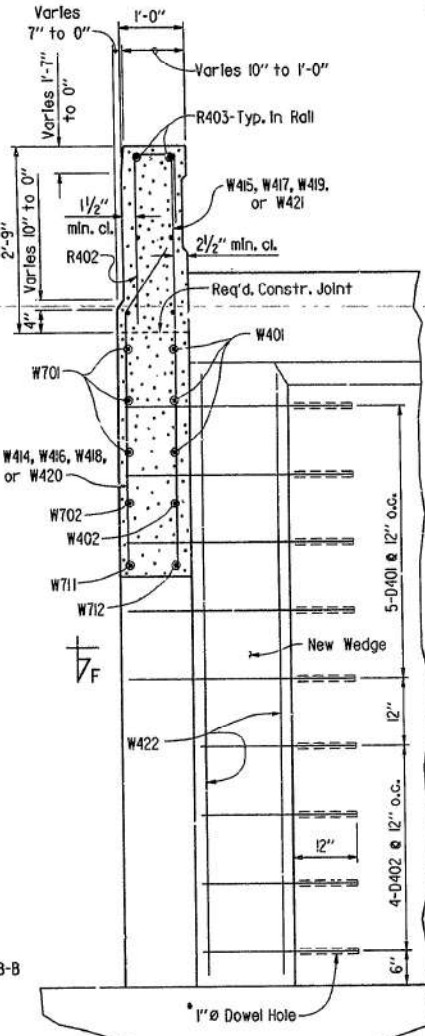
Scale: 3/4" = 1'-0"

NOTE: Drill holes to the diameter & depth shown. Grout bars into the existing abutment using a non-shrink grout. All drilling & grouting for bars to be paid for as part of the item 'Remodeling Existing Abutments.'



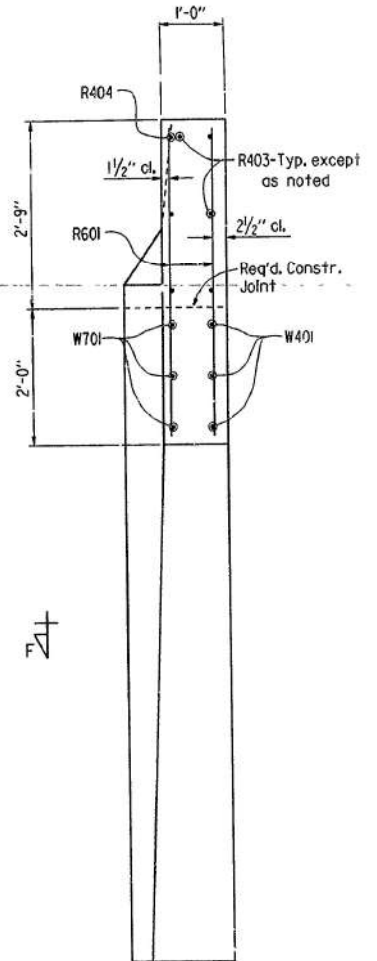
SECTION C-C

Scale: 3/4" = 1'-0"



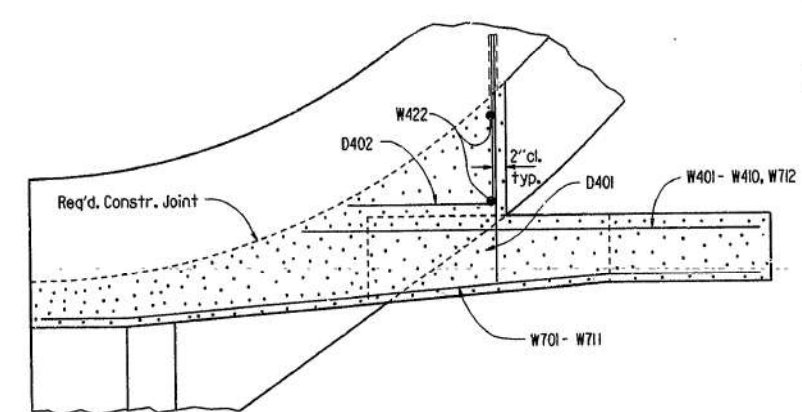
SECTION D-D

Scale: 3/4" = 1'-0"



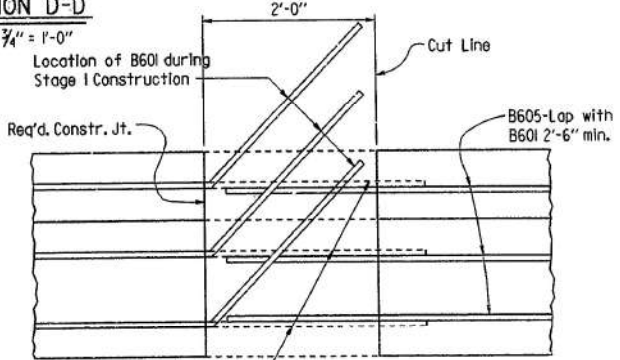
VIEW E-E

Scale: 3/4" = 1'-0"



SECTION F-F

Scale: 3/4" = 1'-0"



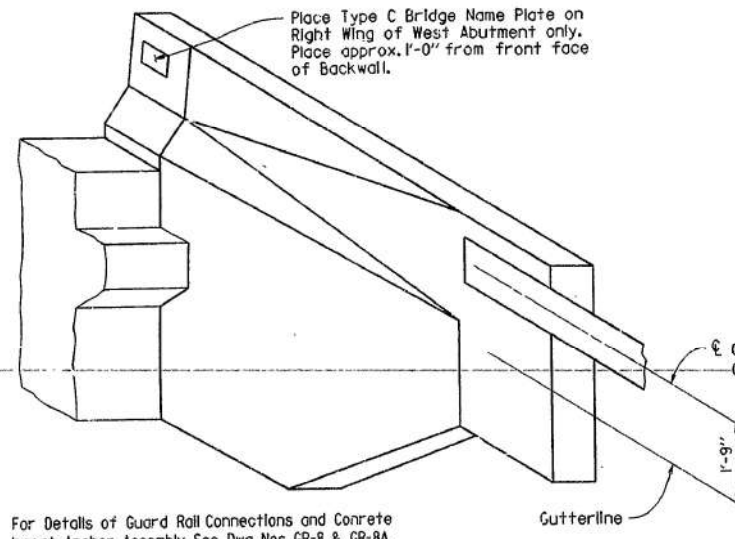
VIEW G-G

Scale: 1" = 1'-0"

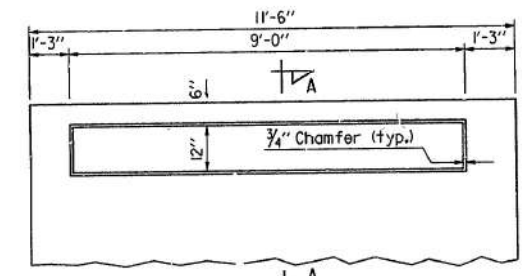
SHEET 2 OF 2
 DETAILS OF EAST ABUTMENT
 HELENA BRIDGE
 ROUTE 49 SEC. 11
 ARKANSAS STATE HIGHWAY COMMISSION
 LITTLE ROCK, ARK.
 DRAWN BY: KDH DATE: OCT. 87
 CHECKED BY: C.J.F. DATE: 11-6-87
 DESIGNED BY: M.E.C. DATE: 9-17-87
 BRIDGE NO. 2899R DRAWING NO. 29551

Paul P. Johnston
 BRIDGE ENGINEER

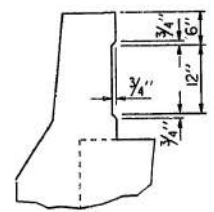
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	MISS. JOB NO.	SHEET NO.	TOTAL SHEETS
2-3-89	604-2-9-87			6	ARK.	85-0057-01-002-10		
				ARK. JOB NO.		110104	19	58
① 2899R-COMM. ABUT. DETLS.-29552								



THREE DIMENSIONAL VIEW OF RAIL
No Scale



DETAILS OF RAIL ENHANCEMENT
Scale: 1/2" = 1'-0"



SECTION A-A
Scale: 3/4" = 1'-0"

GENERAL NOTES

ALL CONCRETE SHALL BE CLASS S AND SHALL BE POURED IN THE DRY. ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED. MINIMUM 28 DAY COMPRESSIVE STRENGTH OF CONCRETE: $f'_c = 3,500$ P.S.I.

REINFORCING STEEL SHALL BE ASTM A615 OR A617, GRADE 60, EXCEPT B601 WHICH SHALL BE A617, GRADE 40.

SPECIFICATIONS: ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION 1988 AND APPLICABLE SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS.

DESIGN SPECIFICATIONS: AASHTO 1983 SPECIFICATIONS FOR HIGHWAY BRIDGES WITH INTERIM SPECIFICATIONS.

LIVE LOAD: HS20 METHOD OF DESIGN: LOAD FACTOR

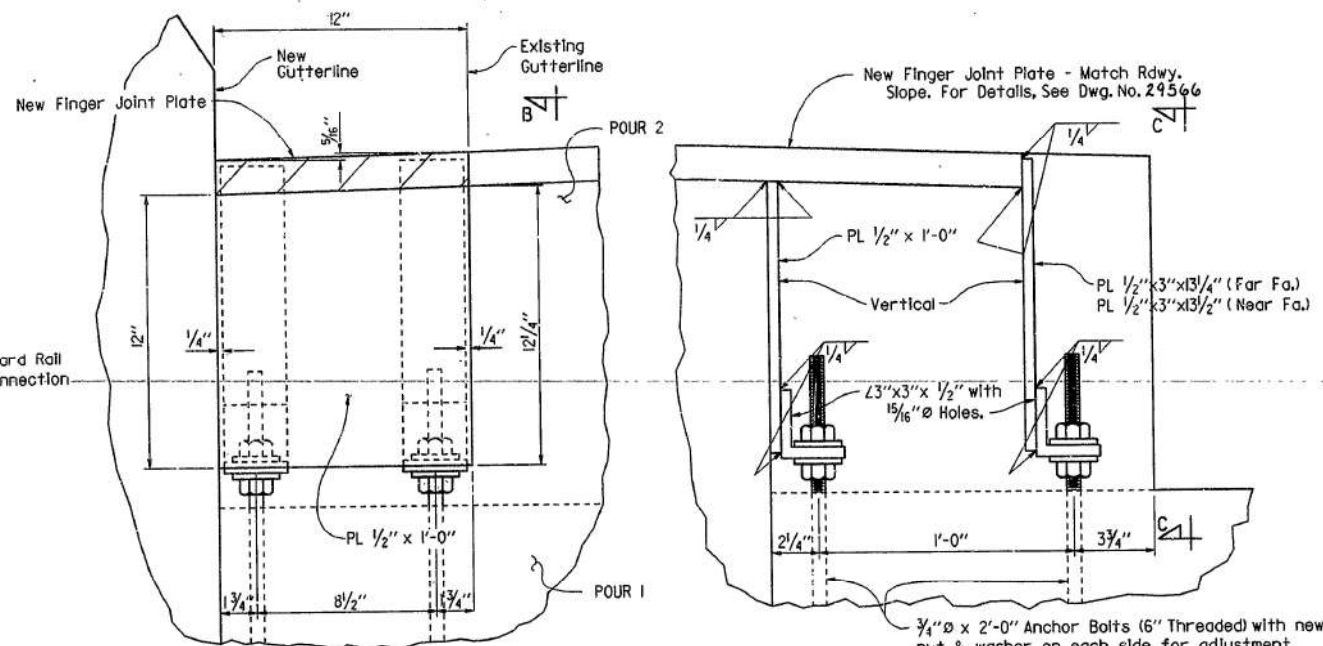
FOR ADDITIONAL INFORMATION, SEE JOB SPEC. PROV. "REMODELING EXISTING ABUTMENTS."

IF TWO OR MORE ADJACENT BARS SEPARATED BY ONLY ONE BAR ARE "BROKEN" IN THE CONCRETE REMOVAL PROCESS, REPLACEMENT DOWEL BARS SHALL BE DRILLED AND GROUTED IN PLACE AT THE CONTRACTOR'S EXPENSE.

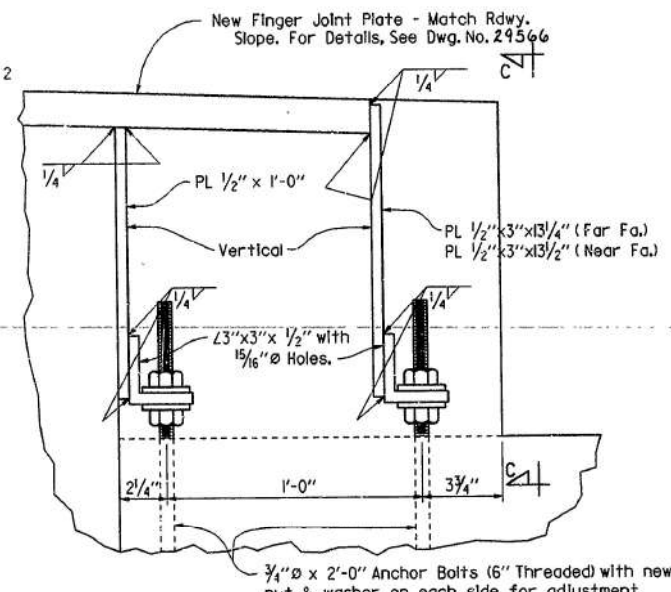
PARAPET PLATE ARMOR, FINGER JOINT EXTENSIONS, AND ANCHOR BOLTS SHALL BE A36 AND SHALL BE MEASURED AND PAID FOR AS "STRUCTURAL STEEL IN PLATE GIRDER SPANS (A36)."

FABRICATOR SHALL CLEAN PLATES AND ANGLES AS NECESSARY FOR FABRICATION ACCORDING TO THE STANDARD SPECIFICATIONS. AFTER ERECTION, ALL STRUCTURAL STEEL WHICH WILL NOT BE IN CONTACT WITH CONCRETE SHALL BE CLEANED AND PAINTED ACCORDING TO SECTION 82.2 OF THE STANDARD SPECIFICATIONS.

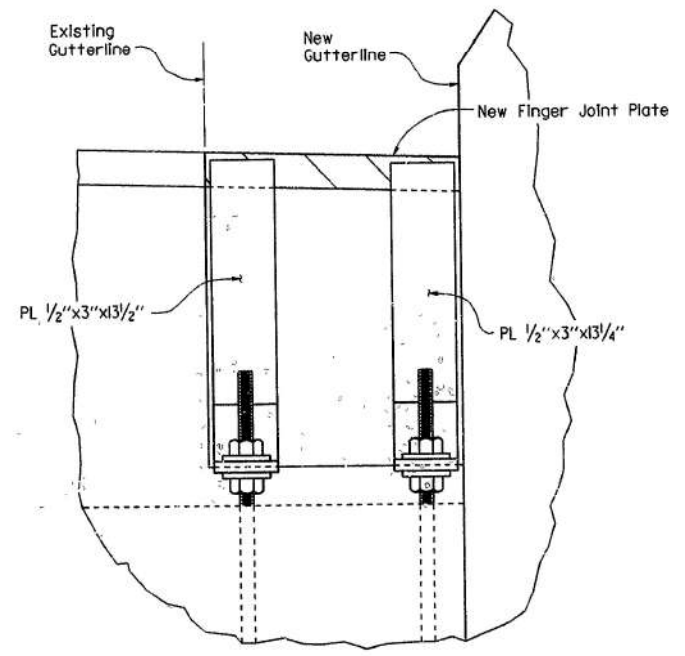
BOILED LINSEED OIL TREATMENT SHALL BE APPLIED TO THE TOP OF THE BACKWALL AND TO THE ROADWAY FACE AND TOP OF THE NEW WINGS. SEE SECTION 803 OF STANDARD SPECIFICATIONS.



FINGER JOINT EXTENSION DETAILS
Scale: 3" = 1'-0"



SECTION B-B
Scale: 3" = 1'-0"



SECTION C-C
Scale: 3" = 1'-0"

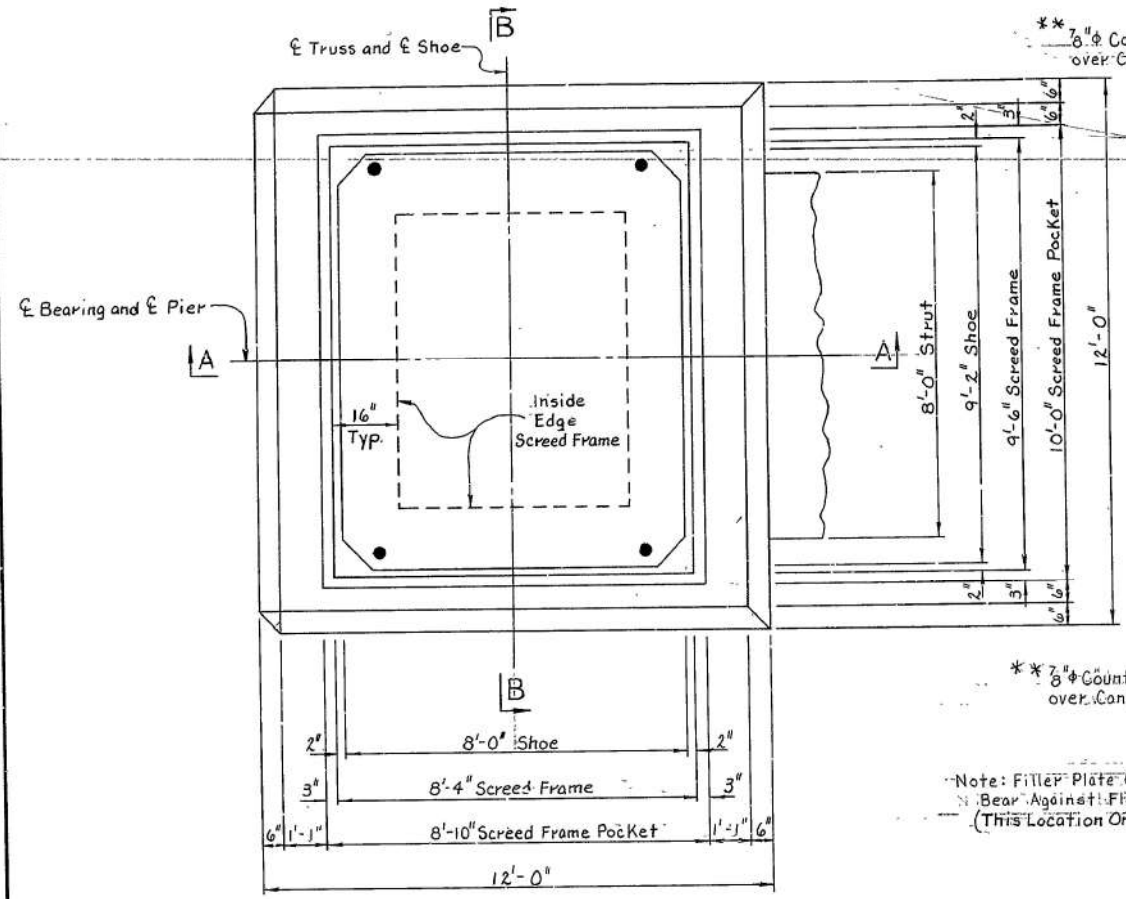
DETAILS COMMON TO
EAST AND WEST ABUTMENT
HELENA BRIDGE
ROUTE 49 SEC. 11
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: OCT. 87
CHECKED BY: CJF DATE: 6 NOV. 87 SCALE: AS NOTED
DESIGNED BY: MLC DATE: 9-17-87
BRIDGE NO. 2899R DRAWING NO. 29552

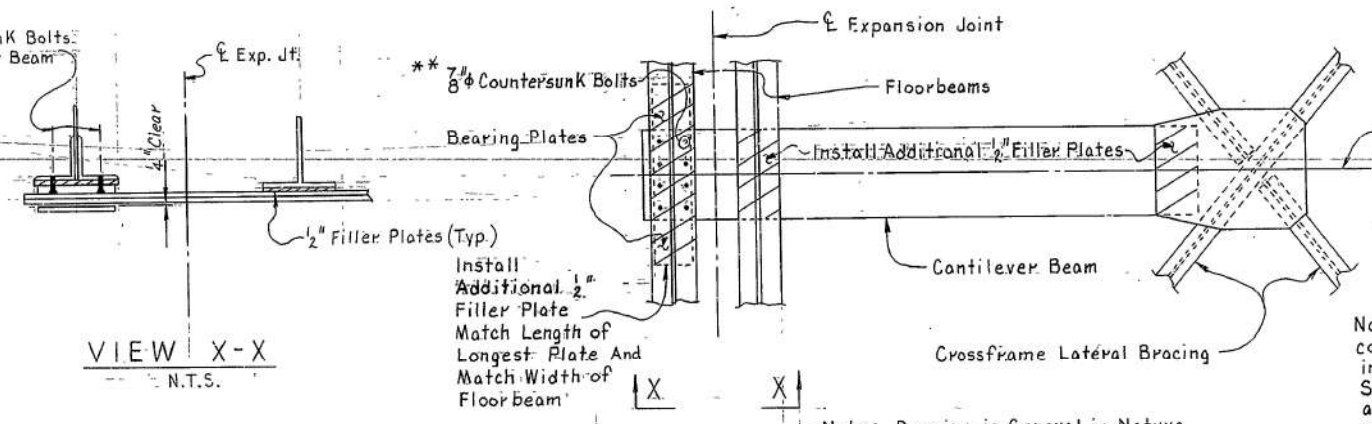
Vital Pinkerton
BRIDGE ENGINEER

DATE REVISION	DATE FILMED	DATE REVISION	DATE FILMED	FED. ROAD DIST. NO.	STATE	MISS. JOB NO.	SHEET NO.	TOTAL SHEETS
2-3-87	6-05-87			6	ARK.	85-0057-01-02-10		
						ARK. JOB NO. 110104	20	53
						2899R MISC. DETAILS 29553		

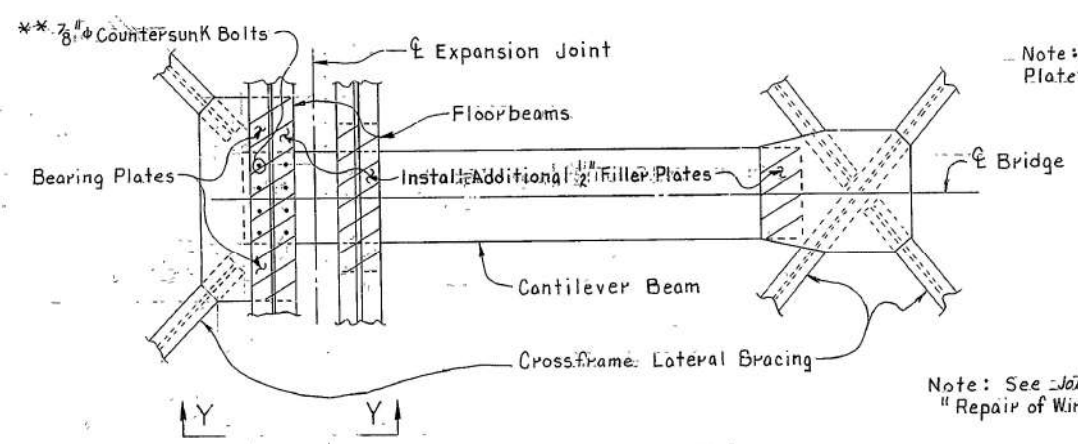
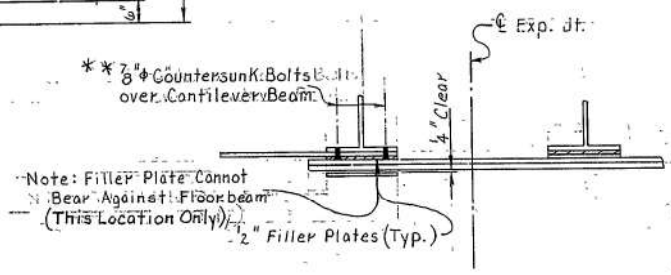
** All new bolts to be 7/8" High Strength Bolts (ASTMA325)
-- Only the bolts that are countersunk are shown



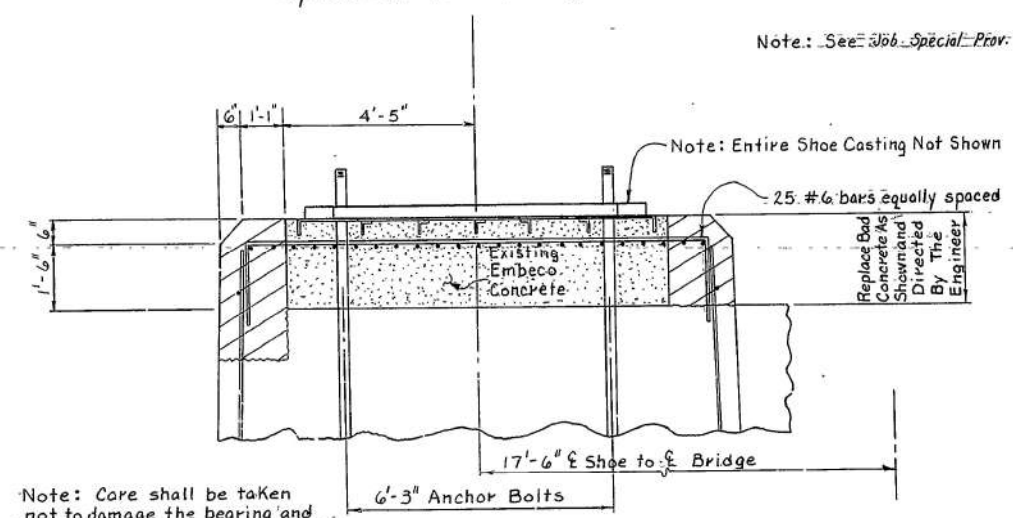
PLAN OF PEDESTAL REPAIR PIER 12
Symmetrical About $\bar{C}$ Bridge



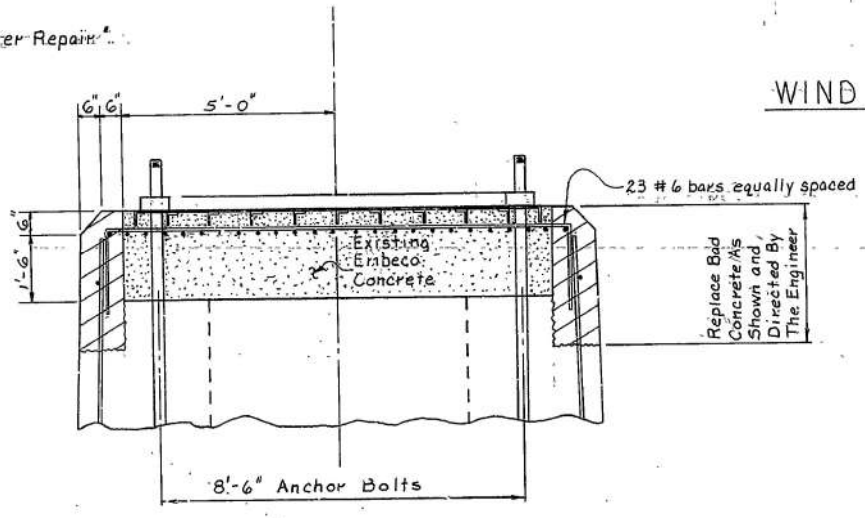
WIND SHEAR DEVICE NEAR PIER 4
N.T.S.



WIND SHEAR DEVICE NEAR PIERS 7 AND 18
N.T.S.



SECTION A-A



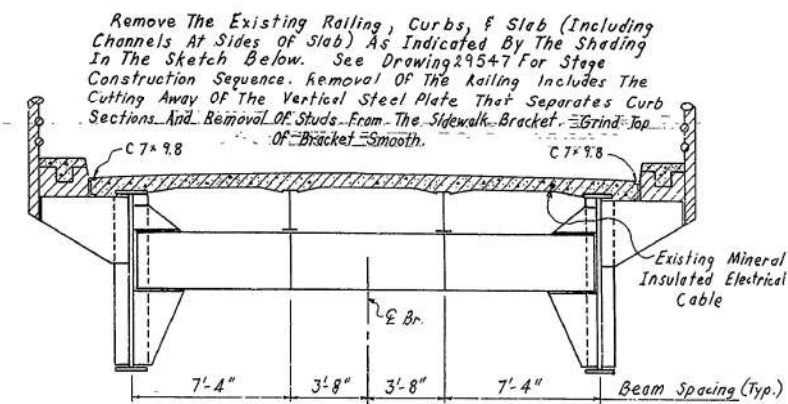
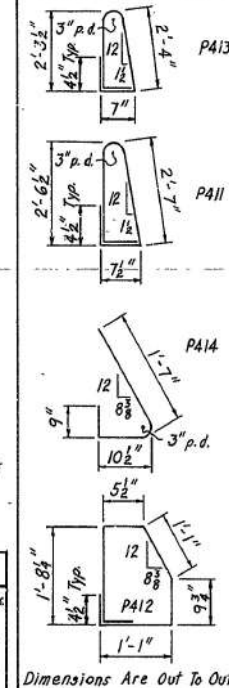
SECTION B-B

DETAILS OF PIER 12 AND WIND SHEAR DEVICE
HELENA BRIDGE

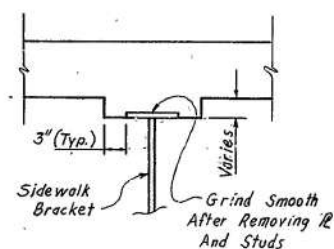
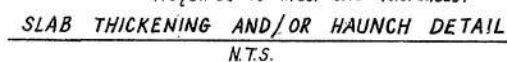
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: D.H.P. DATE: 10-28-87
CHECKED BY: C.J.F. DATE: 1-26-88
DESIGNED BY: D.H.P. DATE: 10-28-87
SCALE: 1/2" = 1'-0" or as shown
BRIDGE NO. 2899R DRAWING NO. 29553

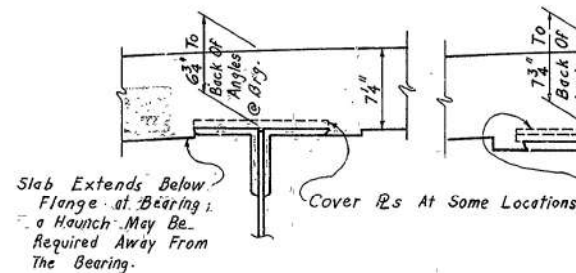
Neal Pinkerton
BRIDGE ENGINEER



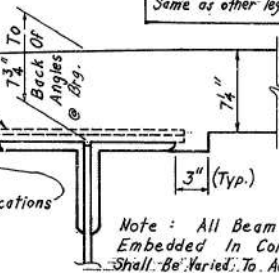
REMOVAL DETAIL FOR
APPROACH UNIT SUPERSTRUCTURE
1" = 1'-0"



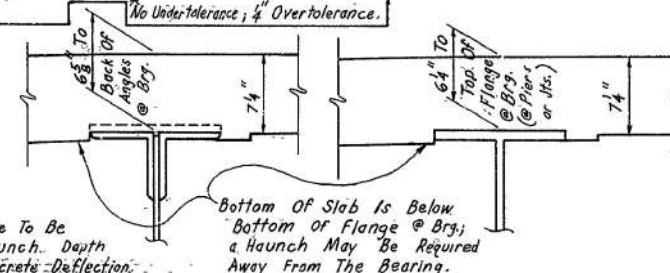
SECTION A-A
1" = 1'-0"



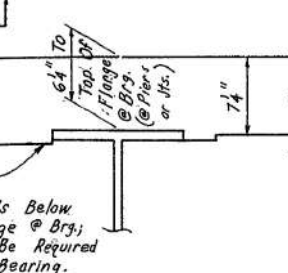
UNIT 1



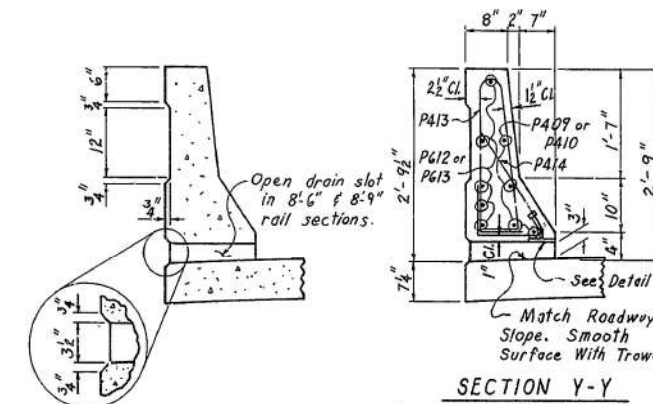
UNITS 2,3,4,5



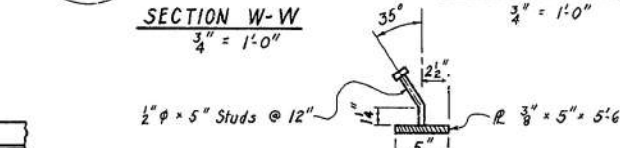
UNIT 1



UNITS 2 3 4 5



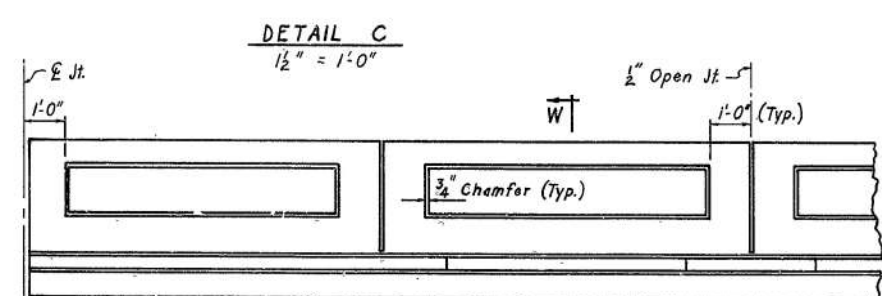
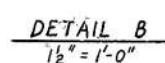
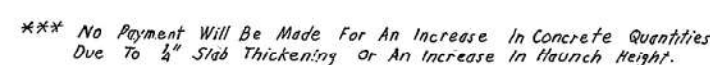
SECTION Y-Y



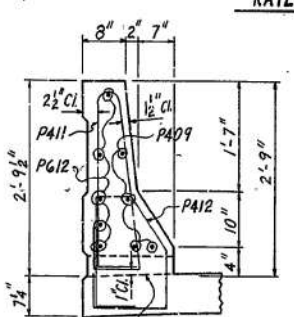
SECTION W-W
3" = 1' 0"

Studs shall be 5" long, granular flux filled, solid fluxed, or equal and automatically welded to plate. Studs and plate to be measured and paid for as "Structural Steel in Plate/Girder Spans (A36)".

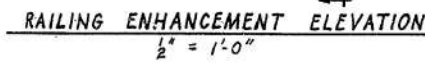
The surfaces of the $\frac{3}{8}$ plates which will not be in contact with concrete shall receive two coats of paint-in the shop. These coats shall be those specified as Shop Prime Coat and Finish Coat in Subsection 807.59.



DETAIL C
 $1\frac{1}{2}" = 1'-0"$



Constr. Jt.
(Match Rdwy. Slope)



PARAPET RAILING VARIABLES

A	C	D	E
10:0 ⁰⁰	9	12 ⁰⁰	6 ⁰⁰
9:53 ³⁰	9	11 ³⁰	3 ³⁰
9:46 ⁰⁰	7	11 ³⁰	3 ³⁰
9:39 ³⁰	7	11 ³⁰	3 ³⁰
9:33 ⁰⁰	6	12 ⁰⁰	6 ⁰⁰
9:26 ³⁰	5	12 ⁰⁰	4 ³⁰

For General Notes See Drawg. 29546

DETAIL Z
N.T.C.

SHEET 1 OF 6
DETAILS OF APPROACH UNITS
HELENA BRIDGE
ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

LITTLE ROCK, ARK.
7746 3-13-86

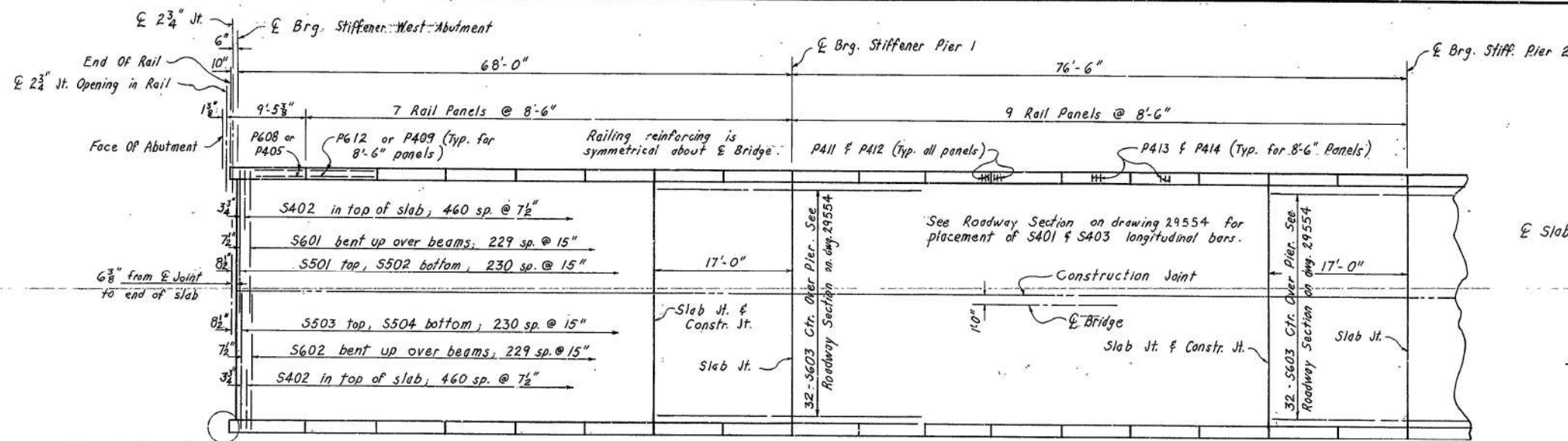
DRAWN BY: M/C DATE: 5-11-86
CHECKED BY: C/E DATE: 12-17-87

CHECKED BY: CS DATE: 12-17-87
DESIGNED BY: MEC DATE: 3-17-86

DESIGNED BY: 5-1-0 DATE: 5-17-80
 000017

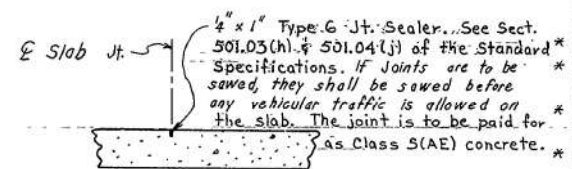
BRIDGE NO. 2899R

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	PER. ROAD DIST. NO.	STATE	MISS. JOB NO.	SHEET NO.	TOTAL SHEETS
1-20-89	896-1-26-89			6	ARK.	85-0057-01-002-10		
2-3-89	637-2-7-89					ARK. JOB NO. 110104	22	53
				2899R	SPAN	29555		



UNIT 1
HALF - PLAN
1/8" = 1'-0"

For Expansion Joint Details See Drwg. 29546-29548
For Parapet Details See Drwg. 29554
For General Notes See Drwg. 29546

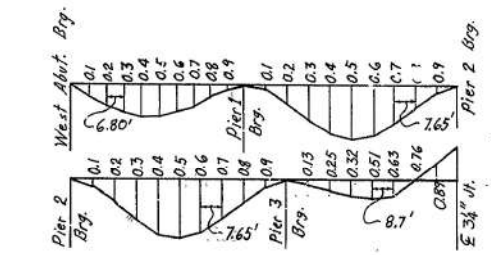


SLAB JOINT
N.T.S.

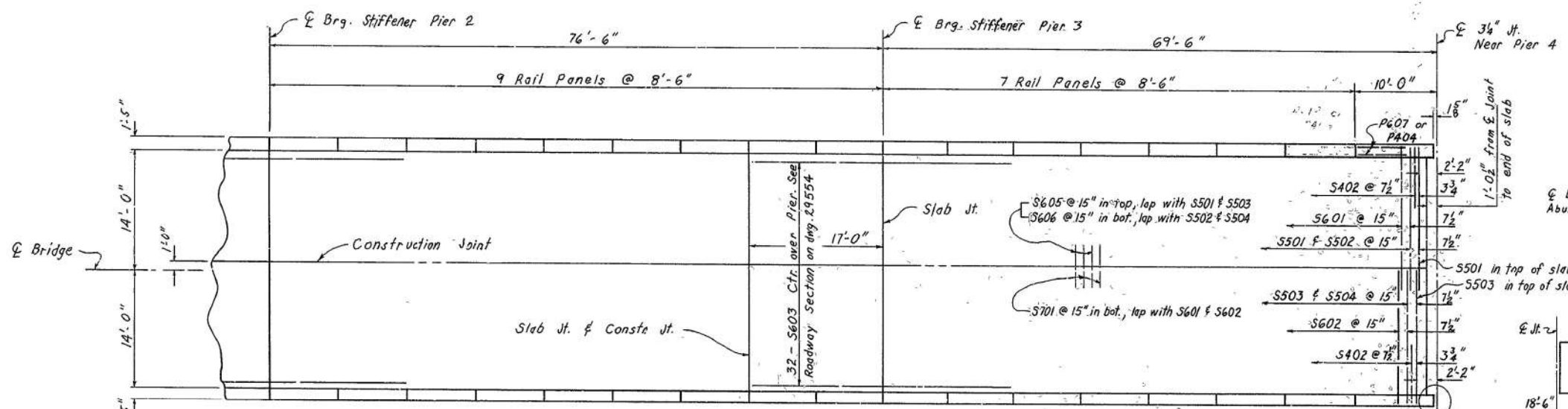
UNIT 1
BAR LIST

Mark	No.	Length	Pin Dia.
S401	200	37'-8"	Str.
S402	922	7'-0"	Str.
S403	352	37'-8"	Str.
S501	232	14'-2"	Str.
S502	231	14'-2"	Str.
S503	232	16'-2"	Str.
S601	231	16'-2"	Str.
S602	230	14'-6"	4 1/2"
S603	230	16'-6"	4 1/2"
P404	8	9'-6"	Str.
P405	8	9'-0"	Str.
P409	256	8'-1"	Str.
P411	552	6'-4"	2"
P412	552	5'-6"	2"
P413	384	5'-10"	2"
P414	384	3'-2"	2"
P607	10	9'-6"	Str.
P608	10	9'-0"	Str.
P612	320	8'-1"	Str.
S605	232	3'-2"	4 1/2"
S606	231	3'-2"	4 1/2"
S701	230	4'-6"	5 1/4"

See drawing 29554 for bending diagrams.
① These bars must be Grade 40.

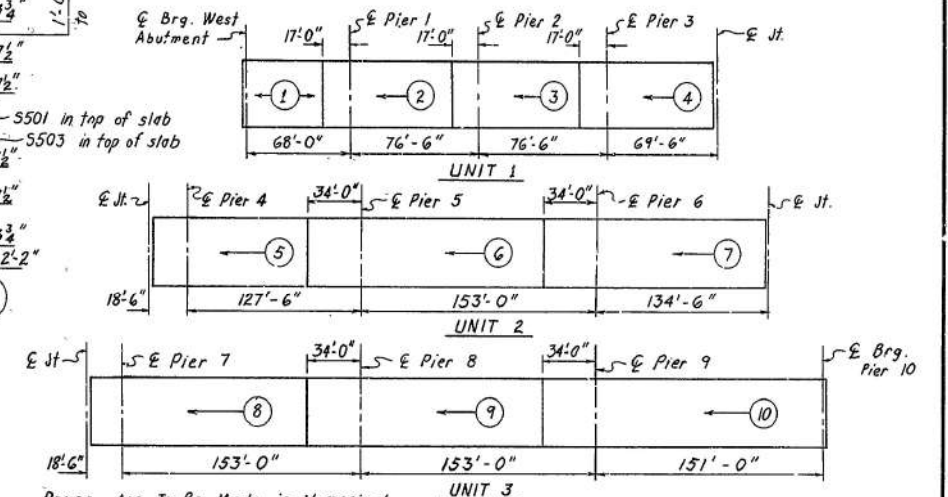


CONCRETE DEFLECTION DIAGRAM FOR UNIT 1
N.T.S.



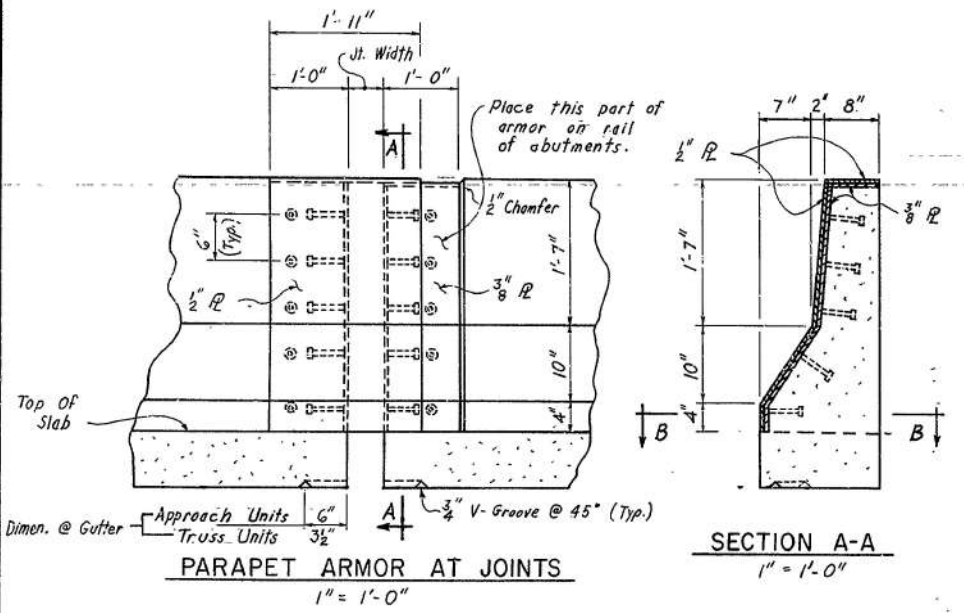
UNIT 1
HALF - PLAN
1/8" = 1'-0"

Parapet Armor (Typ.)
See Details Below.



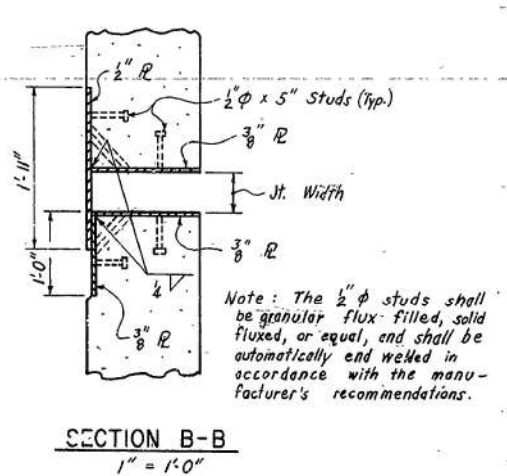
SLAB POURING SEQUENCE
FOR UNITS 1, 2, & 3
N.T.S.

Pours Are To Be Made in Numerical Order in the Direction Indicated. 72 Hours Shall Elapse Between Pours.



PARAPET ARMOR AT JOINTS
1" = 1'-0"

SECTION A-A
1" = 1'-0"



SECTION B-B
1" = 1'-0"

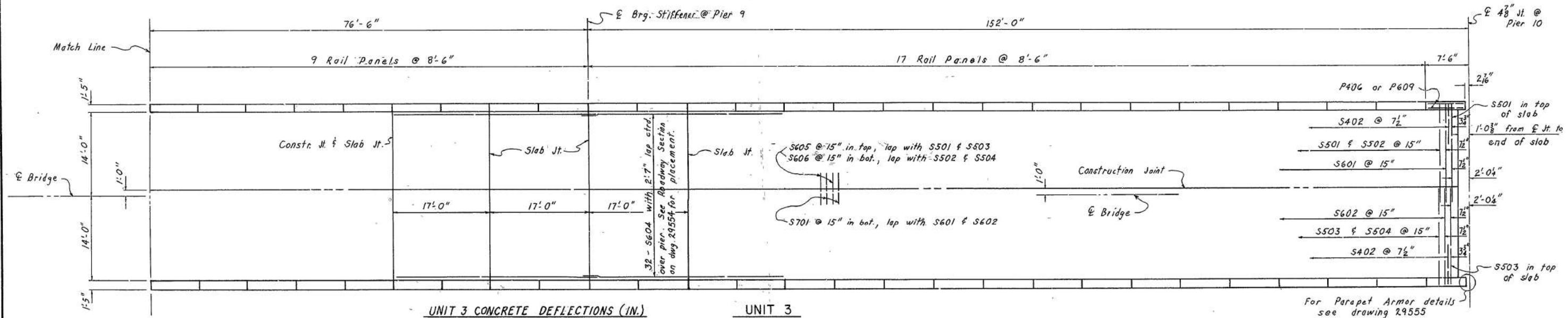
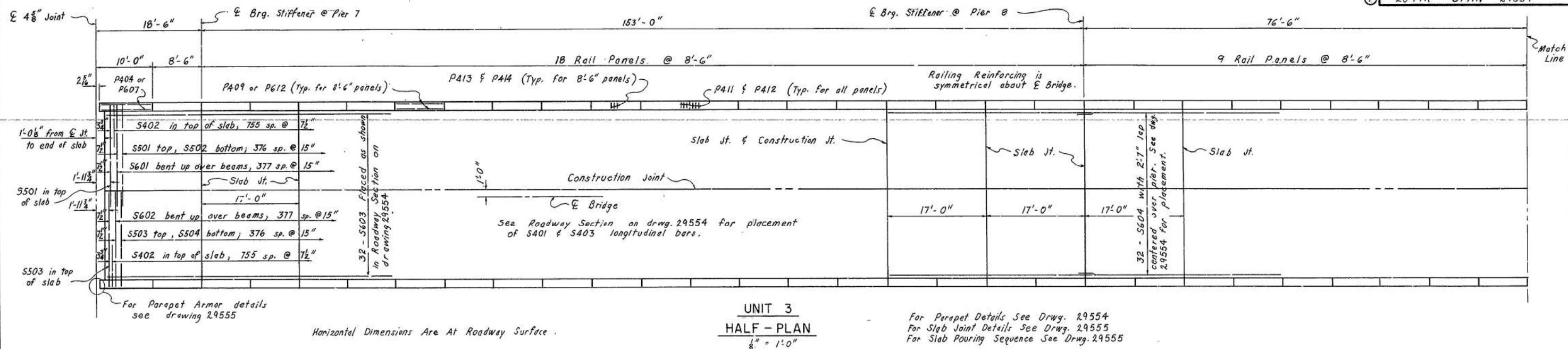
Note: The 2" φ studs shall be granular flux-filled, solid fluxed, or equal, and shall be automatically end welded in accordance with the manufacturer's recommendations.

UNIT 1 CONCRETE DEFLECTIONS (IN.)

Span Point	Defl.	Span Point	Defl.
Brig. Abut.	0	Pier 2	0
0.1	0.13	0.1	0.08
0.2	0.24	0.2	0.27
0.3	0.32	0.3	0.46
0.4	0.36	0.4	0.60
0.5	0.36	0.5	0.65
0.6	0.31	0.6	0.59
0.7	0.24	0.7	0.44
0.8	0.14	0.8	0.25
0.9	0.06	0.9	0.08
Pier 1	0	Pier 3	0
0.1	0.05	0.1	0.05
0.2	0.21	0.2	0.12
0.3	0.39	0.3	0.19
0.4	0.54	0.4	0.20
0.5	0.59	0.5	0.13
0.6	0.55	0.6	0.00
0.7	0.42	0.7	0.20
0.8	0.24	0.8	0.38
0.9	0.08	0.9	
Pier 2	0		

A Minus Sign (-) Indicates an Upward Deflection.

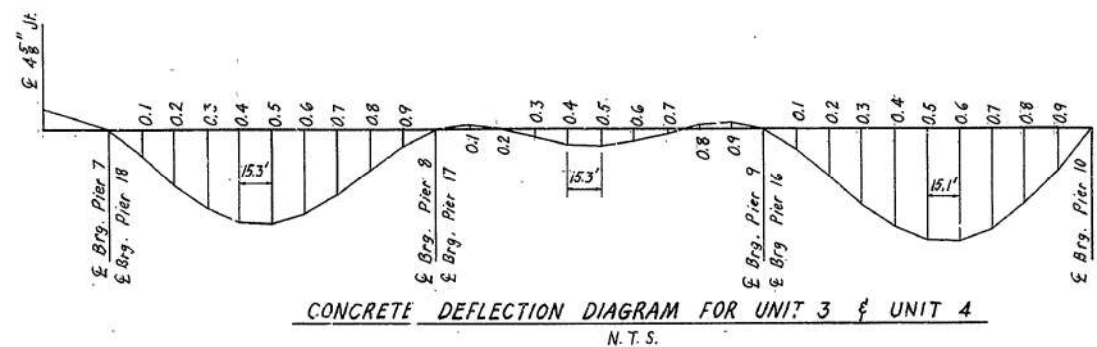
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	MISS. JOB NO.	SHEET NO.	TOTAL SHEETS
1-20-87	872-126-87			6	ARK.	85-0057-01-002-10		
2-3-89	60929-89					ARK. JOB NO. 110104	24	53
				① 2899R SPAN 29557				



UNIT 3 BAR LIST

Mark	No.	Length	Pin Dia.	Mark	No.	Length	Pin Dia.
* S401	325	38'-1"	Str.	P404	8	9'-5"	Str.
* S402	1512	7'-0"	Str.	P406	8	6'-11"	Str.
* S403	572	38'-1"	Str.	P409	432	8'-1"	Str.
* S501	379	14'-2"	2"	P411	900	6'-4"	2"
* S502	377	14'-2"	2"	P412	900	5'-6"	2"
* S503	379	16'-2"	Str.	P413	648	5'-10"	2"
* S504	377	16'-2"	Str.	P414	648	3'-2"	2"
* S601	378	14'-6"	4 1/2"	P607	10	9'-5"	Str.
* S602	378	16'-6"	4 1/2"	P609	10	6'-11"	Str.
* S603	32	50'-0"	Str.	P612	540	8'-1"	Str.
* S604	128	35'-0"	Str.	S701 @	378	4'-6"	5/4"
* S605 @	379	3'-2"	4 1/2"				
* S606 @	377	3'-2"	4 1/2"				

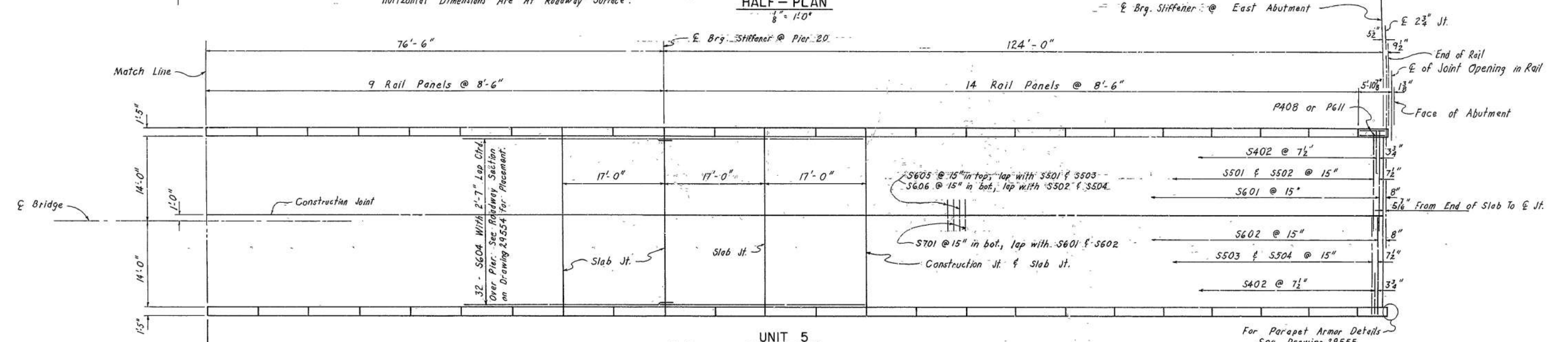
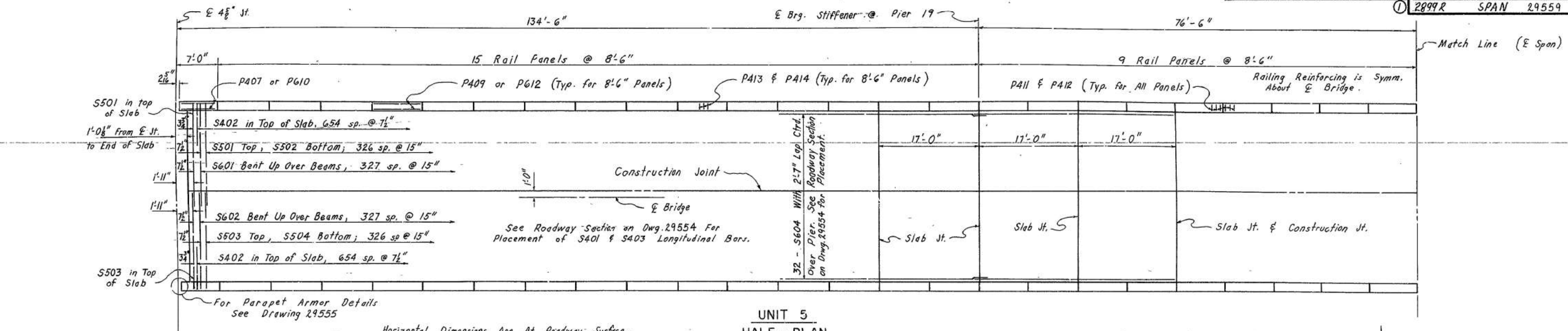
For bending diagrams see drawing 29554

UNIT 3
HALF - PLAN
1/8" = 1'-0"

SHEET 4 OF 6
DETAILS OF APPROACH UNITS
HELENA BRIDGE
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: M.C.C. DATE: 8-19-87
CHECKED BY: C.J.F. DATE: 12-17-87
DESIGNED BY: M.C.C. DATE: 3-17-86
BRIDGE NO. 2899R DRAWING NO. 29557

DATE REVISION	DATE FILMED	DATE REVISION	DATE FILMED	FED. ROAD DIST. NO.	STATE	MISS. JOB NO.	SHEET NO.	TOTAL SHEETS
1-20-87	2-9-87			6	ARK.	85-0057-01-002-10		
2-3-89	4-11-2-9-89					ARK. JOB NO. 110104	26	58
				2899R	SPAN	29559		



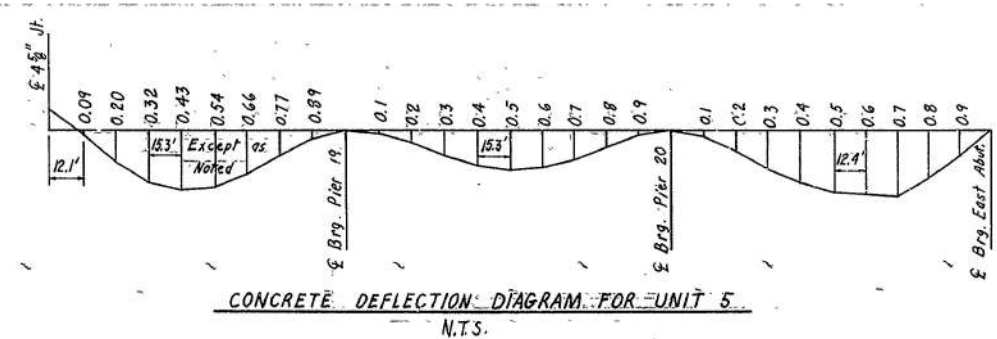
UNIT 5 BAR LIST

Mark	No.	Length	Pin Dia.
* S401	275	38'-10"	Str.
* S402	1310	7'-0"	Str.
S403	184	38'-10"	Str.
* S501	328	14'-2"	2 1/2"
S502	327	14'-2"	2 1/2"
* S503	328	16'-2"	Str.
S504	327	16'-2"	Str.
* S601	328	14'-6"	4 1/2"
* S602	328	16'-6"	4 1/2"
* S604	128	35'-0"	Str.
* S605 @	328	3'-2"	4 1/2"
S606 @	327	3'-2"	4 1/2"
S701 @	328	4'-6"	5 1/4"

For Bending Diagrams See Drawing 29554.

UNIT 5 CONCRETE DEFLECTIONS (IN.)

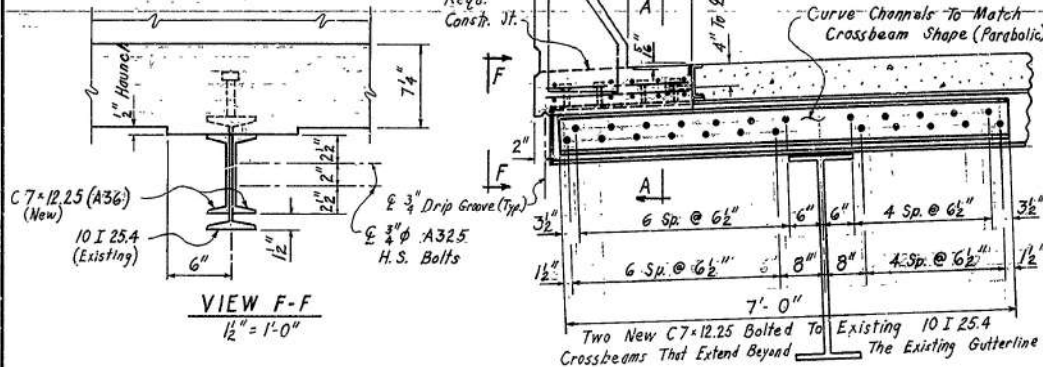
Span Point	Defl.	Span Point	Defl.
E 4 1/2" Jt.	-0.44	E Pier 20	0
0.09	0.07	0.1	0.12
0.20	0.70	0.2	0.42
0.32	1.12	0.3	0.81
0.43	1.30	0.4	1.14
0.54	1.22	0.5	1.37
0.66	0.95	0.6	1.40
0.77	0.55	0.7	1.44
0.89	0.19	0.8	1.07
E Pier 19	0	0.9	0.56
0.1	0.05	E Brg. East Ab.	0
0.2	0.26		
0.3	0.54		
0.4	0.76		
0.5	0.86		
0.6	0.80		
0.7	0.61		
0.8	0.33		
0.9	0.10		
E Pier 20	0		



A Minus Sign (-) Indicates an Upward Deflection.

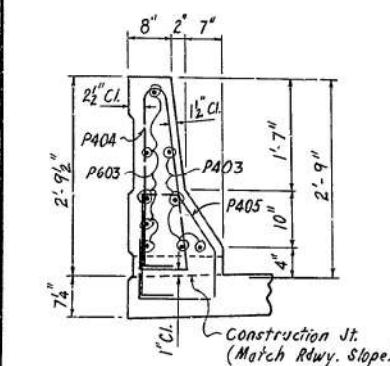
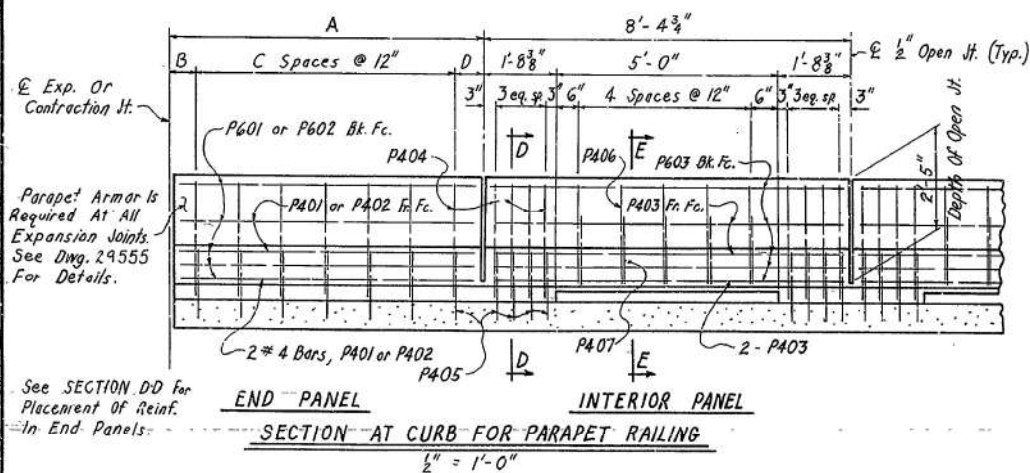
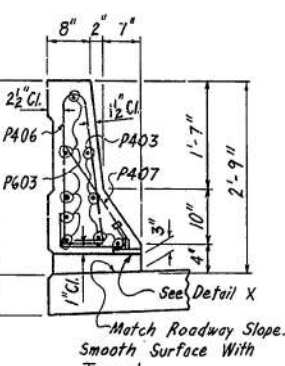
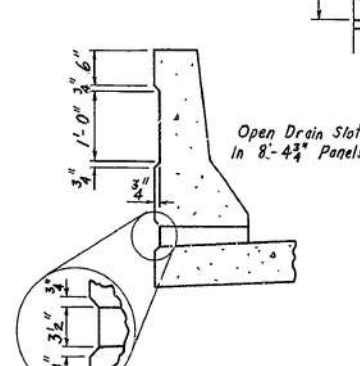
For Parapet Details See Drwg. 29554
For Slab Joint Details See Drwg. 29555
For Expansion Joint Details See Drwg. 29566-29568
For Slab Pouring Sequence See Drwg. 29558
For General Notes See Drwg. 29546

The Existing 10I 25.4 (48" Flange Width) Crossbeams Which Extend Beyond The Existing Gutterline Require Strengthening By Field Drilling And Bolting Two T-1225 Channels To The Web As Shown. The Existing 8WF 35 (86" Flg. Width) And 10WF 39 (8" Flg. Width) Crossbeams, Which Are All Located Adjacent To Expansion Or Contraction Joints, Do Not Require The Addition Of Channels. Clean Contact Surfaces According To The Std. Spec. Paint Channels In Accordance With Section B-20 Of The Standard Specifications. Bolts Shall Be $\frac{3}{4}$ " A325 High Strength With 13/16" Open Holes. Payment For Field Drilling Shall Be As Specified In Job Special Provision: "Remodeling Existing Main River Spans".

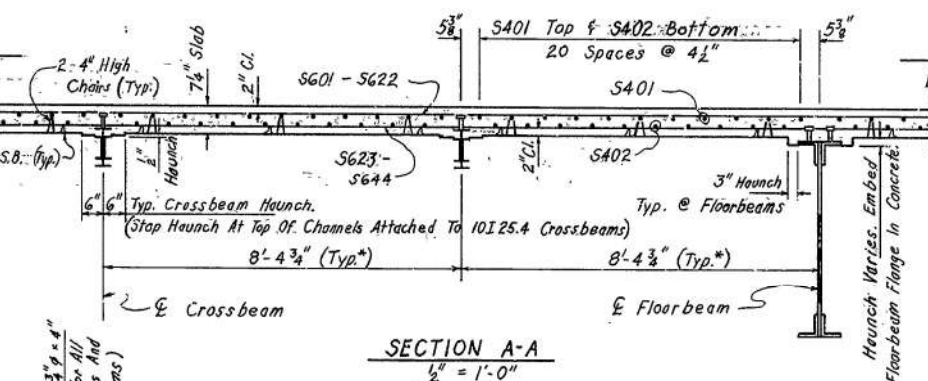
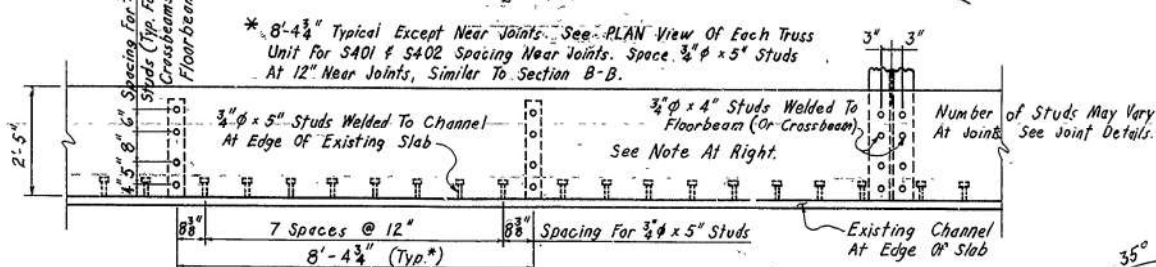
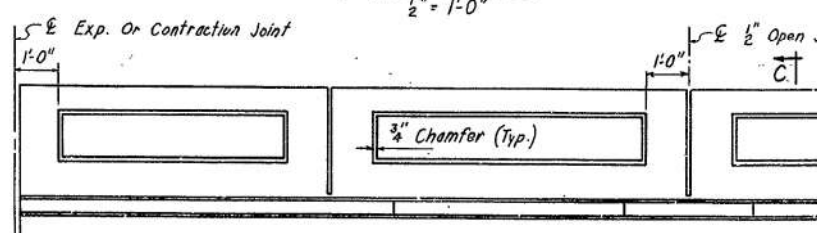


PARAPET VARIABLES

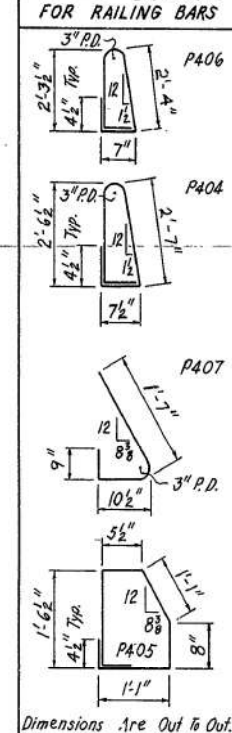
A	B	C	D
9'-7 1/4"	5"	9	2 1/4"
9'-7"	5"	9	2"
9'-6 1/4"	4"	9	2 1/4"
9'-5 1/4"	4"	9	1 7/8"
7'-3 1/4"	7"	6	8 5/8"
7'-2 1/4"	7"	6	7 1/2"

SECTION D-D
3/4" = 1'-0"SECTION E-E
3/4" = 1'-0"SECTION C-C
3/4" = 1'-0"

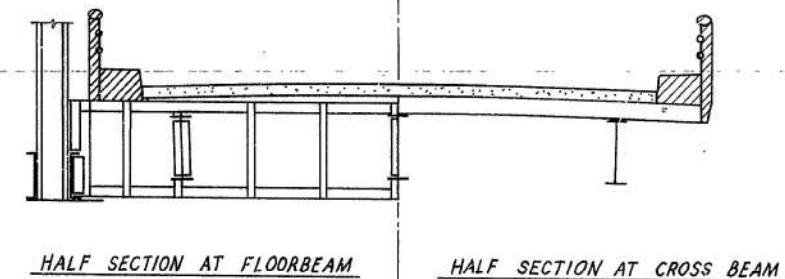
PARTIAL SECTION AT CROSSBEAM

ROADWAY SECTION
3/4" = 1'-0"SECTION A-A
1/2" = 1'-0"VIEW B-B
1/2" = 1'-0"RAILING ENHANCEMENT ELEVATION
1/2" = 1'-0"

BENDING DIAGRAMS FOR RAILING BARS



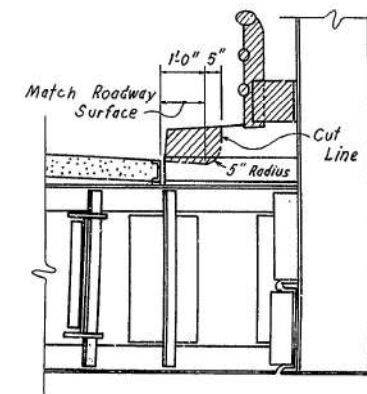
Dimensions Are Out To Out.



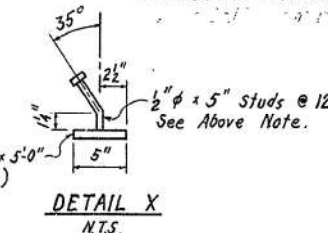
REMOVAL DETAIL FOR TRUSS SPANS

N.T.S.

Remove The Existing Railing And Curbs (The Cross Hatched Areas) Including The Vertical Steel Plates That Separate Curb Sections. The Top Surface Of The Floorbeam Or Cross Beam Shall Be Ground Smooth After Removal Of The Plate. The Plates Attached To The Floorbeams Over Piers 11, 12, 13, & 14 Are Not To Be Removed Completely. See The Detail Below. Remove Also The Existing Studs From Floorbeams And Crossbeams And Weld New Studs In Place As Shown In VIEW B-B.

REMOVAL DETAIL AT PIERS 11, 12, 13, & 14
1/2" = 1'-0"

The 1/2" x 5" Studs Shown In Detail X And The 3/4" x 4" & 3/4" x 5" Studs Shown In VIEW B-B Shall Be Granular Flux Filled, Solid Fluxed, Or Equal And Automatically Welded. All Studs And The 3/4" x 5" Plates (Shown In Detail X) Shall Be Measured And Paid For As "Structural Steel In Truss Spans (A36)". The Surfaces Of The 3/4" x 5" Plates Which Will Not Be In Contact With Concrete Shall Receive Two Coats Of Paint In The Shop. These Coats Shall Be Those Specified As Shop Prime Coat And Finish Coat In Subsection 807.59.

DETAIL X
N.T.S.

SHEET 1 OF 6
DETAILS OF TRUSS SPANS
HELENA BRIDGE
ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MFC DATE: 10-23-87

CHECKED BY: C.J.F. DATE: 12-17-87

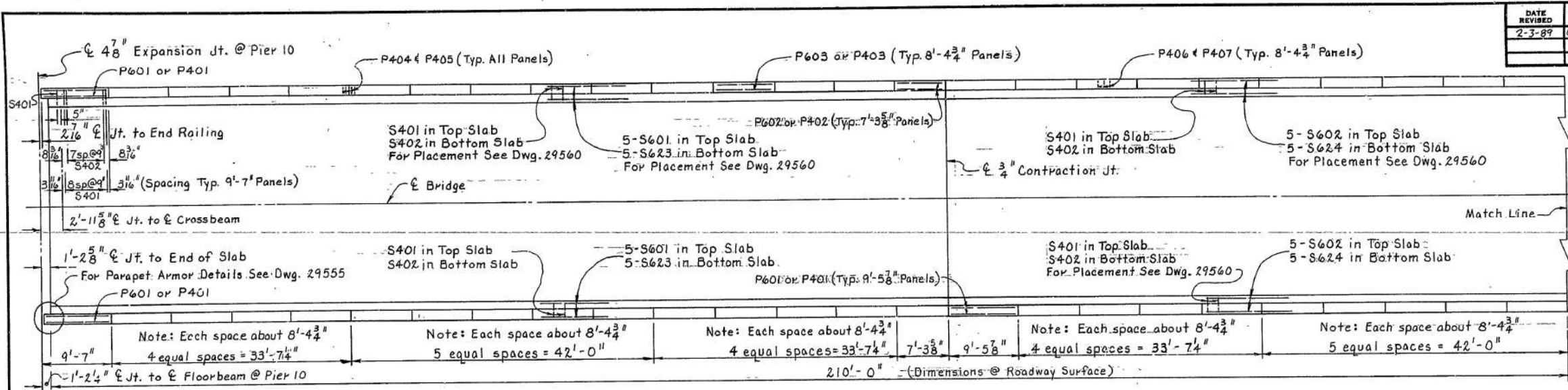
DESIGNED BY: MFC DATE: 10-23-87

SCALE: As Noted

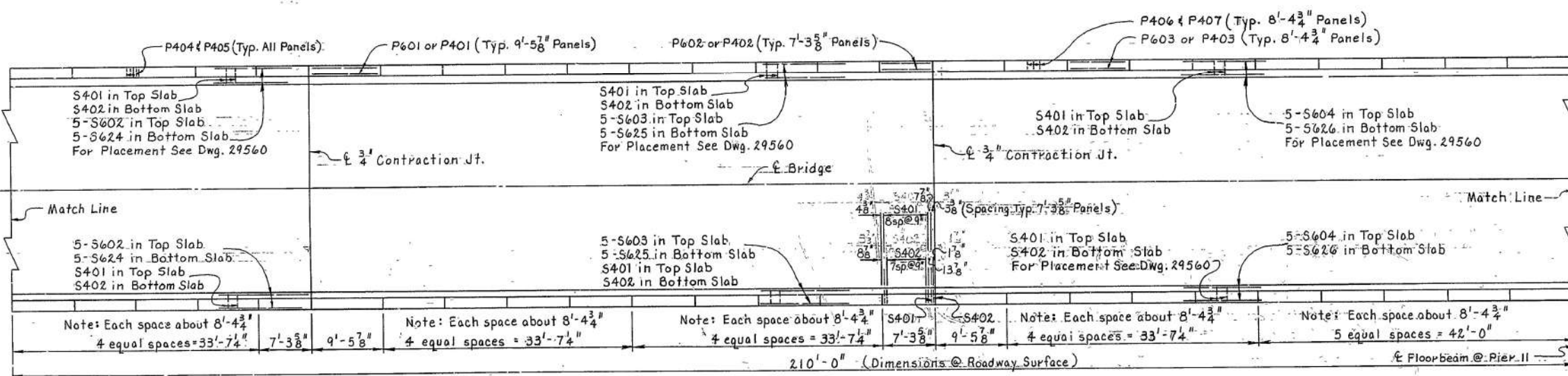
BRIDGE NO. 2899R

DRAWING NO. 29560

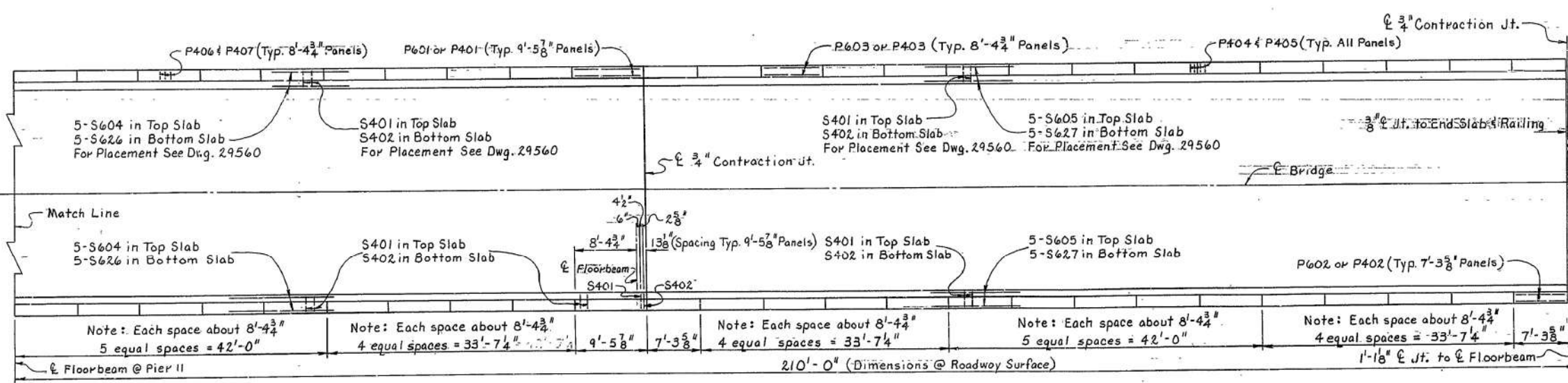
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	MISS. JOB NO.	SHEET NO.	TOTAL SHEETS
2-3-87	6-13-89			6	ARK.	85-0057-01-002-10	23	58
				ARK. JOB NO.		110104	23	58
				2899R		TRUSS SPANS	29561	



PART PLAN UNIT 1



PART PLAN UNIT 1



PART PLAN UNIT 1

UNIT 1 - BAR LIST

Epoxy Coating	Mark	No. Req'd.	Length	Pin Dia.
	P401	40	9'-0"	Str.
	P402	40	6'-8"	Str.
	P403	520	8'-0"	Str.
	P404	1210	6'-4"	2"
	P405	1210	5'-2"	2"
	P406	650	5'-10"	2"
	P407	650	3'-2"	2"
	P601	50	9'-0"	Str.
	P602	50	6'-8"	Str.
	P603	650	8'-0"	Str.
Coated	S401	1646	2'-2"	Str.
	S402	1494	2'-2"	Str.
Coated	S601	30	43'-3"	Str.
Coated	S602	30	43'-8"	Str.
Coated	S603	20	43'-2"	Str.
Coated	S604	40	44'-4"	Str.
Coated	S605	30	42'-11"	Str.
	S623	30	43'-3"	Str.
	S624	30	43'-8"	Str.
	S625	20	43'-2"	Str.
	S626	40	44'-4"	Str.
	S627	30	42'-11"	Str.

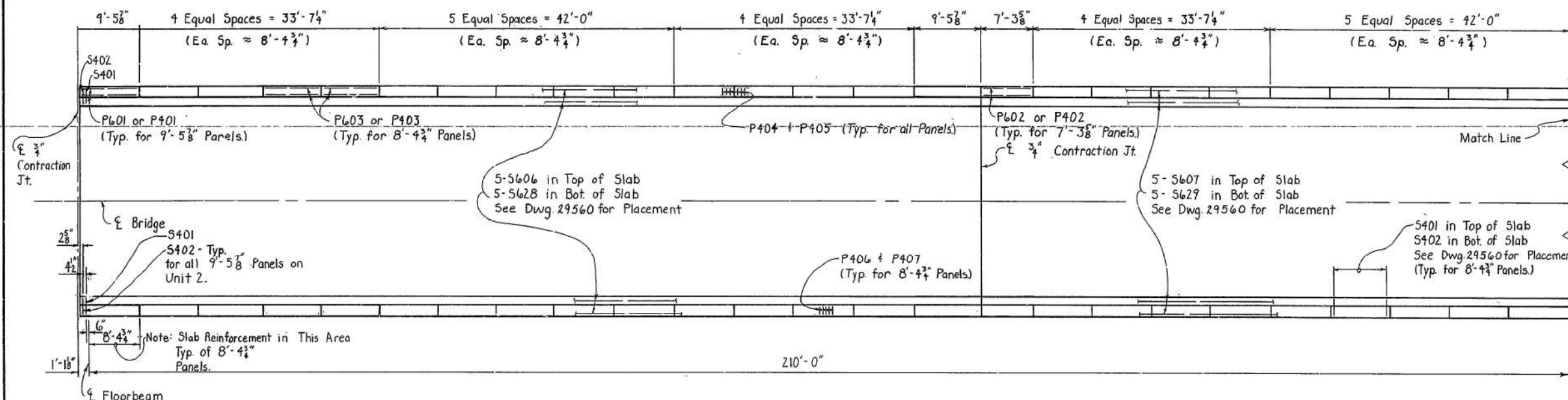
See Bending Diagrams on Dwg. 29560

For Parapet Details, See Dwg. 29560
For Expansion and Contraction Joint Details, See Dwg. 29566-29568

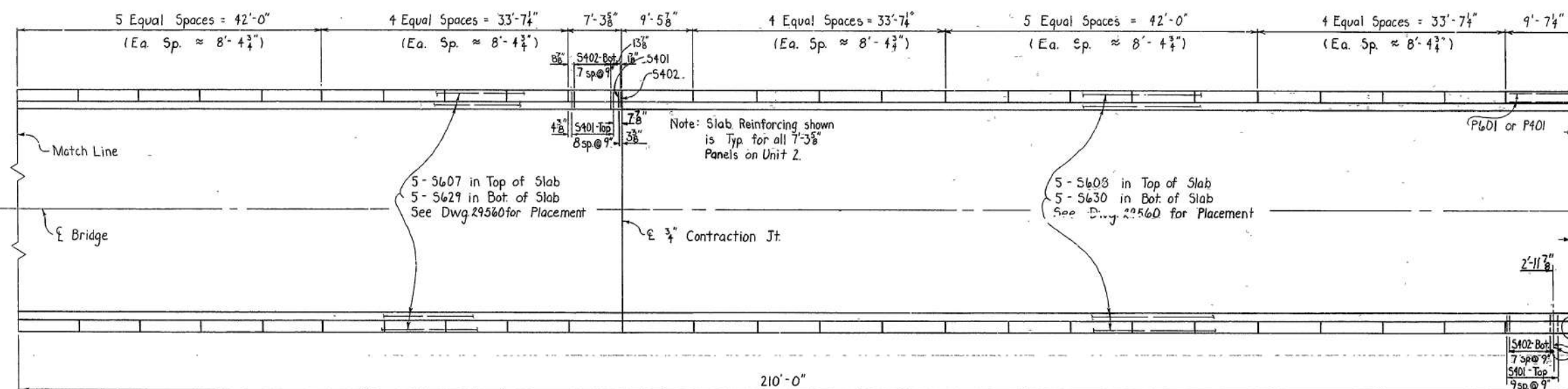
SHEET 2 OF 6
DETAILS OF TRUSS SPANS
HELENA BRIDGE
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: D.H.P. DATE: 10-13-87
CHECKED BY: C.J.F. DATE: 12-17-87
DESIGNED BY: M.F.C. DATE: 9-17-87
BRIDGE NO. 2899R DRAWING NO. 29561

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	MISS. JOB NO.	SHEET NO.	TOTAL SHEETS
2-3-89	6-14-89			6	ARK.	85-0057-01-002/10		
						ARK. JOB NO.	110104	29 58
							2899R	TRUSS SPANS 29562

Note: Slab & Railing Reinforcing is Symm. about $\bar{\bar{C}}$ Bridge.



PART PLAN - UNIT 2



PART PLAN - UNIT 2

UNIT 2 - BAR LIST

Epoxy Coating	Mark	No. Req'd.	Length	Pin Dia.
	P401	32	9'-0"	Str.
	P402	16	6'-8"	Str.
	P403	352	8'-0"	Str.
	P404	812	6'-4"	2"
	P405	812	5'-2"	2"
	P406	440	5'-10"	2"
	P407	440	3'-2"	2"
	P601	10	9'-0"	Str.
	P602	20	6'-8"	Str.
	P603	440	8'-0"	Str.
Coated	S401	1100	2'-2"	Str.
	S402	998	2'-2"	Str.
Coated	S606	30	44'-4"	Str.
Coated	S607	30	56'-11"	Str.
Coated	S608	30	44'-4"	Str.
	S628	30	44'-4"	Str.
	S629	30	56'-11"	Str.
	S630	30	44'-4"	Str.

For Bending Diagrams, See Dwg. 29560

For Parapet Details, See Dwg. 29560

For Expansion & Contraction Jt. Details, See Dwg. 29566-29568

3" $\bar{\bar{C}}$ Jt. to Edge of Railing
6" Expansion Jt.

1'-2 7/8" from $\bar{\bar{C}}$ Jt. to End of Slab
For Parapet Armor Details, See Dwg. 29555

5" $\bar{\bar{C}}$ Crossbeam
6 1/2"
Dimension @ Rdwy. Surface
1'-2 1/2" $\bar{\bar{C}}$ Floorbeam

SHEET 3 OF 6
DETAILS OF TRUSS SPANS
HELENA BRIDGE

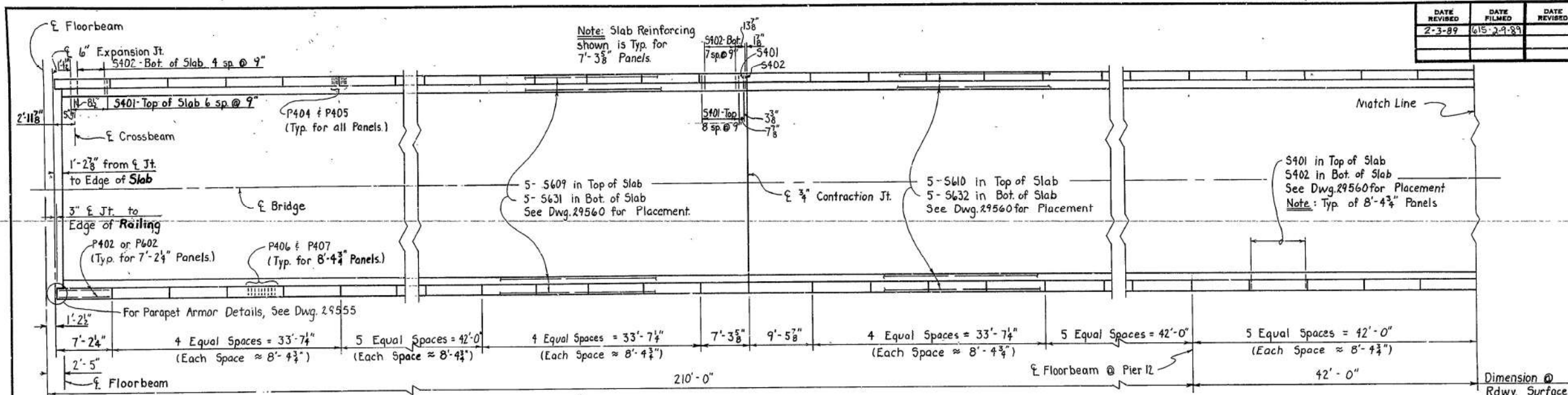
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: SML DATE: 10-13-87
CHECKED BY: C.J.F. DATE: 12-17-87
DESIGNED BY: MEC DATE: 9-17-87

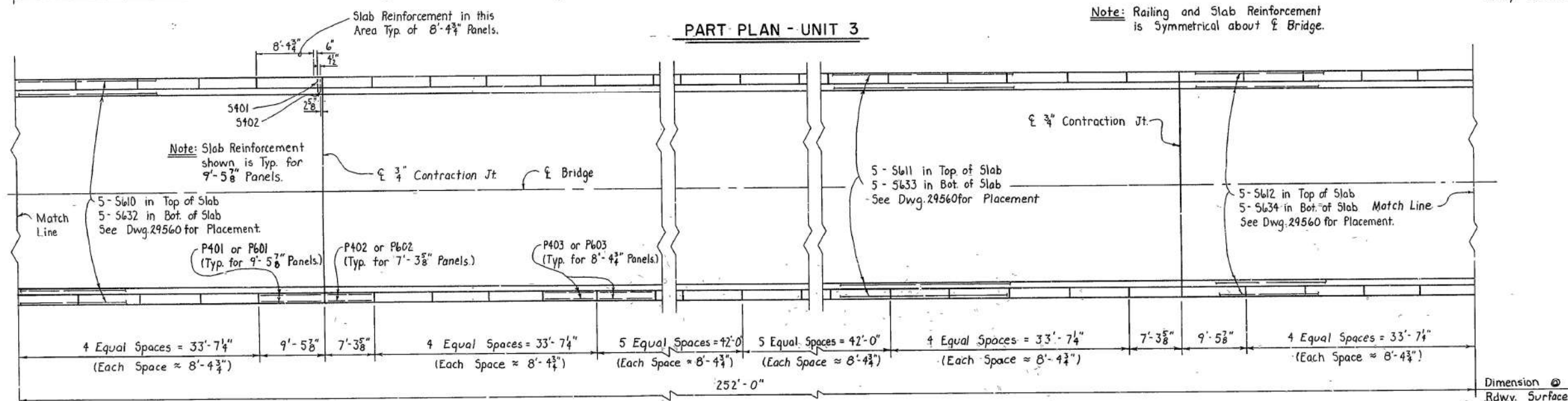
SCALE: 1/8" = 1'-0"

BRIDGE NO. 2899R DRAWING NO. 29562

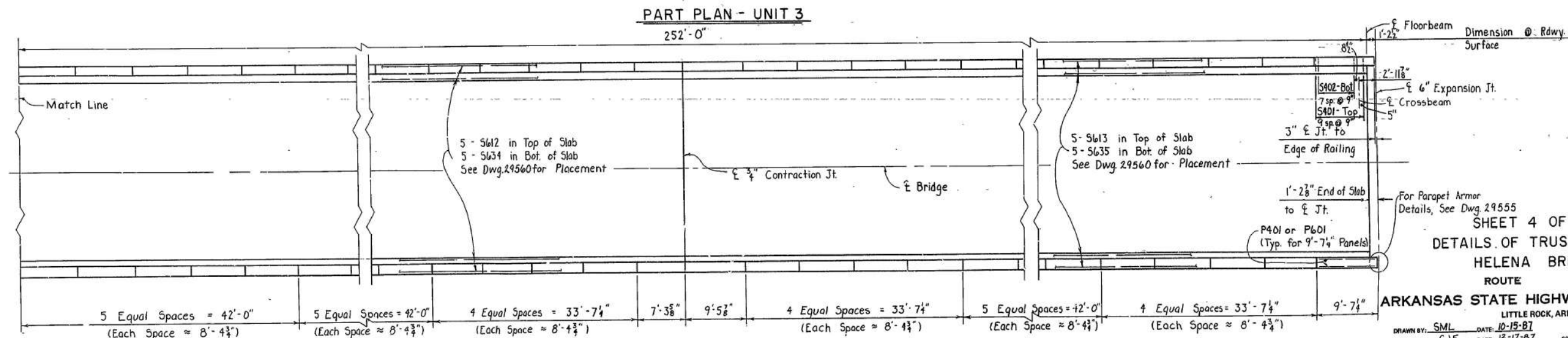
Verde Pinkerton
BRIDGE ENGINEER



PART PLAN - UNIT 3



PART PLAN - UNIT 3



PART PLAN - UNIT 3

[illegible]

For Parapet Details, See Dwg. 29560
For Contraction & Expansion Jt. Details,
See Dwg. 29566-29568

DETAILS, SEE DWG. 29553

SHEET 4 OF 6

DETAILS OF TRUSS SPANS

HELENA BRIDGE

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: SML DATE: 10-15-87

CHECKED BY: CJF DATE: 12-17-87

DESIGNED BY: MRC DATE: 9-17-87

SCALE: 1/8" = 1' - 0"

BRIDGE NO. 2899R

DRAWING NO. 29563

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	MISS. JOB NO.	SHEET NO.	TOTAL SHEETS
2-3-89	6-17-94			6	ARK.	85-0057-01-00210		
						ARK. JOB NO.	110104	32 53
						2899R	TRUSS SPANS	29565

UNIT 5 - BAR LIST

Epoxy Coating	Mark	No. Req'd	Length	Pin Dia.
	P401	40	9'-0"	Str.
	P402	40	6'-8"	Str.
	P403	520	8'-0"	Str.
	P404	1210	6'-4"	2"
	P405	1210	5'-2"	2"
	P406	650	5'-10"	2"
	P407	650	3'-2"	2"
	P601	50	9'-0"	Str.
	P602	50	6'-8"	Str.
	P603	650	8'-0"	Str.
Coated	S401	1640	2'-2"	Str.
	S402	1486	2'-2"	Str.
Coated	S618	30	42'-9"	Str.
Coated	S619	40	44'-5"	Str.
Coated	S620	20	43'-2"	Str.
Coated	S621	30	43'-8"	Str.
Coated	S622	30	43'-7"	Str.
	S640	30	42'-9"	Str.
	S641	40	44'-5"	Str.
	S642	20	43'-2"	Str.
	S643	30	43'-8"	Str.
	S644	30	43'-7"	Str.
See Bending Diagrams on Dwg. 29560				

For Parapet Details, See Dwg. 29560
For Expansion and Contraction Joint Details,
See Dwg. 29566-29568

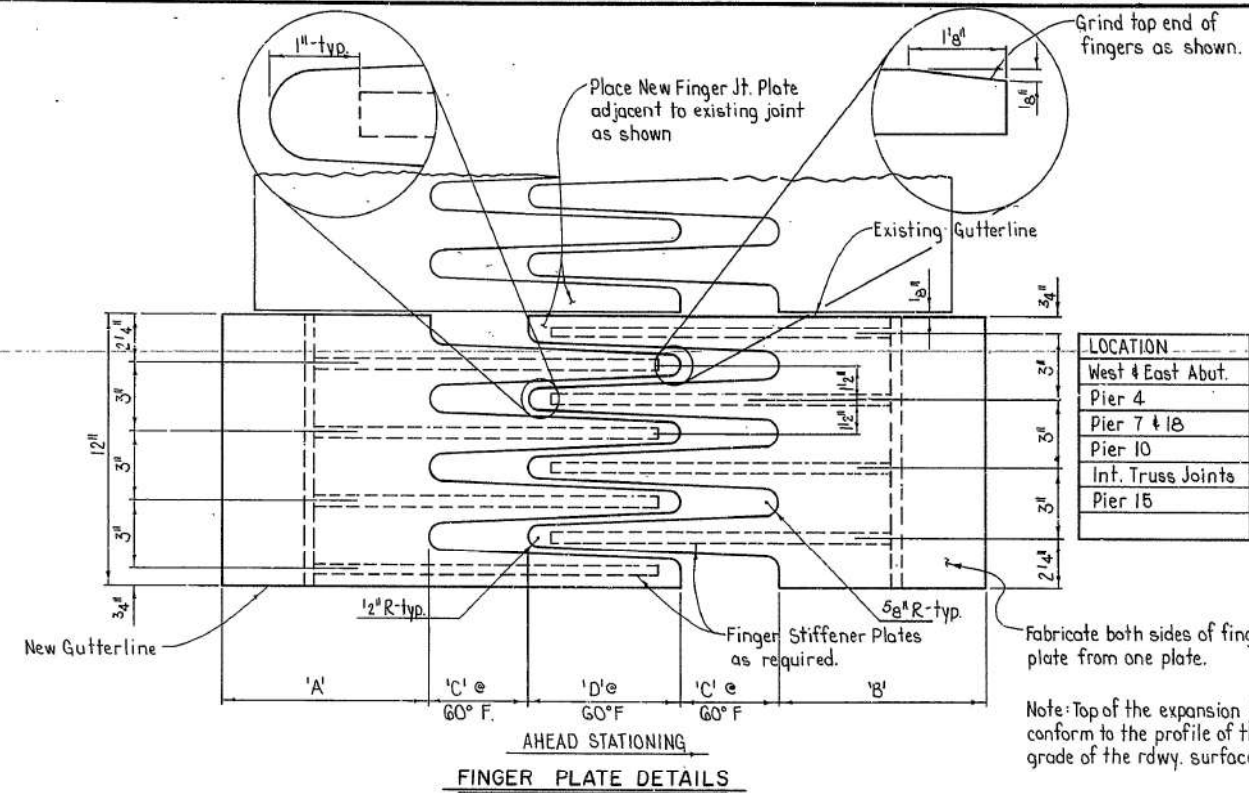
PART PLAN UNIT 5

PART PLAN UNIT 5

PART PLAN UNIT 5

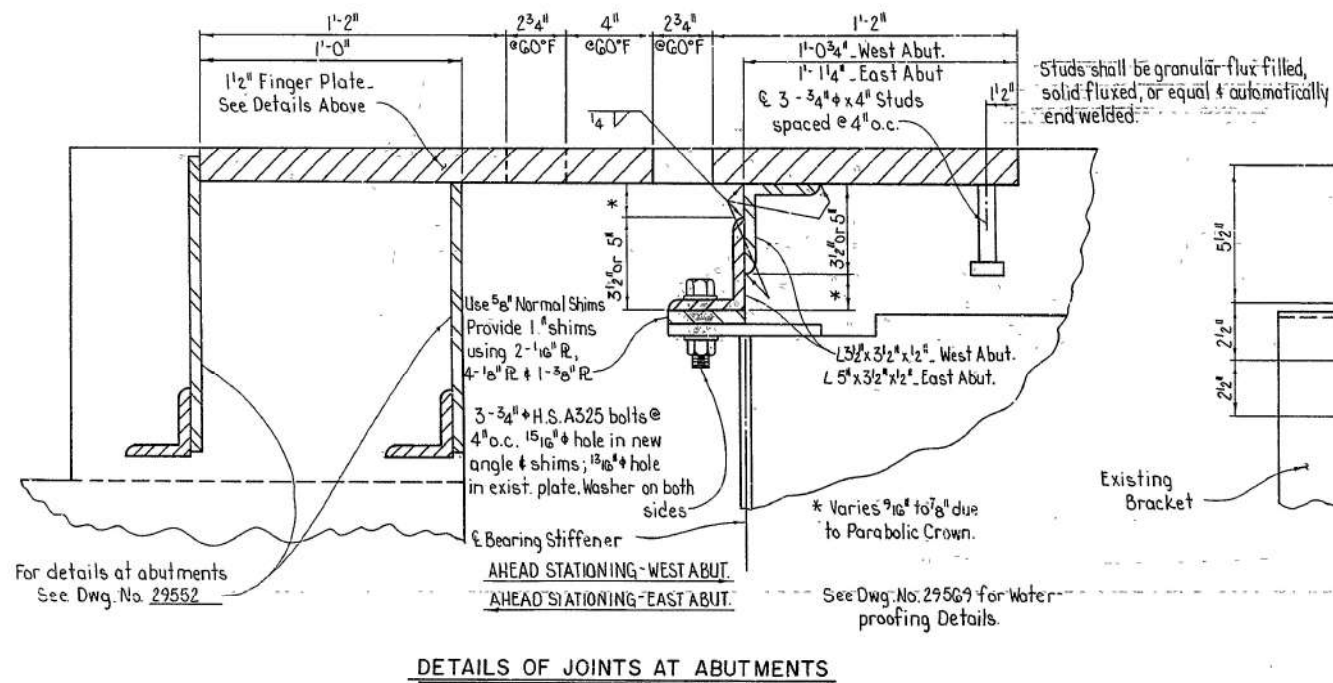
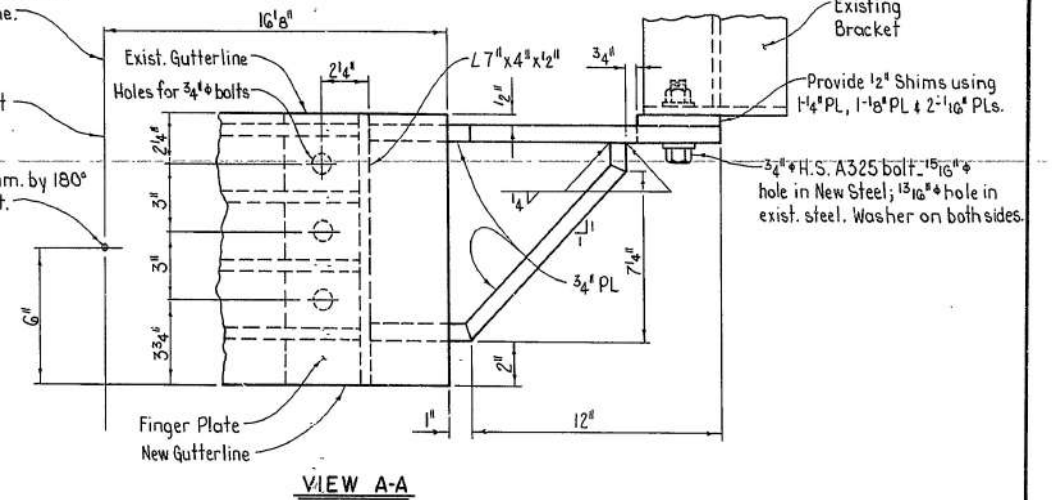
SHEET 6 OF 6
DETAILS OF TRUSS SPANS
HELENA BRIDGE
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: D.H.P. DATE: 10-13-87
CHECKED BY: C.J.F. DATE: 12-17-87
DESIGNED BY: M.E.C. DATE: 2-17-87
BRIDGE NO. 2899R DRAWING NO. 29565

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	ST. NO.	MISS. JOB NO.	SHEET NO.	TOTAL SHEETS
2-7-89	6-18-2-9-89			6	ARK.	85-0057-01-002-10		
						ARK. JOB NO. 110104	33	58
2899R - FINGER JOINTS - 29566								

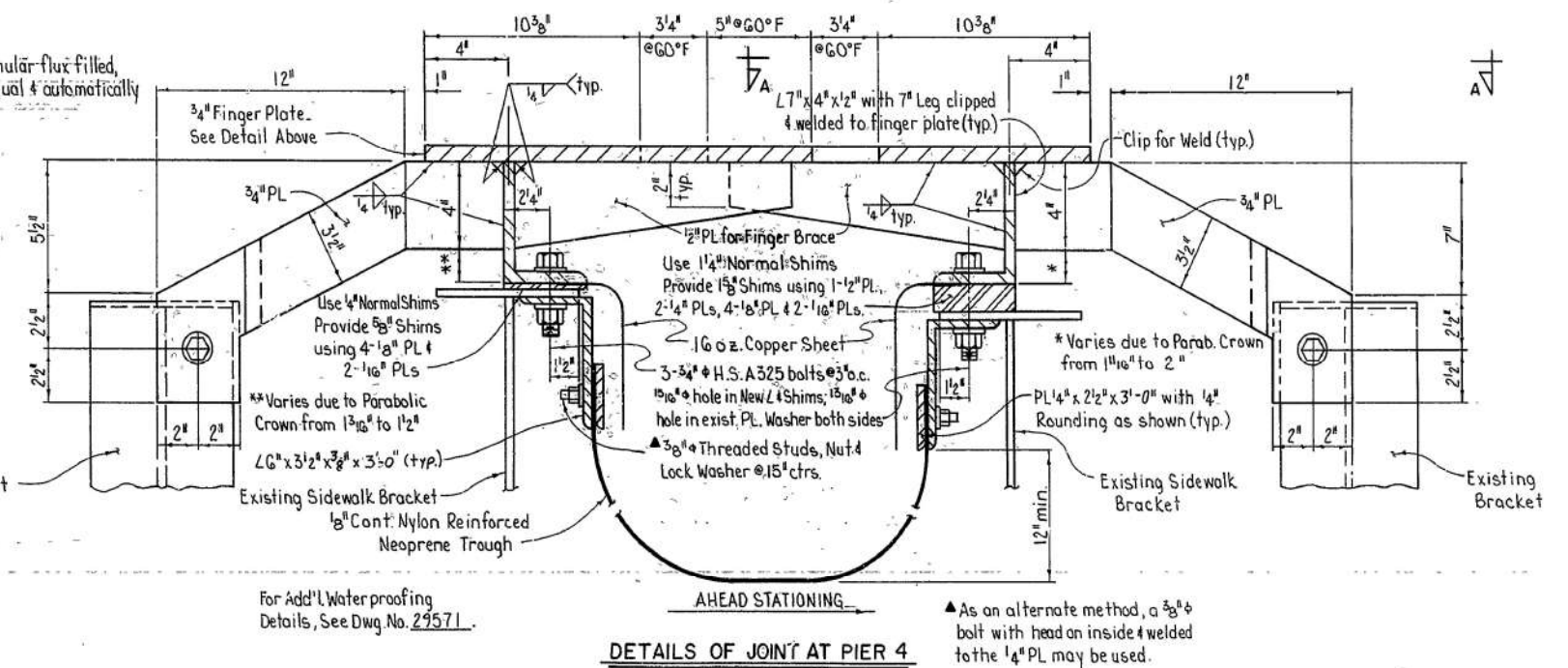


3/4" PLs & Connection of the 3/4" PLs are Opposite Hand about this line.

Holes for 3/4" bolts are symm. by 180° rotation about this point.



For 'GENERAL NOTES', See Dwg. No. 29546.



SHEET 1 OF 3
DETAILS OF FINGER JOINTS
HELENA BRIDGE
ROUTE 49 SEC. 11

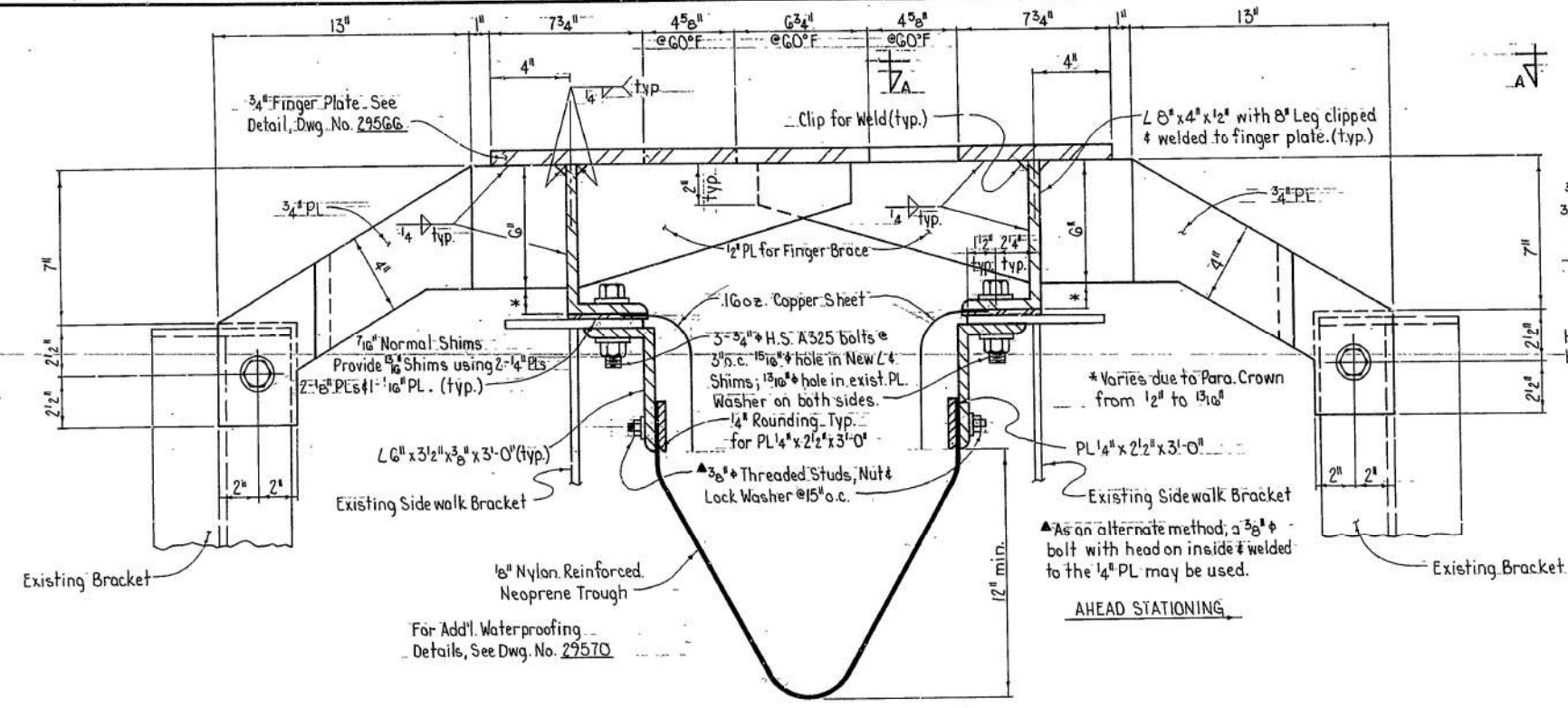
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: NOV 87
CHECKED BY: C.J.F. DATE: 1-19-89
DESIGNED BY: MEC DATE: 9-17-87
BRIDGE NO. 2899R DRAWING NO. 29566

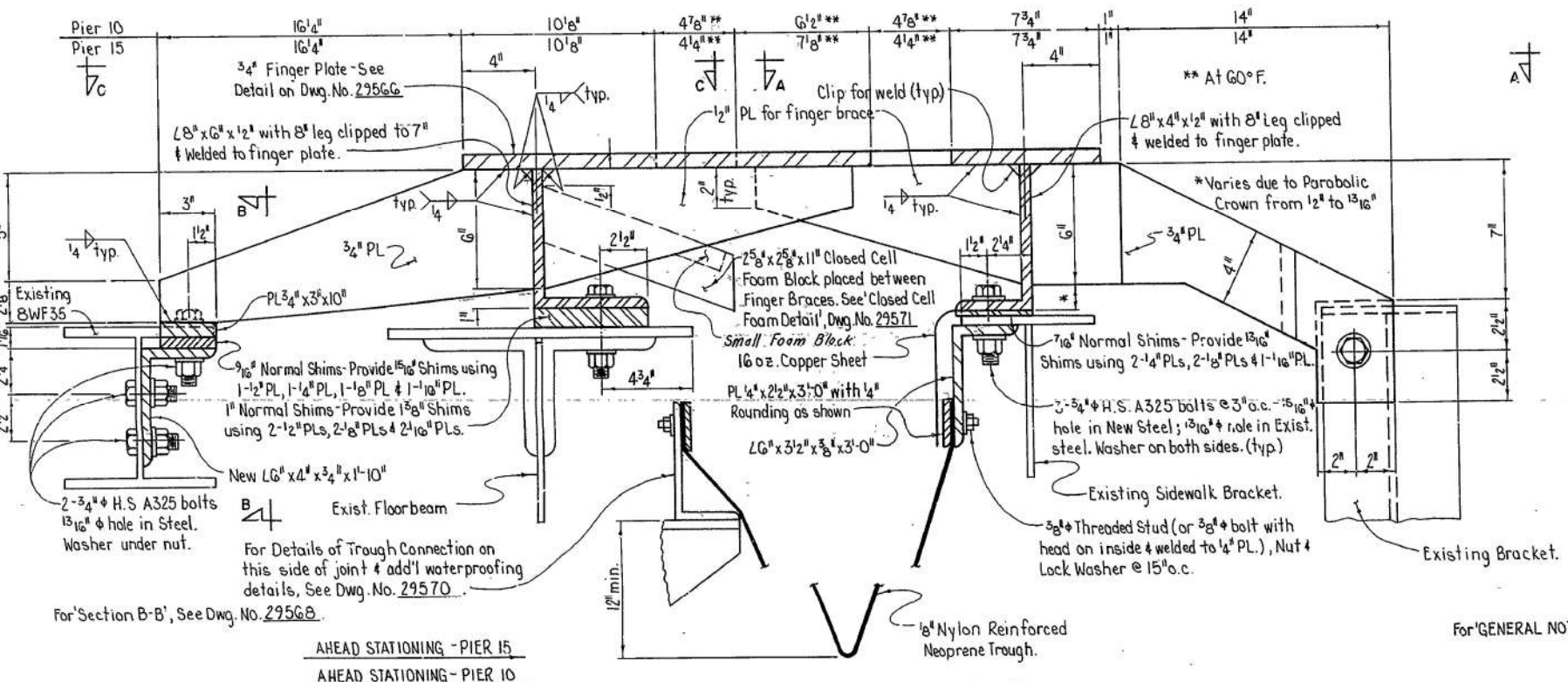
Visual Pinkerton
BRIDGE ENGINEER

SCALE: 3" = 1'-0"

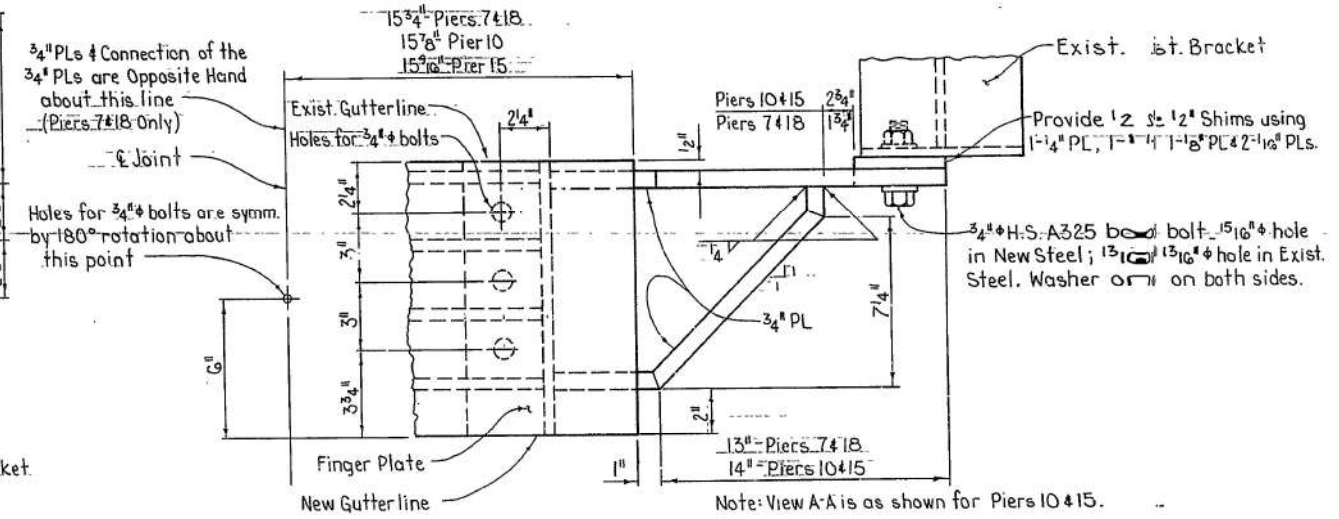
DATE REVISION	DATE FILMED	DATE REVISION	DATE FILMED	FED. ROAD DIST. NO.	STATE	MISS. JOB NO.	JOB NO.	SHEET NO.	TOTAL SHEETS
2-3-87	6-19-89			8	ARK.	85-0057-01	110104	39	58
2899R - FINGER JOINT DETAILS - 29567									



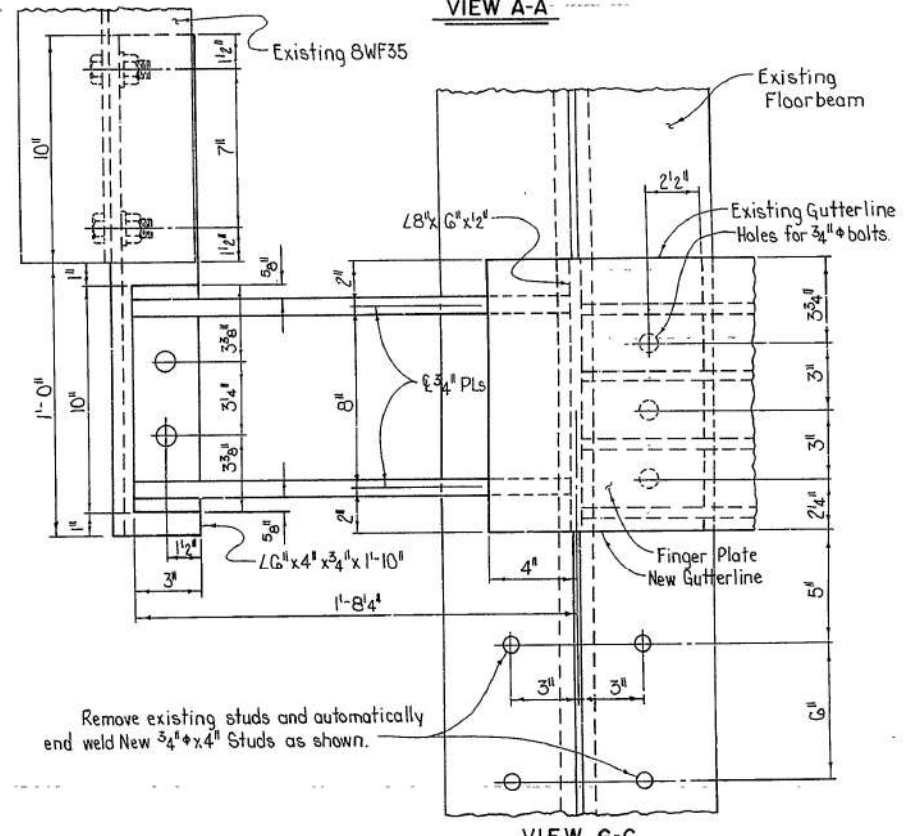
DETAILS OF JOINT AT PIERS 7 & 18



DETAILS OF JOINTS AT PIERS 10 & 15



VIEW A-A



VIEW C-C

SHEET 2 OF 3
 DETAILS OF FINGER JOINTS
 HELENA BRIDGE
 ROUTE 49 SEC. 11

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 30 NOV 87

CHECKED BY: C.J.F. DATE: 1-19-88

DESIGNED BY: M.B.C. DATE: 9-17-87

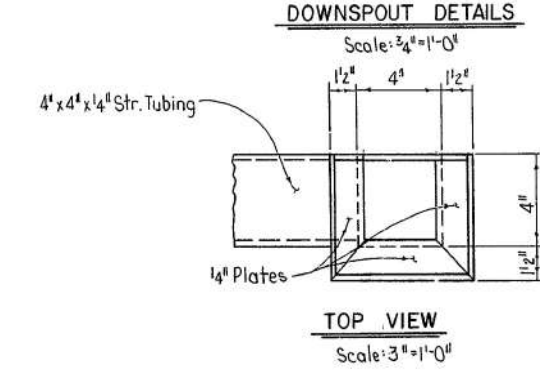
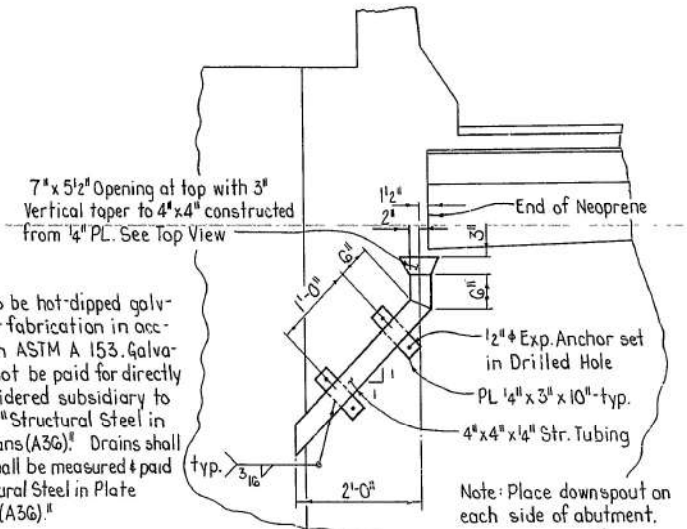
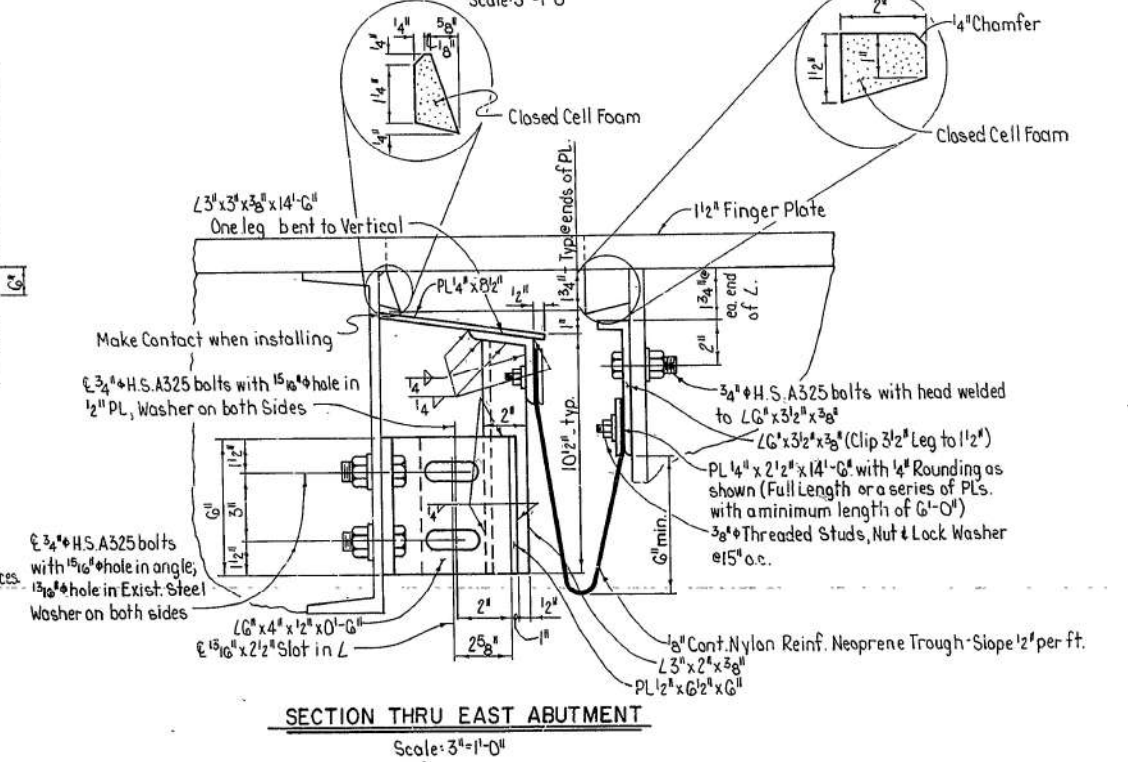
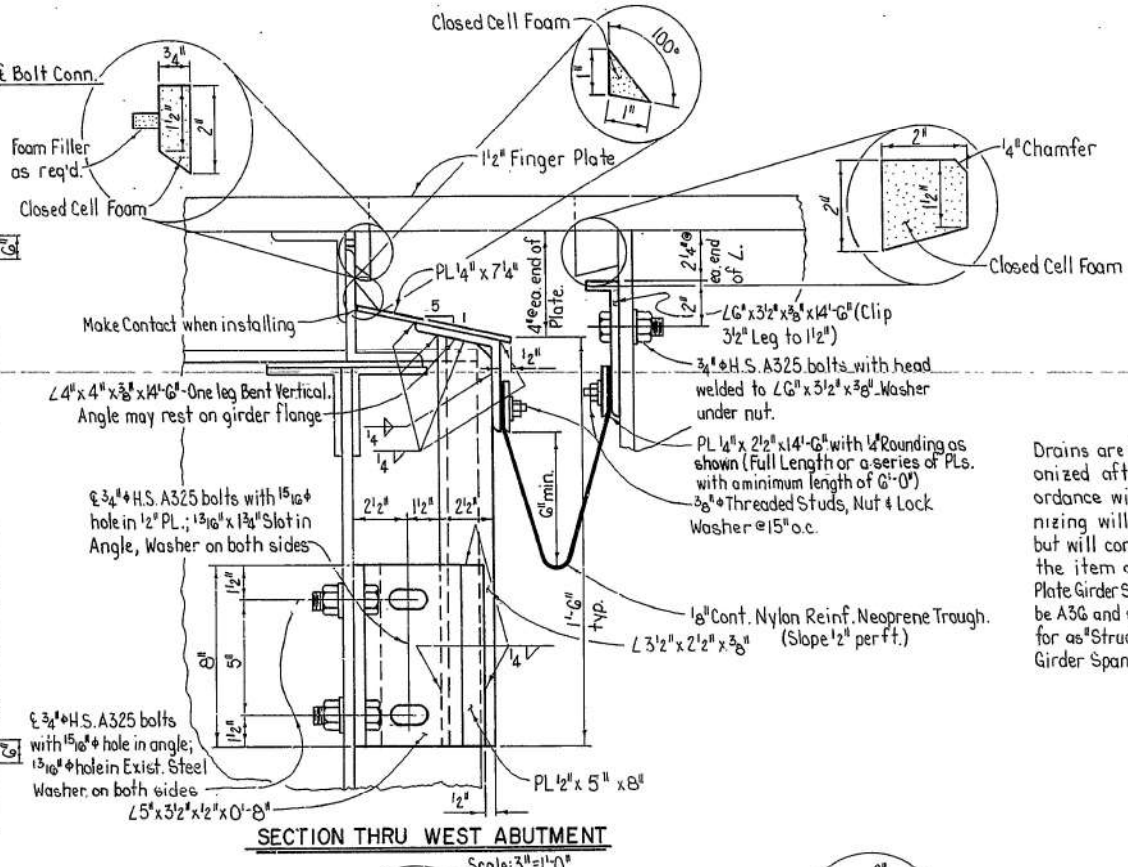
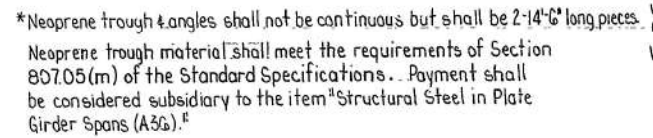
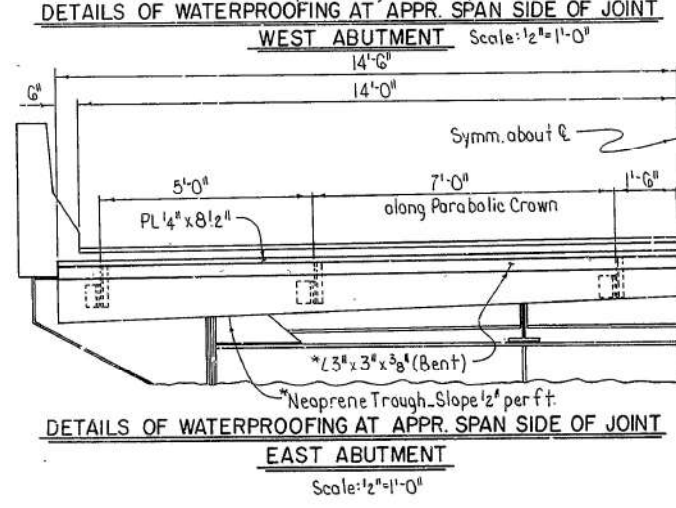
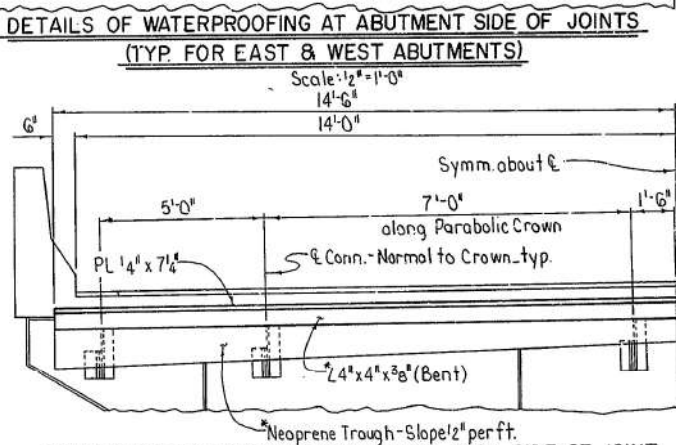
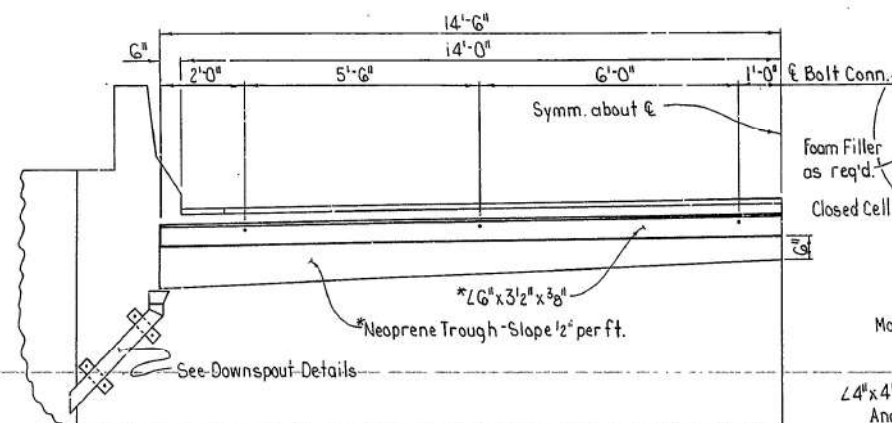
SCALE: 3" = 1' - 1'-0"

BRIDGE NO. 2899R

DRAWING NO. 110. 29567

BRIDGE ENGINEER

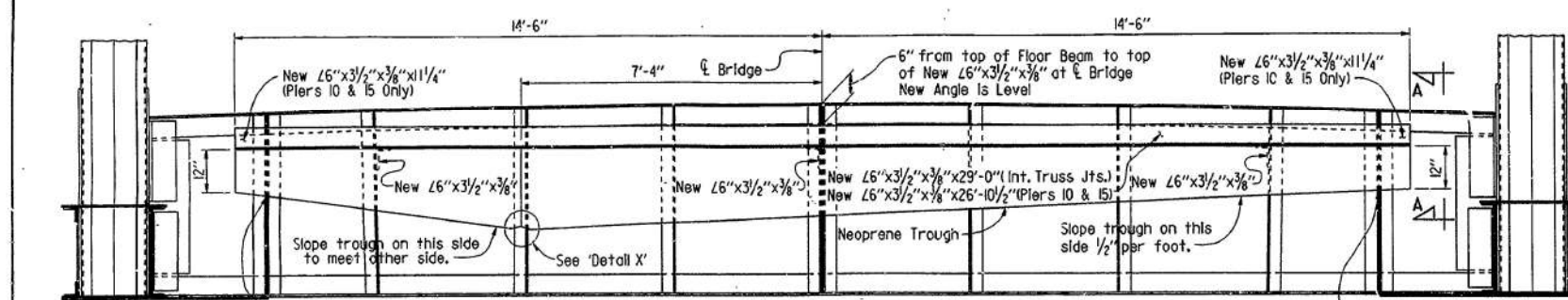
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	MISS. JOB NO.	SHEET NO.	TOTAL SHEETS
2-3-89	6-19-89			6	ARK.	85-0057-01-002-10		
				ARK. JOB NO.		110104	36	58
1 2899R - WATERPROOFING- 29569								



For 'GENERAL NOTES', See Dwg. No. 29546.

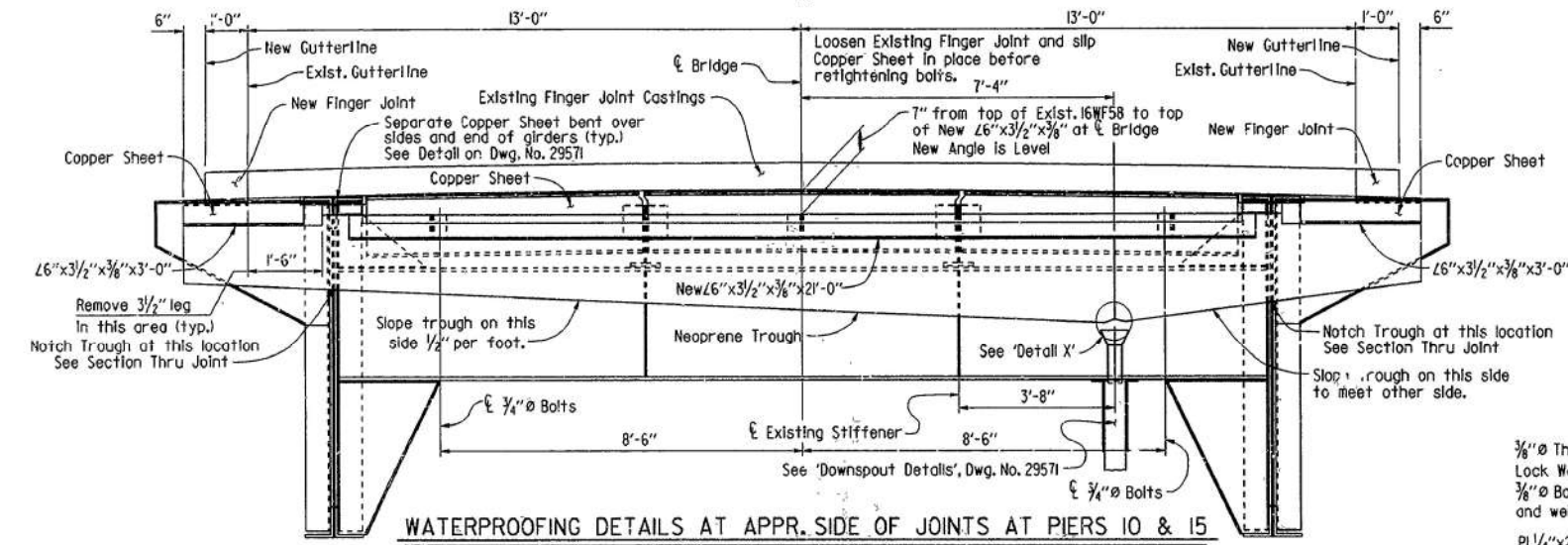
SHEET 1 OF 3
WATERPROOFING DETAILS
HELENA BRIDGE
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: KDH DATE: JAN 88
CHECKED BY: C J F DATE: 1-19-88
DESIGNED BY: M E C DATE: 2-17-88
SCALE: AS NOTED
BRIDGE NO. 2899R DRAWING NO. 29563

DATE REVISION	DATE FILMED	DATE REVISION	DATE FILMED	FED. ROAD DIST. NO.	STATE	MISS. JOB NO.	SHEET NO.	TOTAL SHEETS
2-3-89	622-2-9-89	3-31-84	622-5-31-89	6	ARK.	85-0057-01-002-10	37	58
ARK. JOB NO. 110104							2899R-WATERPROOFING-29570	



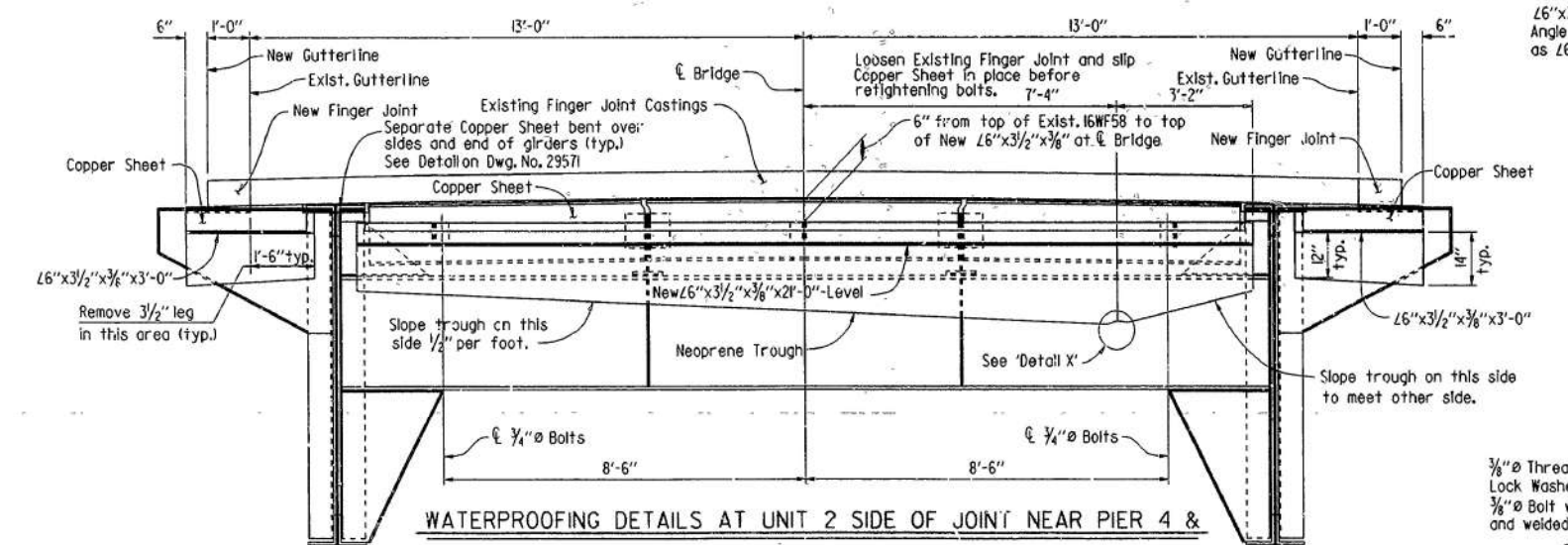
WATERPROOFING DETAILS AT INT. TRUSS JOINTS AND TRUSS SIDE OF JOINTS AT PIERS 10 & 15

Scale: 1/2" = 1'-0"



WATERPROOFING DETAILS AT APPR. SIDE OF JOINTS AT PIERS 10 & 15

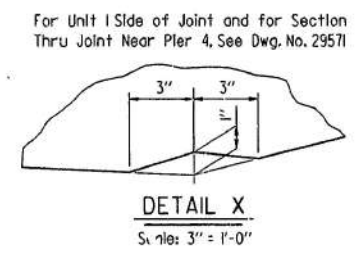
Scale: 1/2" = 1'-0"



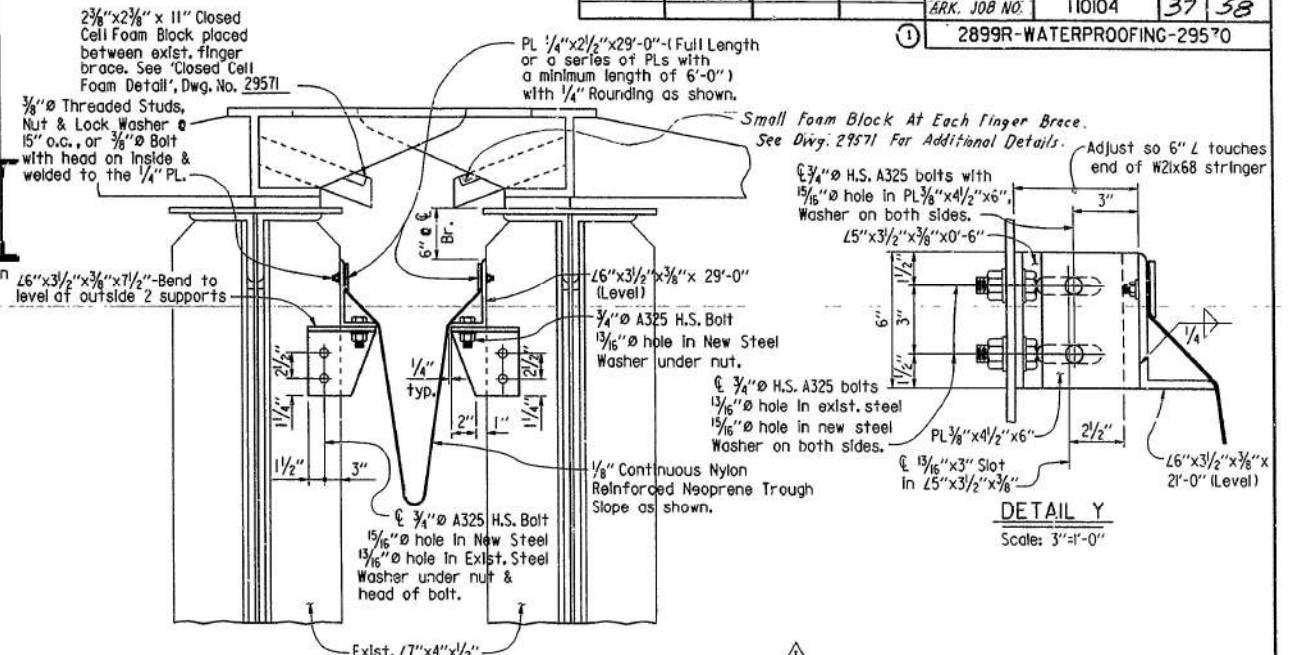
WATERPROOFING DETAILS AT UNIT 2 SIDE OF JOINT NEAR PIER 4 & EACH SIDE OF JOINT NEAR PIERS 7 & 8

Scale: 1/2" = 1'-0"

Neoprene Trough Material to meet Section 807.05(m) of the Standard Specifications. Payment shall be considered subsidiary to the Item 'Structural Steel in Plate Girder Spans (A36)'

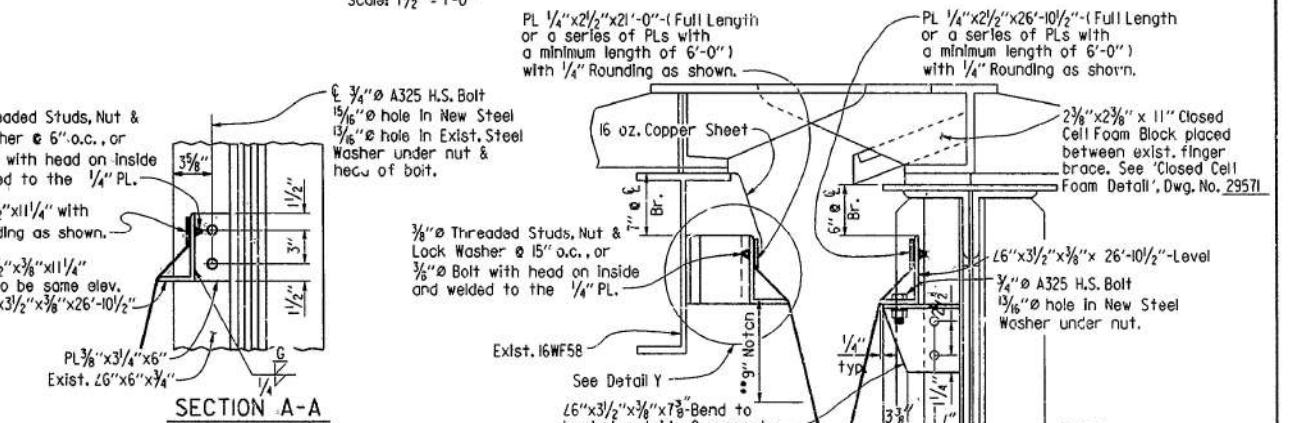


DETAIL X
Scale: 3" = 1'-0"



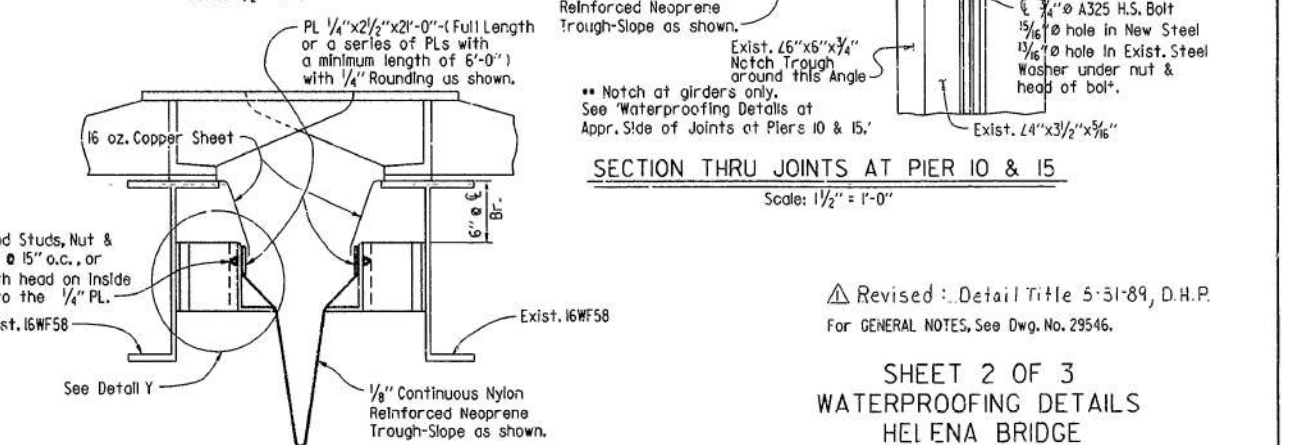
SECTION THRU INT. TRUSS JOINTS (PANEL POINTS 25, 43 & 59)

Scale: 1 1/2" = 1'-0"



SECTION A-A
PIERS 10 & 15 ONLY - TYP. BOTH ENDS

Scale: 1 1/2" = 1'-0"

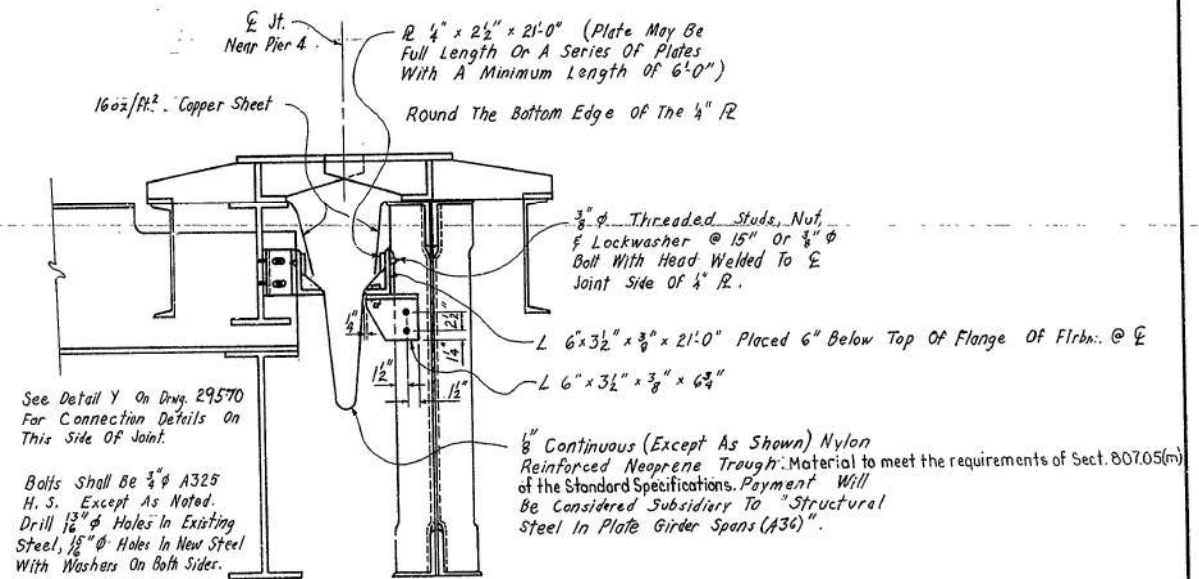


SECTION THRU JOINTS AT PIER 10 & 15

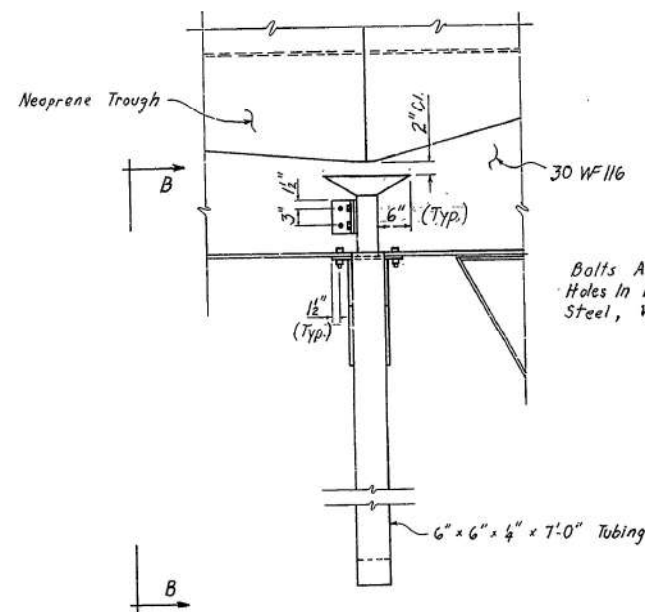
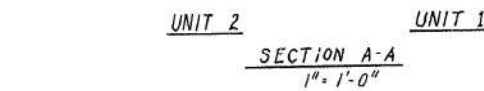
Scale: 1 1/2" = 1'-0"

Revised: Detail Title 5-31-89, D.H.P.
For GENERAL NOTES, See Dwg. No. 29546.

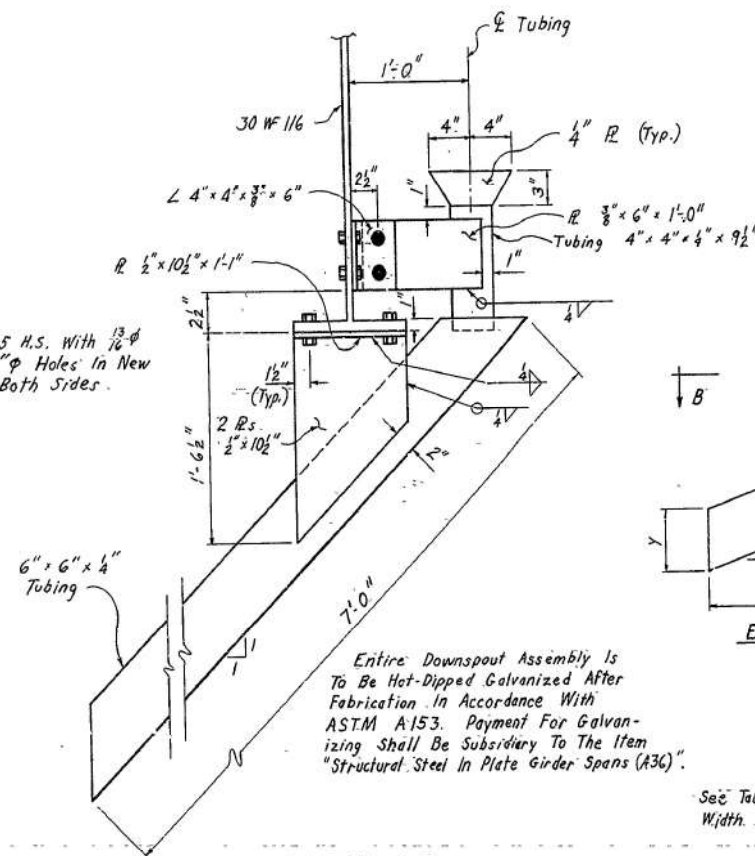
SHEET 2 OF 3
WATERPROOFING DETAILS
HELENA BRIDGE
ROUTE 49 SEC. 11
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: KDH DATE: 1 DEC 87
CHECKED BY: CJF DATE: 14 JAN 88 SCALE: AS NOTED
DESIGNED BY: MEC DATE: 9-17-87
BRIDGE NO. 2899R DRAWING NO. 29570



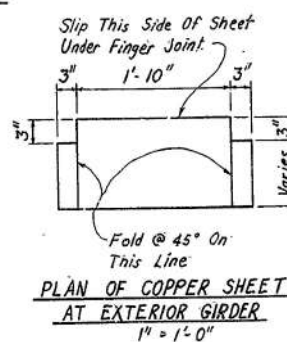
$\frac{1}{2}'' = 1.0''$
(Looking Back)



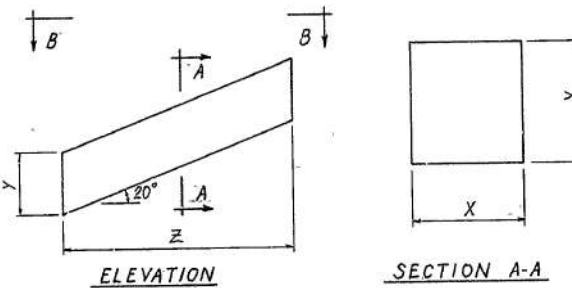
$\frac{3}{4}'' = 1'-0''$
(Looking Back, "Unit 3 @ Pier 10)
(Unit 4 @ Pier 15 Similar)



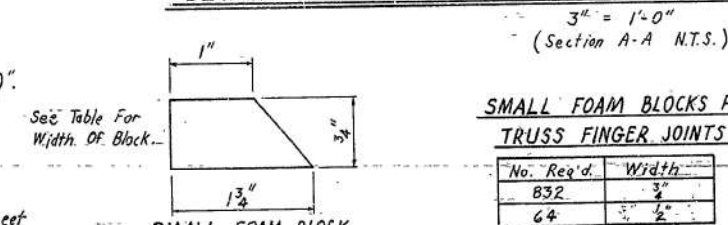
SECTION B-B
1½" = 1'-0"



PLAN OF COPPER SHEET
AT EXTERIOR GIRDER



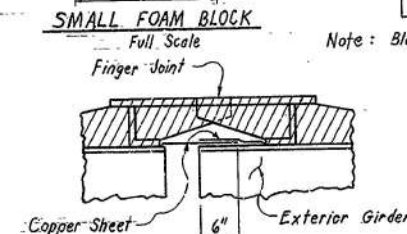
DETAILS OF CLOSED CELL FOAM STRIP FOR FINGER JOINTS OF TRUSS UNITS



SMALL FOAM BLOCKS FOR
TRUSS FINGER JOINTS

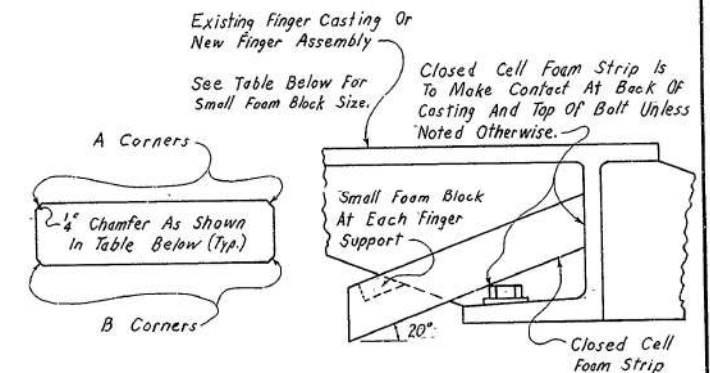
No. Req'd.	Width
832	3"
64	1/2"

Note: Block Width Matches Finger Support Width.



Bottom Copper Sheet Is To Extend
6" Onto Girder As Shown. Top Sheet
Shall Overlap Bottom Sheet 6". Slip
Both Sheets Under Finger Joint. Single Sheet At
Piers 10 f.s To Extend 2" Past Girder End And Be Bent Down.

SECTION THRU EXTERIOR GIRDER



ON SECTION A-A SECTION B-B PLACEMENT DETAIL

<u>CLOSED CELL FOAM STRIPS FOR</u>					
<u>TRUSS FINGER JOINTS</u>					
No. Req'd.	X	Y	Z	Corners Chamfered	
824	2 3/8"	2 3/8"	11"	A, B	Existing Finger Jt.
16	2 1/2"	2 1/2"	11"	A, B	
48	2 5/8"	2 5/8"	11"	A, B	New Finger Jt.
8	2 3/8"	2 3/8"	11"	A Only	
8	1 1/2"	2 5/8"	11"	A Only	

CLOSED CELL FOAM STRIPS FOR
TRUSS FINGER JOINTS

See General Notes on Drwg. 29546.

SHEET 3 OF 3
WATERPROOFING DETAILS
HELENA BRIDGE
ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

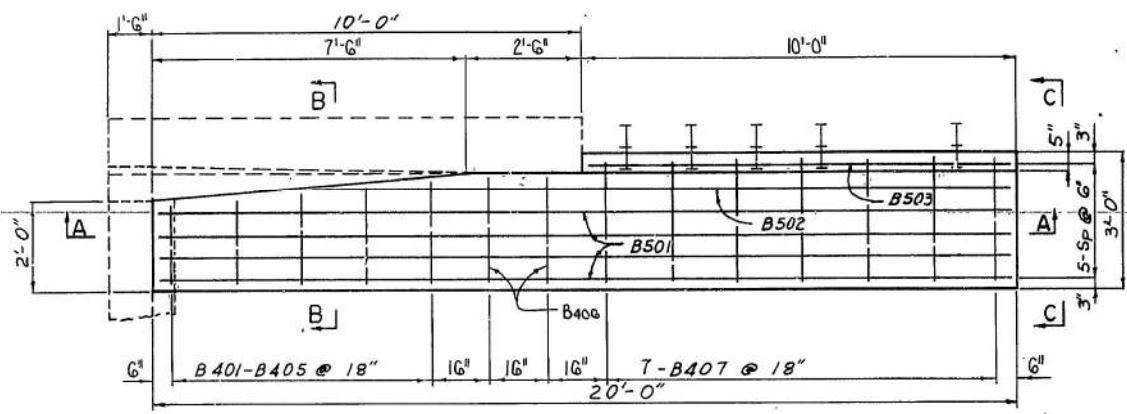
DRAWN BY: MCC DATE: 1-11-88
CHECKED BY: CJF DATE: 1-22-88 SCALE: As Noted
DESIGNED BY: MCC DATE: 1-11-88

BRIDGE NO. 2899R DRAWING NO. 29571

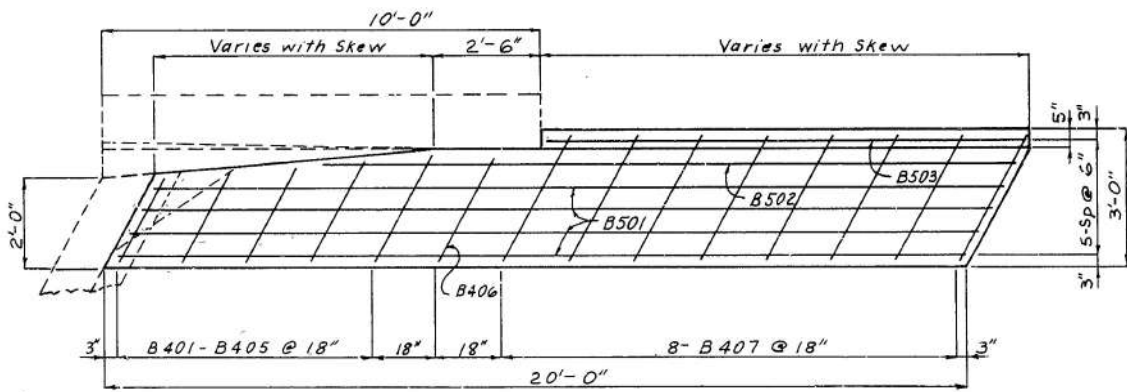
NOTE: Copper sheeting is to be installed on approach units only

DATE REVISION	DATE FILMED	DATE REVISION	DATE FILMED	FED. ROAD DIST. NO.	STATE	MISS. JOB NO.	SHEET NO.	TOTAL SHEETS
2-3-89	6-24-89			6	ARK.	85-0057-01-002-10		
						ARK. JOB NO.	110104	39 58
							2899R-APPR.GUTTERS-29572	

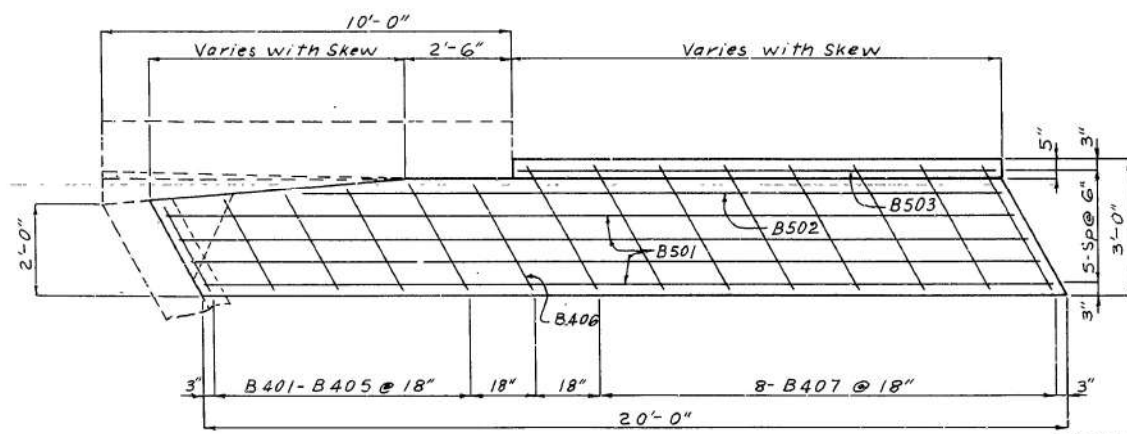
NOTE: FOR DETAILS OF GUARD RAIL, SEE DWG. NO. GR-8 AND GR-8A.



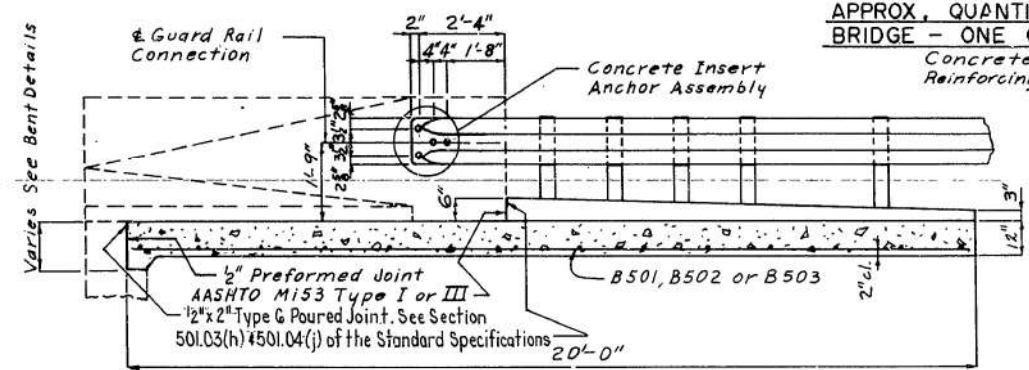
HALF PLAN OF APPROACH GUTTERS FOR SQUARE BRIDGE



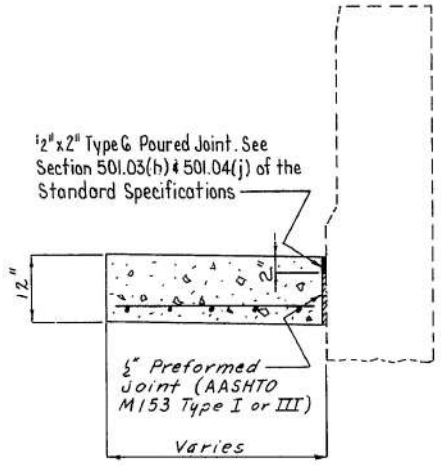
HALF PLAN OF APPROACH GUTTERS FOR LEFT FORWARD SKEW BRIDGE



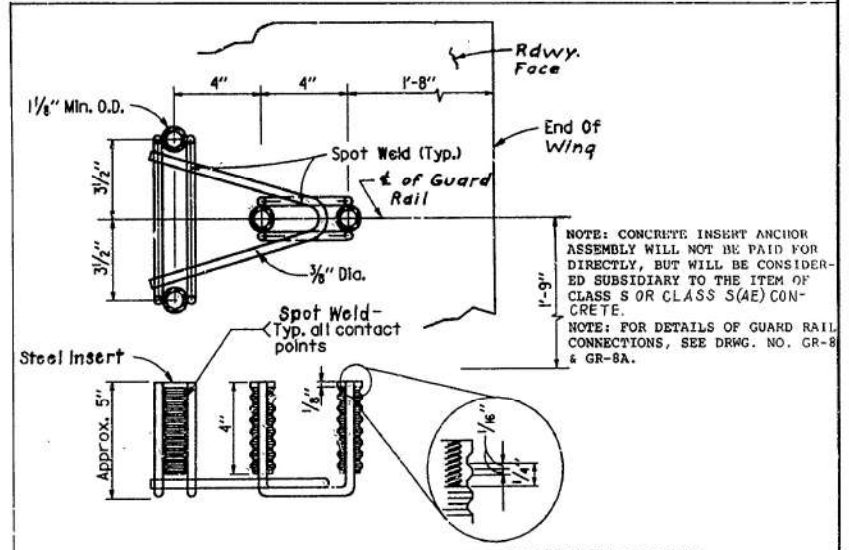
HALF PLAN OF APPROACH GUTTERS FOR RIGHT FORWARD SKEW BRIDGE



SECTION A - A



SECTION B - B
N.T.S.



MINIMUM CAPACITY OF GUARD RAIL ATTACHMENT BY CONCRETE INSERT ANCHOR ASSEMBLY OR OTHER MEANS SHALL BE 12,000 LBS. ULTIMATE SHEAR CAPACITY PER BOLT AND INSERT (48,000 LBS. PER ASSEMBLY). THERE SHALL BE A MINIMUM OF FOUR BOLTS PER ATTACHMENT LOCATED AS SHOWN. THE CONTRACTOR MAY USE THE INSERT ANCHOR ASSEMBLY SHOWN, OR ONE SIMILAR WHICH PROVIDES THE SAME FERRULE DEPTH AND THREAD LENGTH. THE CAPACITY OF THE INSERT ANCHOR ASSEMBLY SHALL BE CERTIFIED TO THE ENGINEER.

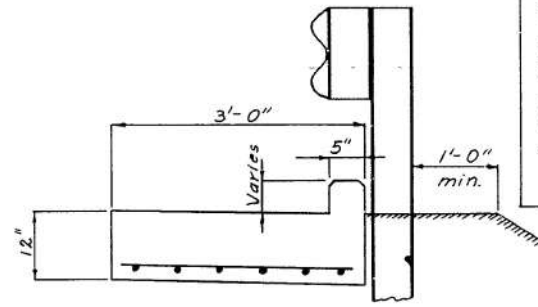
GUARD RAIL ATTACHMENT USING OTHER TYPES OF CONCRETE INSERTS WILL BE ALLOWED, PROVIDED IT MEETS THE MINIMUM CAPACITY SPECIFIED, THE CAPACITY IS CERTIFIED, AND APPROVAL IS OBTAINED FROM THE ENGINEER BEFORE USE.

THREADED STEEL INSERT WITH SOLID BOTTOM TAPPED TO A MINIMUM THREADED DEPTH OF 2 1/4" FOR USE WITH 3/8" X 2 1/2" HIGH STRENGTH HEX BOLTS AND TWO HARDENED STEEL WASHERS. SEE SECTION 807 OF THE STANDARD SPECIFICATIONS.

BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A325 OR A449 AND SHALL BE THREADED FULL LENGTH. BOLTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153.

BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH SUBSECTION 807.22(d) OF THE STANDARD SPECIFICATIONS.

CONCRETE INSERT ANCHOR ASSEMBLY
3" = 1'-0"



VIEW C - C
N.T.S.

APPROACH GUTTER NOTES

CONCRETE SHALL BE CLASS S OR CLASS S(AE) OR MIXTURE USED FOR PORTLAND CEMENT PAVEMENT.

REINFORCEMENT STEEL SHALL CONFORM TO ASTM A615 OR A617.

APPROACH GUTTERS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH BID FOR "APPROACH GUTTERS (TYPE A)", WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING MATERIALS, INCLUDING CONCRETE, REINFORCING STEEL AND JOINT FILLERS; PLACEMENT AND COMPACTION OF BASE MATERIAL; FOR FORMS, MIXING, PLACING, CURING AND FINISHING; FOR EXCAVATION AND BACKFILL; AND FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

DETAILS OF APPROACH GUTTERS
HELENA BRIDGE

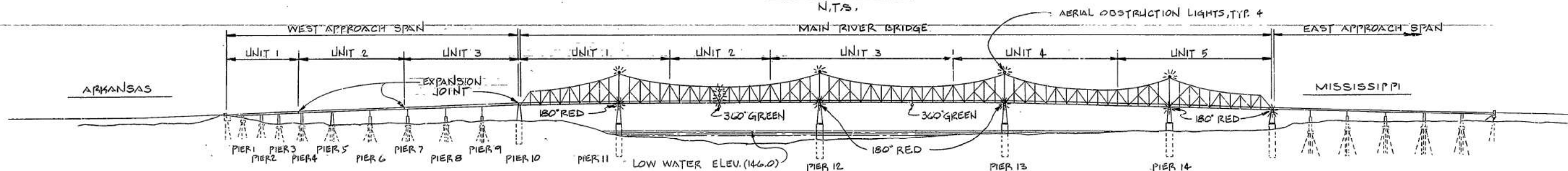
ROUTE 49 SEC. II
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: KDH DATE: JAN. 88
CHECKED BY: D.H.P. DATE: 1-15-88
DESIGNED BY: C.P.B. DATE: 8-87
BRIDGE NO. 2899R DRAWING NO. 29572

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	MISS. JOB NO.	SHEET NO.	TOTAL SHEETS
2-3-89	6-26-89			6	ARK.	85-0057-01-002-10		
						ARK. JOB NO.	110104	41 58
SITE PLAN; ELEVATION, PLAN VIEWS								

3-CHANNEL LAMPS (WHITE), W/WALL-TYPE MOUNTING, USING 8"-180° LENS, (WHITE). LAMPS TO BE SPACED 10'-0", 25'-0", & 40'-0" RESPECTIVELY, ABOVE CENTER CHANNEL MARKER LAMP SHOWING GREEN, W 8"-360° LENS.

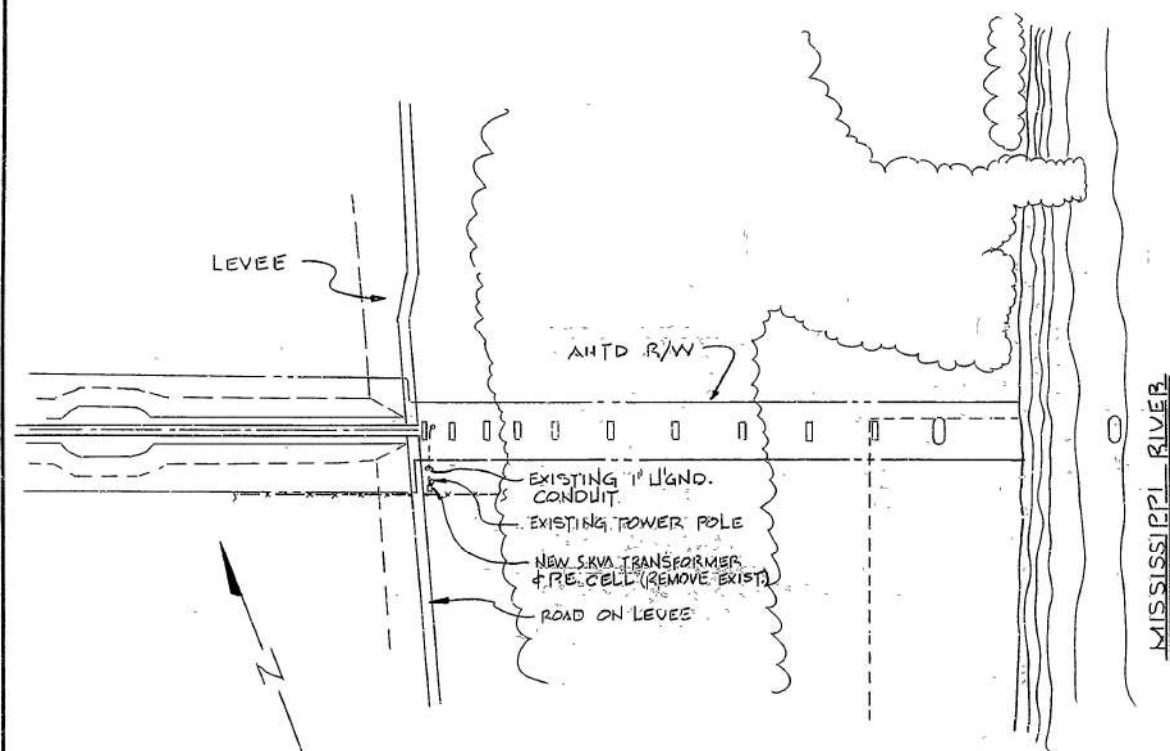
PLAN VIEW

N.T.S.



ELEVATION VIEW

N.T.S.



GENERAL NOTES:

1. ALL EXISTING LIGHTS, TRANSFORMERS, PANELS, WIRING, ETC. TO BE REMOVED.
2. ALL LABOR & MATL. TO CONFORM TO N.E.C., LATEST EDITION.
3. EXPANSION/CONTRACTION JOINTS ON ACTUAL BRIDGE NOT SHOWN.
4. NEW LIGHTING FIXTURES TO BE INSTALLED AT APPROX. THE SAME LOCATION AS EXISTING WHICH ARE TO BE REMOVED.

SITE PLAN

N.T.S.

RENOVATION OF NAVIGATION LIGHTING SYSTEM

HELENA BRIDGE
DIST. #1 PHILLIPS COUNTY

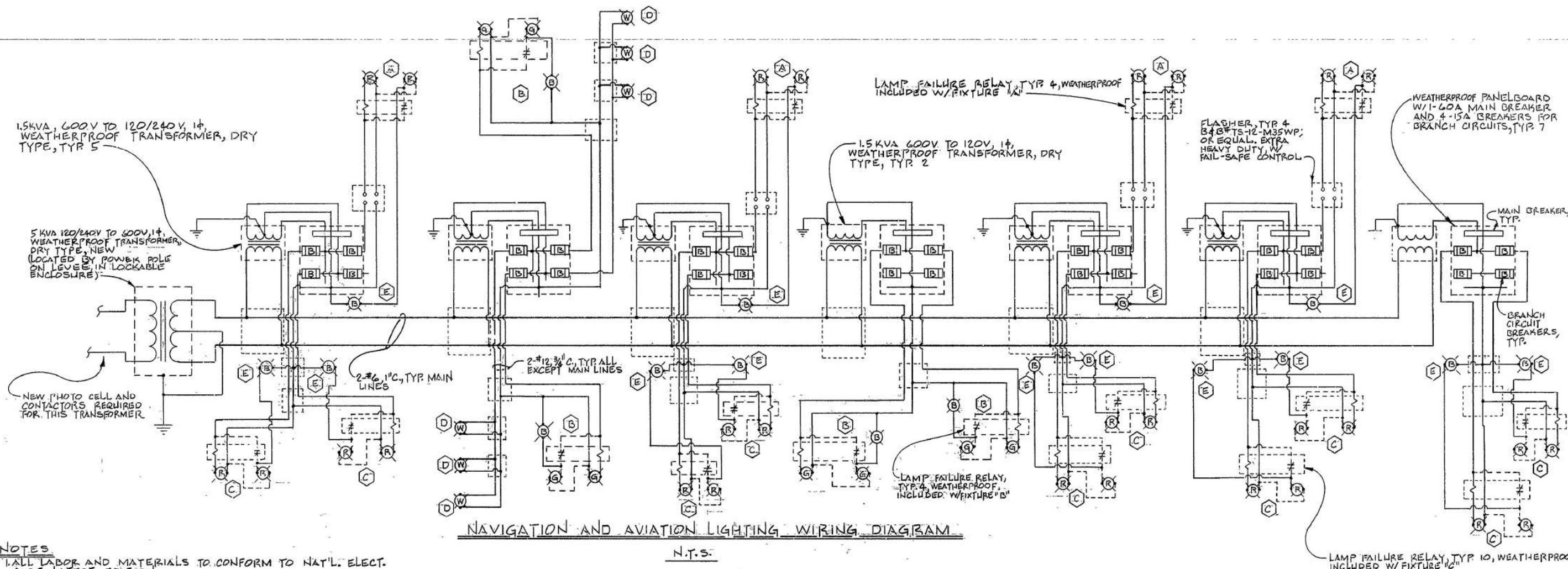
SITE PLAN; ELEVATION, PLAN VIEWS

DWG. NO.

E-1

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	MISS. JOB NO.	SHEET NO.	TOTAL SHEETS
2-3-89	6-21-99			6	ARK.	85-0057-DI-002-10		
						ARK. JOB NO. 110104	42	53

WIRING DIAG., FIXTURE SCHEDULE



NOTES

1. ALL LABOR AND MATERIALS TO CONFORM TO NAT'L. ELECT. CODE, LATEST EDITION.
2. ALL BOLTS, NUTS, STUDS, WASHERS, TERMINALS, FASTENINGS, AND TERMINALS SHALL BE OF CORROSION RESISTANT MATERIALS, OR GALVANIZED.
3. ALL FITTINGS, J-BOXES, ETC. TO BE WEATHERPROOF.
4. ALL WIRING TO BE COPPER, WITH W/THIN INSULATION UNLESS OTHERWISE NOTED. ALL CONDUIT TO BE RIGID STEEL.
5. ALL JUNCTION BOXES TO BE MARINE TYPE, WEATHERPROOF; SEE SPECS.
6. 5KVA TRANSFORMER TO BE OPERATED BY PHOTO CELL AND CONTACTORS, NOT SHOWN, BUT SUPPLIED AND INSTALLED.
7. ALL EXISTING LIGHTING FIXTURES AND WIRING TO BE REMOVED; HOWEVER, EXISTING CONDUIT MAY BE REUSED WHERE FEASIBLE.

LIGHT FIXTURE SCHEDULE

MARK	DESCRIPTION	MANUFACTURER "OR EQUAL"
A	AERIAL HAZARD WARNING BEACON, 2 SECTION, 2 BULBS, 220V, 120V, W/ LAMP FAILURE RELAY IN W/P BOX, RED FRESNEL LENSES, W/ W/P FAILSAFE FLASHER	B4B #300-KM-R, FIXTURE, W/ #658106-WP LAMP FAILURE RELAY IN W/P BOX, #TS-12-W35WP, FLASHER
B	CHANNEL MARKER LIGHT, 360° GREEN FRESNEL LENS, TRANSFER RELAY, CTR. W/ LONG LAMP LIFE OPTION, 2-1/2" (APPROX) FIBER OPTIC CABLE, 2-1/2" (APPROX) FIBER OPTIC CABLE, 2-1/2" (APPROX) FIBER OPTIC CABLE	B4B #155 C301KCHWAG360-LEAD KID, BLUE LAMP OUT IND. LENSE, W/ RECTINOID
C	PIER LIGHT, RED LENSE, 8" DIA. FRESNEL LENSE, 2-100W, 120V BULBS, LAMP FAILURE RELAY, ALUM. HOUSINGS, EXTENDED LIFE BULBS	B4B #155 S3 PM-RTDLK-A180, W/ RECTINOID, RED LENSE, 100W, 120V, 32000 HR. BULBS, ALUMINUM
D	MAIN CHANNEL LIGHTS, WHITE LENSE, 8" DIA. FRESNEL LENSE, MARINE NAVIGATION LIGHT, 1-100W, 120V BULBS, ALUM. HSG., EXTENDED BULB LIFE OPTION, 180° W/ LAMP BOX	B4B #155 S3 BM-AT-A180, W/ RECTINOID, WHITE LENSE, 100W, 120V, 32000 HR. BULBS, ALUMINUM
E	REMOTE LAMP OUT INDICATOR FOR AERIAL OBSTRUCTIONS AND PIER MARKERS, BLUE LENSE, 1-27W, 120V BULBS, WEATHERPROOF	B4B #180Q-AL-B, BLUE LENSE, ALUM. HSG., 1-27W, 120V BULBS

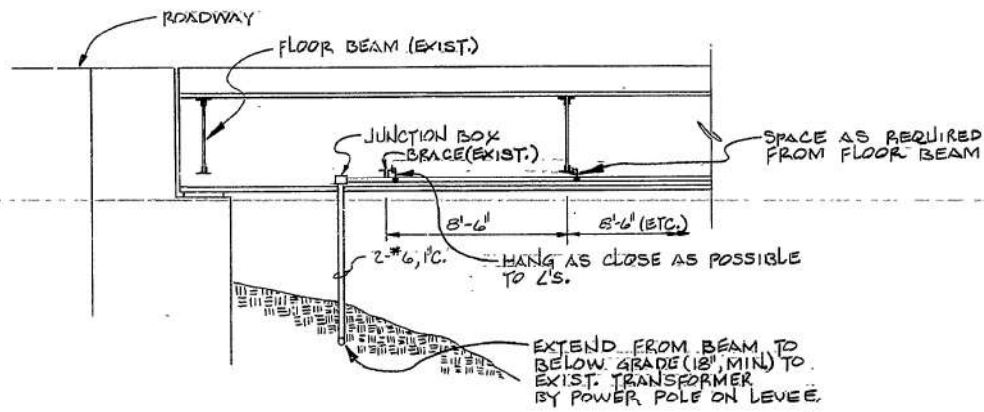
RENOVATION OF NAVIGATION LIGHTING SYSTEM

HELENA BRIDGE
DIST. #1 - PHILLIPS COUNTY
WIRING DIAG., FIXTURE SCHEDULE

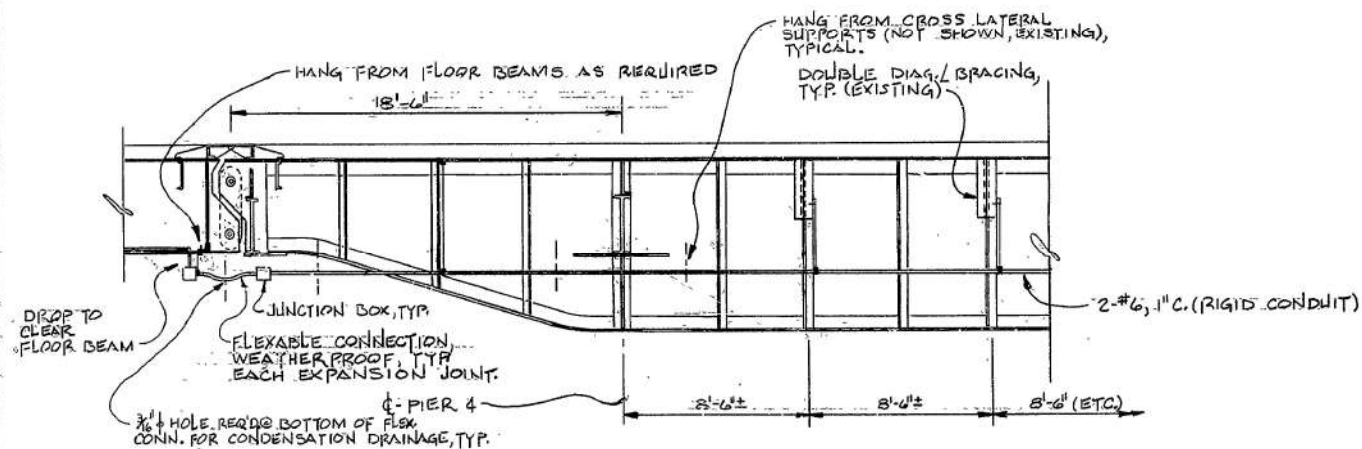
OWG. NO.

E-2

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	MISS. JOB NO.	SHEET NO.	TOTAL SHEETS
2-3-89	6-29-89			6	ARK.	85-0057-01-002-10		
						ARK. JOB NO. 110104	43	58
ELECT. DETAILS								

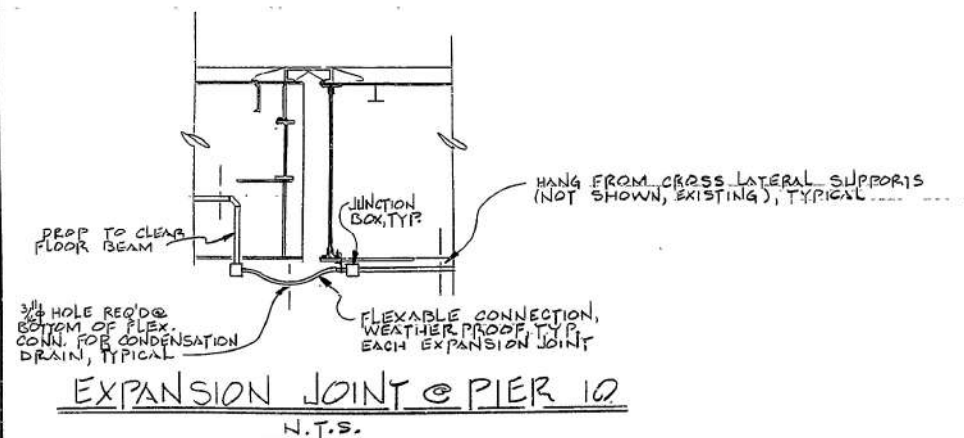


DETAIL AT WEST ABUTMENT
N.T.S.

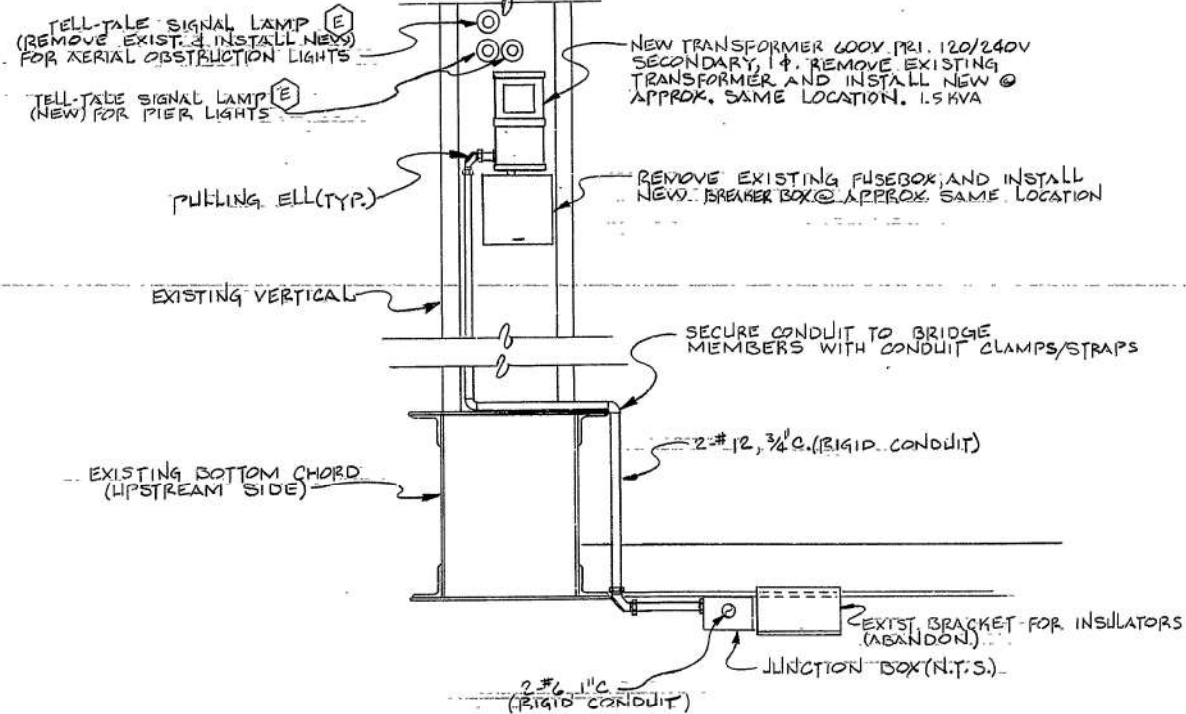


GIRDER TRANSITION @ PIER 4
1/4" = 1'-0"

NOTE:
1. LATERAL SUPPORTS AS REQUIRED ON CONDUIT RUNS FOR STABILITY AND RIGIDITY OF INSTALLATION.



EXPANSION JOINT @ PIER 10
N.T.S.



TRANSFORMER & BKR. BOX DETAIL
N.T.S.

GENERAL NOTES.

1. ALL LABOR & MAT'L. TO CONFORM TO NEC, LATEST EDITION.
2. ALL EXPANSION AND CONTRACTION JOINTS TO BE SIMILAR TO EXPANSION JOINT @ PIER 10 AS DETAILED ON THIS SHEET.
3. JUNCTION BOXES TO BE SPACED @ 100' (MAX.), AND AS REQUIRED FOR TAPS FOR TRANSFORMER.
4. ALL WIRE TO BE COPPER WITHW/ INSULATION.
5. DETAILS AND ACTUAL INSTALLATION MAY VARY AS SITE CONDITIONS DICTATE.
6. ALL MATERIALS TO BE WEATHERPROOF AND INSTALLATION TO RESULT IN COMPLETE WEATHERPROOF SYSTEM.
7. 6-8" WIRE TO BE COILED UP FOR SLACK IN EACH JUNCTION BOX AT EXPANSION/ CONTRACTION JOINTS, AND IN STRAIGHT RUNS.

RENOVATION OF NAVIGATION
LIGHTING SYSTEM

HELENA BRIDGE
DIST. #1 PHILLIPS COUNTY

ELECT. DETAILS

DWG. NO.:

E-3