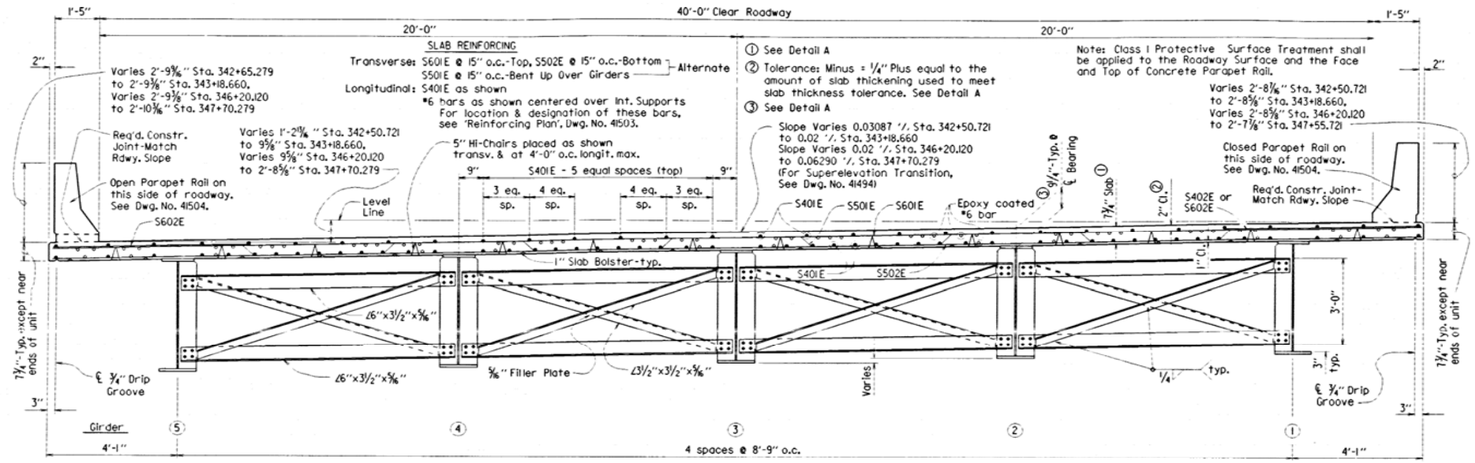
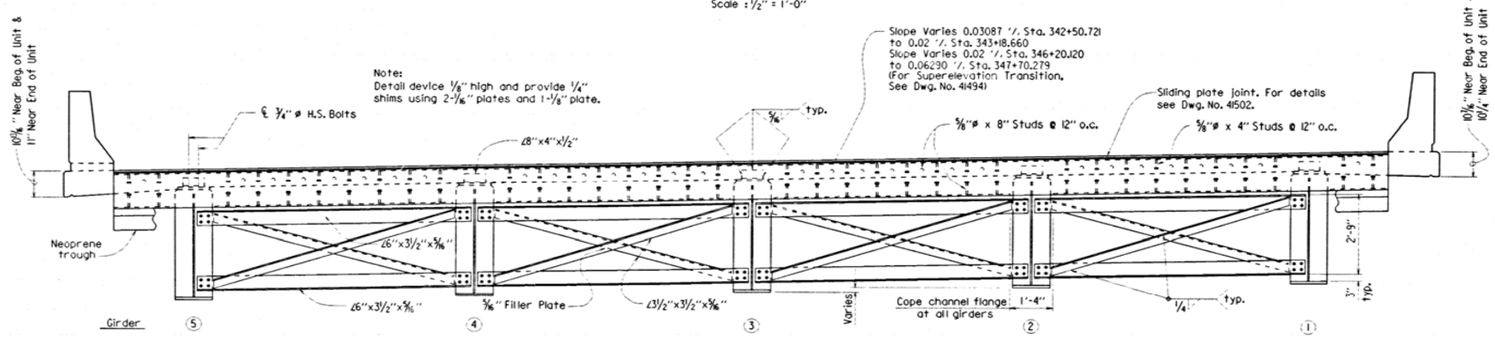
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R60148		
				(1) 06813		- PLATE GIRDER UNIT -		41501



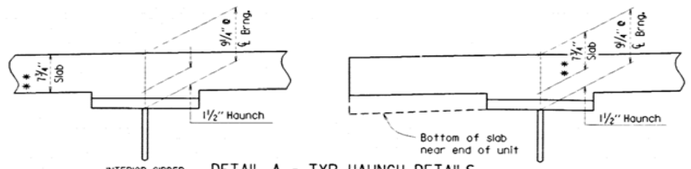
TYPICAL ROADWAY SECTION

(Looking Back)
Scale : 1/2" = 1'-0"



SECTION THRU JOINTS AT ENDS OF UNITS

(Looking Back)
Scale : 1/2" = 1'-0"



DETAIL A - TYP. HAUNCH DETAILS

No Scale

Haunch dimensions may vary within the following limits to maintain the grade and slab thickness tolerance: Minimum - occurs when top flange contacts bottom reinforcing steel; Maximum - top flange thickness plus 1 3/4". No increase in concrete and structural steel quantities will be made to maintain tolerances.

** Tolerance when removable deck forming is used is +1/2", -1/4". Haunch forming is required and shall be adjusted to maintain slab thickness tolerance.

Tolerances shown are applicable only when removable deck forming is used. See Std. Dwg. No. 14991 for tolerances when permanent steel deck forms are used. Payment for concrete shall be based on removable deck forming.

Groove welds in main members shall be Quality Control (Q.C.) tested by nondestructive testing, as required by the Standard Specifications. Fillet weld at flange to web plate connections shall be Q.C. tested by the magnetic particle method. All Quality Control (Q.C.) testing is at the contractor's expense.

Field connections to be bolted with high-strength bolts. Bolts shall be 3/4" dia. except as noted and open holes 13/16" dia. except as noted. Bolt spacing shall be 2 1/2" for 3/4" dia. bolts. Minimum edge distance shall be 1 1/4" unless otherwise noted. Bolts shall be placed with heads on the outside face of the exterior girder and on the bottom of the girder flanges.

Holes for 3/4" dia. high strength bolts in cross frames may be 15/16" dia. if a washer is supplied for use under both the nut and head of bolt.

LOAD DISTRIBUTION:

	INTERIOR GIRDER	EXTERIOR GIRDER
DEAD LOAD		
To Girder:	848 plf + 1.3(Wt. of Girder)	819 plf + 1.3(Wt. of Girder)
To Composite Girder:	337 plf. *	337 plf. *

* Includes 192 plf future wearing surface

LIVE LOAD
To composite girder: 1.5909 Wheels + Impact 1.4286 Wheels + Impact

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (1996 edition) with applicable supplemental specifications and special provisions. Unless otherwise noted in the plans. Section and Subsection refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO Standard Specifications for Highway Bridges (1996 edition) with current interim specifications.

LIVE LOADING: HS20 METHOD OF DESIGN: Load Factor

MATERIALS AND STRENGTHS:

Class S(AE) Concrete (superstructure)	f'c = 4,000 psi
Reinforcing Steel (AASHTO M31 or M53, Gr. 60)	fy = 60,000 psi
Structural Steel (AASHTO M270, Gr. 50W)	Fy = 50,000 psi
Structural Steel (AASHTO M270, Gr. 36)	Fy = 36,000 psi

CONCRETE: All concrete shall be Class S(AE) with a minimum 28 day compressive strenght f'c = 4,000 psi. Concrete shall be poured in the dry and all exposed corners to be chamfered 3/4" unless otherwise noted.

CONCRETE: 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 deck shall be given a tine finish in accordance with Section 802.19 of the Standard Specifications for Class S Inset Bridge Roadway Surface Finish. 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 the pour. Sufficient concrete must be placed ahead of the strike-off to fully load the girder. If a longitudinal strike-off is used, a vertical camber adjustment must be made in the strike-off to account for the future dead-load deflection of the railing. Any railing pours made before the entire slab unit has been placed must be approved by the Bridge Engineer.

REINFORCING: All reinforcing steel to be AASHTO M31 or M53, Gr. 60. 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.'

STRUCTURAL STEEL: All structural steel shall be AASHTO M270, Gr. 50W unless otherwise noted and shall be paid for at the unit price per pound bid for 'Structural Steel In Plate Girder Spans (M270, Gr. 50W)'. AASHTO M270, Gr. 50W steel shall not be painted. All exposed surfaces to be cleaned in accordance with SP Job R60148 'Unpainted Weathering Structural Steel'. Structural steel completely embedded in concrete may be AASHTO M270, Gr. 36.

Girder webs may be made by shop splicing with minimum lengths of 25'-0" for sections. Flange plates longer than 50'-0" may be made by shop splicing with minimum lengths of 25'-0" for sections. No additional payment for welds for these splices will be made.

All plate girder webs and flanges are considered main load carrying members, and shall meet the longitudinal Charpy V-Notch Test specified in Section 807.05 of the Standard Specifications. This work and material are to be considered as subsidiary to the item 'Structural Steel In Plate Girder Spans (M270, Gr. 50W)' and will not be paid for directly. Charpy V-Notch Test will not be required on web and flange splice plates.

Web and flange plates for main members and flange splice plates for main members 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.

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

Cross-frames shall be installed as girders are erected. All bolts in cross-frames and field splices shall be installed and tightened in accordance with Subsection 807.71 of the Standard Specifications prior to pouring of the floor slabs.

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.

All girders shall be blocked in their true position in the shop with the webs horizontal, in groups of a minimum of three sections. See Section 807.54(b)(2) of the Standard Specifications. The camber, length of sections, distance between bearings and opening of joints shall be measured with the girders in this position and this information shall become a part of the permanent records of this job. The component parts shall be match marked in this assembly and these marks shall be shown on the erection diagram. All girder dimensions are based on a temperature of 60° F. A tolerance of 1/4": is allowed for camber.

All welding that is to be done during fabrication of structural steel, including temporary welds, shall be detailed on the shop drawings and submitted for approval. If the contractor or erector should want to make additional welds, whether temporary or permanent, he shall submit detailed drawings with a formal request to the Bridge Engineer of the Arkansas State Highway and Transportation Department for approval. All welding shall conform to Subsection 807.26 and applicable Supplemental specifications.

STATE OF ARKANSAS
Edward Wynn
REGISTERED PROFESSIONAL ENGINEER
No. 3915
EDWARD T. WYNN
BRIDGE ENGINEER

SHEET 1 OF 7
DETAILS OF 505'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BAYOU DES ARC

ROUTE 11 SEC. 10

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: LDF	DATE: 7-17-00	FILENAME:	BR60148.S1
CHECKED BY: RLR	DATE: 07-28-00	SCALE:	As Noted
DESIGNED BY: Cad	DATE: 03-03-00		

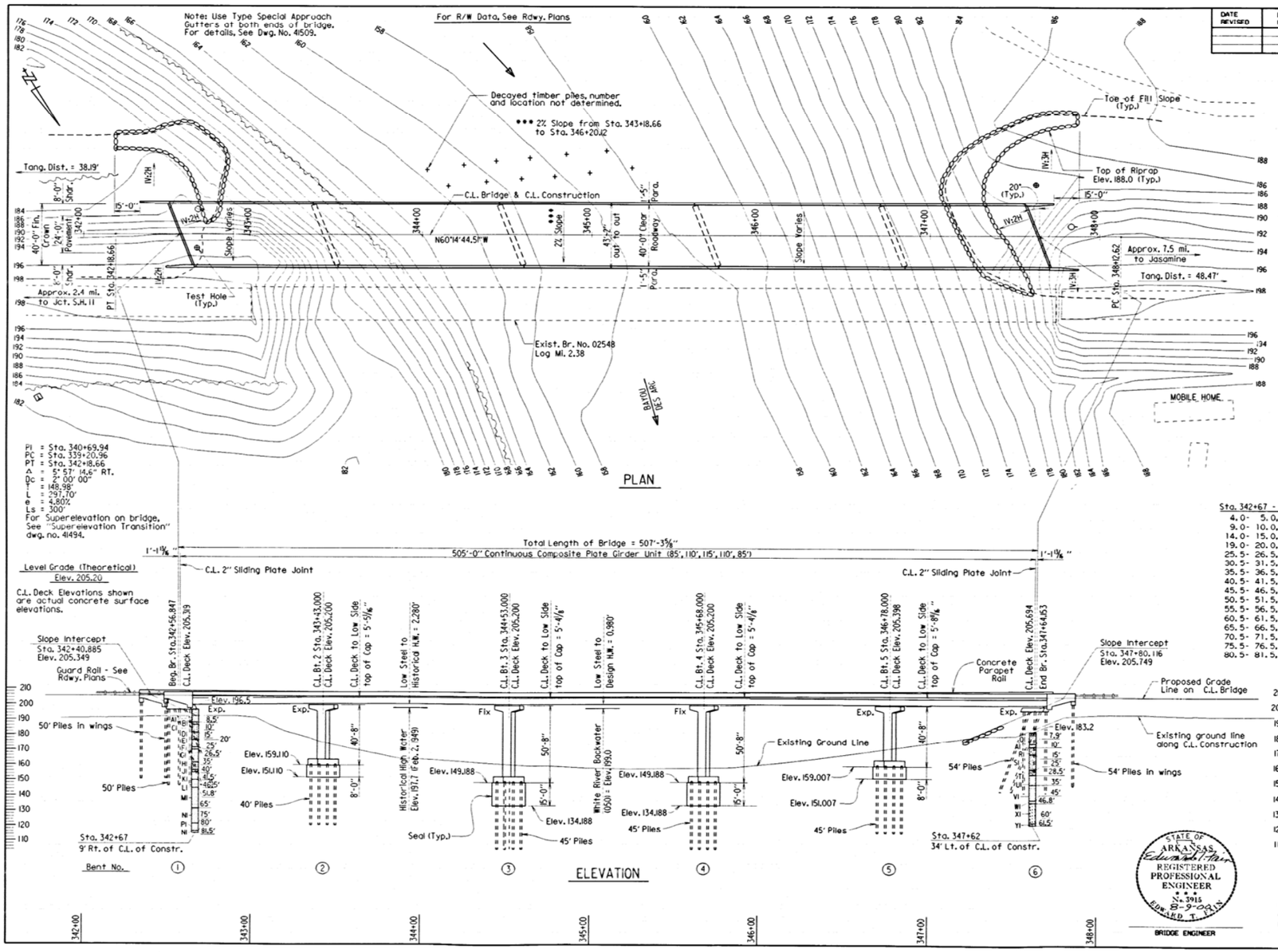
BRIDGE NO. 06813 DRAWING NO. 41501

MICROFILMED
SEP 07 2000

D C B A 0 A B C D

TAMERAN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R60148		
				1	06813	- LAYOUT -		41493



BORING LEGEND

Al-Moist, Stiff, Brown Sandy Clay
Bl-Moist, Stiff, Brown Sandy, Silty Clay
Cl-Moist, Soft, Gray and Brown Sandy, Silty Clay
Dl-Wet, Very Soft, Gray and Brown Sandy, Silty Clay
El-Wet, Soft, Brown Sandy Clay
Fl-Wet, Very Loose, Brown Clayey Sand
Gl-Wet, Medium Dense, Gray Clayey Sand
Hl-Wet, Medium Stiff, Gray Clay with Sand Seams
Jl-Wet, Loose, Gray Sand with Clay Seams and Organic Matter (Wood)
Kl-Wet, Loose to Medium Dense, Gray Sand
Ll-Wet, Dense, Gray Sand with Traces of Organic Matter
Ml-Wet, Dense, Gray Sand with Traces of Pea Gravel
Nl-Wet, Dense, Gray Sand with Traces of Lignite
Pl-Wet, Dense, Gray Sand
Ql-Moist, Stiff, Gray and Brown Silty Clay
Rl-Moist, Stiff, Gray and Brown Sandy, Silty Clay
Sl-Moist, Medium Stiff, Gray and Brown Silty Clay
Tl-Moist, Medium Stiff, Gray and Brown Sandy, Silty Clay
Ul-Wet, Medium Dense, Gray Sand with some Clay Seams
Vl-Wet, Medium Dense to Dense, Gray Sand
Wl-Wet, Dense, Gray Sand with Traces of Gravel
Xl-Wet, Dense, Gray Sand and Gravel
Yl-Wet, Dense, Gray Sand and Gravel with Traces of Lignite

"N" VALUES

Sta. 342+67 - 9' Rt. of C.L. of Constr.	Sta. 347+62 - 34' Lt. of C.L. of Constr.
4.0- 5.0, N=15	4.0- 5.0, N=10
9.0- 10.0, N=9	9.0- 10.0, N=12
14.0- 15.0, N=2	14.0- 15.0, N=9
19.0- 20.0, N=1	20.5- 21.5, N=7
25.5- 26.5, N=3	25.5- 26.5, N=8
30.5- 31.5, N=12	30.5- 31.5, N=25
35.5- 36.5, N=5	35.5- 36.5, N=20
40.5- 41.5, N=9	40.5- 41.5, N=46
45.5- 46.5, N=11	45.5- 46.5, N=37
50.5- 51.5, N=40	50.5- 51.5, N=35
55.5- 56.5, N=47	55.5- 56.5, N=32
60.5- 61.5, N=42	60.5- 61.5, N=38
65.5- 66.5, N=32	
70.5- 71.5, N=37	
75.5- 76.5, N=49	
80.5- 81.5, N=43	

MICROFILMED
SEP 07 2000

STATE OF ARKANSAS
Edward T. Tyler
REGISTERED PROFESSIONAL ENGINEER
No. 3915
8-9-00
EDWARD T. TYLER
BRIDGE ENGINEER

SHEET 1 OF 2
LAYOUT OF
BRIDGE OVER BAYOU DES ARC
BAYOU DES ARC STR. & APPRS. (S)
PRAIRIE COUNTY

ROUTE 11 SEC. 10
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: LDF DATE: 2-10-00 FILENAME: BR60148.L1
CHECKED BY: DATE: 07-31-00 SCALE: 1" = 30'
DESIGNED BY: CAB DATE: 02-02-00
BRIDGE NO. 06813 DRAWING NO. 41493

TAMERAN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R60148		
				1 06813		- LAYOUT -		41494

GENERAL NOTES

BENCH MARK: Standard Disk stamped RGW 1963, 57.36 feet right of C.L. Sta. 347+74.05, Elev. 200.777.

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (1996 edition) with applicable supplemental specifications and special provisions. Unless otherwise noted in the plans, Section and Subsection refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO Standard Specifications for Highway Bridges (1996 edition) with current interim specifications.

LIVE LOADING: HS20 METHOD OF DESIGN: Load Factor

SEISMIC PERFORMANCE CATEGORY: A

MATERIALS AND STRENGTHS:

Superstructure Concrete (Class S(AE))	f'c = 4,000 psi
Substructure Concrete (Class S)	f'c = 3,500 psi
Substructure Concrete (Seal)	f'c = 2,100 psi
Reinforcing Steel (AASHTO M31 or M53, Gr. 60)	fy = 60,000 psi
Structural Steel (AASHTO M270, Gr. 50W)	Fy = 50,000 psi
Structural Steel (AASHTO M270, Gr. 36)	Fy = 36,000 psi

STEEL PILING: Piling in Bents 1 Thru 6 shall be HP 12x53 and shall be driven with an approved air, steam, or diesel hammer. Piling in Bents 1 and 6 shall be driven to a minimum safe bearing capacity of 55 tons per pile. Piling in Bents 2 thru 5 shall be driven to a minimum safe bearing capacity of 65 tons per pile. Lengths of piling shown are assumed for estimating quantities only. Actual lengths to be determined in the field. Test piles are not required at Bents 1 and 6, but may be driven for the Contractor's information in accordance with the Subsection 805.08(g). No piles will be paid for as test piles at Bents 1 and 6.

Drive piles in Bents 1 & 6 to a minimum penetration of 20' below natural ground. Piles to be driven after embankment to bottom of cap is in place.

Piling on Bent 2 shall be driven to a tip elevation of 120.0 or lower.
Piling on Bents 3 & 4 shall be driven to a tip elevation of 105.0 or lower.
Piling on Bent 5 shall be driven to a tip elevation of 115.0 or lower.
At Bents 2 - 5, four piles in each bent designated as test piles in the bent details shall be long piles driven without a follower to determine the established tip elevation. All piling shall be driven to the established tip elevation. A follower may be used on piles which are not test piles.

Payment for test piles at bents 2 thru 5 will be based on the actual accepted length left in place. No payment will be made for cut-off or build-up of the test piles or piles.

EXISTING PILES: Decayed timber piles are visible in the vicinity of Bents 3 & 4 at low water and may be present elsewhere. The contractor shall be responsible for eliminating any interference between these piling and the construction of the new bents. No direct payment shall be made for this work; payment shall be subsidiary to other items.

BORING LOGS: Boring logs may be obtained from the Programs and Contracts Division.

BRIDGE DECK: The concrete bridge deck shall be given a tine finish as specified for final finishing in subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish.

PROTECTIVE SURFACE TREATMENT: Class I Protective Surface Treatment shall be applied to the roadway surface and to the face and top of the concrete parapet rail.

DETAIL DRAWINGS:	DRAWING NO.
End Bents	41495-41497, 41500
Intermediate Bents	41498, 41499
505'-0" Cont. Comp. PL Gir. Unit	41501-41508
Steel Piling	14995A
Type C Bridge Name Plate	2389A
Embankment Construction	1888A
Computing Excavation for Structures	1819F
Dumped Riprap and Filter Blanket	1819F
Approach Gutters	41509

EXISTING BRIDGE: Existing Bridge No. 02548 (log mile 2.38) is 22' wide and 475' long and consists of steel multi-beam spans with concrete deck, supported by timber bent caps on timber piling, and concrete abutments. The existing bridge is located approximately 45' down stream from the proposed new bridge.

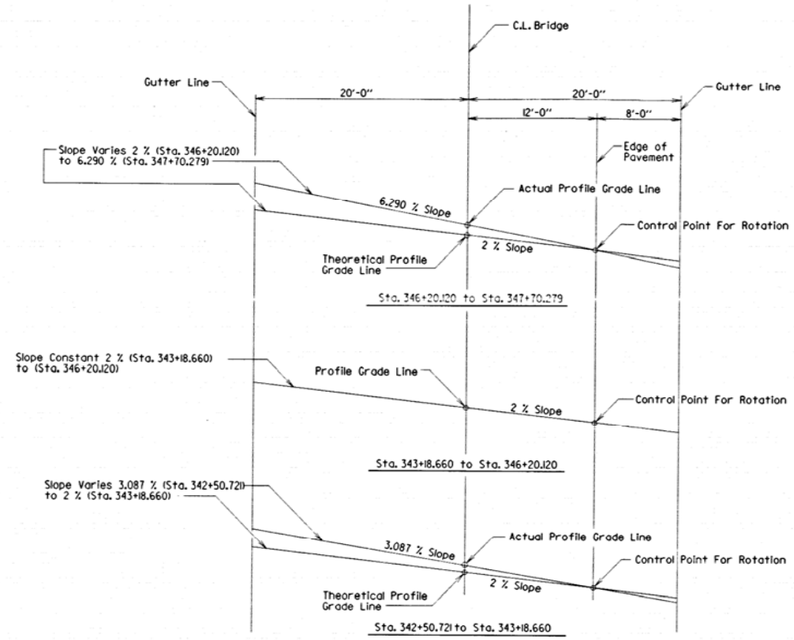
REMOVAL AND SALVAGE: After the new bridge is open to traffic, existing bridge No. 02548 shall be removed in accordance with Section 205 of the Standard Specifications. All material from the existing bridge shall become the property of the Contractor.

HYDRAULIC DATA

Drainage area = 674 square miles.

FLOOD	FREQUENCY	DISCHARGE	* NATURAL WATER SURFACE ELEVATION	WATER SURFACE ELEVATION WITH BACKWATER	WATER SURFACE ELEVATIONS OF THE WHITE RIVER AT THE CONFLUENCE OF BAYOU DES ARC **
				PLANS	
DESCRIPTION	YEARS	CFS	FEET	FEET	FEET
Design	50	40510	186.0	186.10	199.0
Base	100	47670	188.0	188.12	200.0
Extreme	500	66040	192.5	192.62	N/A
Overtopping	>500				

* Unconstricted water surface without structure or roadway approaches.
Historical H.W. Elev. = 197.7 ft.
Low Bridge Member Elev. = 199.980 ft.
** Bridge Deck Elevation based on White River water surface Elevations.



SUPERELEVATION TRANSITION

LOOKING FORWARD

A Transverse Screed is the preferred method of finishing the new bridge deck. Use of a Longitudinal Screed must be approved by the Bridge Engineer.

MICROFILMED
SEP 07 2000

STATE OF ARKANSAS
Edward T. Bain
REGISTERED PROFESSIONAL ENGINEER
No. 3915
8-9-00
EDWARD T. BAIN
BRIDGE ENGINEER

SHEET 2 OF 2
LAYOUT OF
BRIDGE OVER BAYOU DES ARC
BAYOU DES ARC STR. & APPRS. (S)
PRAIRIE COUNTY

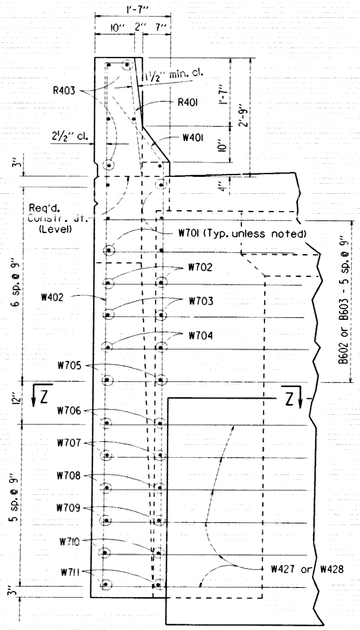
ROUTE 11 SEC. 10
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: LDF DATE: 4-6-00 FILENAME: BR60148.L2
CHECKED BY: DATE: 07-31-00 SCALE: 1" = 30'
DESIGNED BY: CAB DATE: 05-07-00

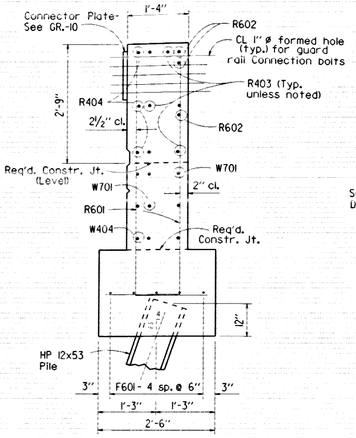
BRIDGE NO. 06813 DRAWING NO. 41494

TAMERAN

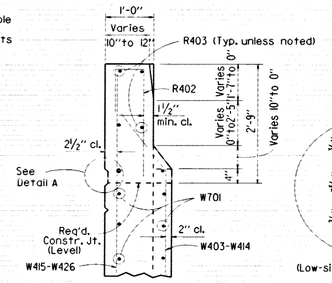
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R60148		
				(1) 06813		- WING DTLS. -		41497



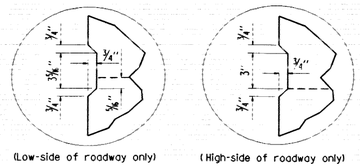
VIEW W-W
¾"=1'-0"



SECTION Y-Y
¾"=1'-0"



SECTION X-X
¾"=1'-0"



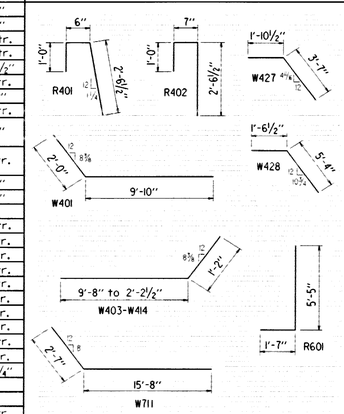
(Low-side of roadway only) (High-side of roadway only)

DETAIL A
No Scale

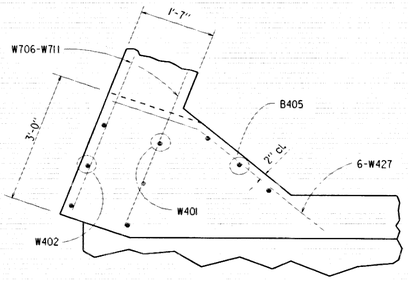
BAR LIST (WINGS A & B)

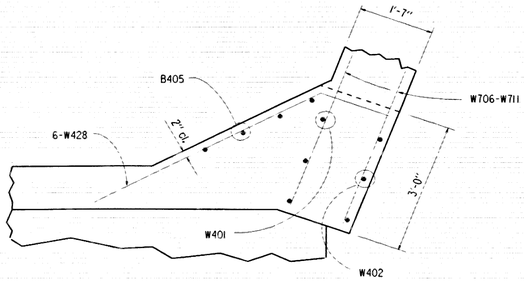
Mark	No. Req'd.	Length	Pin Dia.
R401	22	3'-11"	2"
R402	8	4'-0"	2"
R403	12	16'-8"	Str.
R404	6	2'-2"	Str.
R601	16	6'-10"	4½"
R602	6	5'-0"	Str.
W401	6	11'-10"	2"
W402	6	12'-2"	Str.
W403-W414	2 ea.	10'-10" to 3'-5"	2"
W415-W426	2 ea.	11'-11" to 4'-6"	Str.
W427	6	5'-5"	2"
W428	6	6'-10"	2"
W701	12	16'-8"	Str.
W702	4	13'-3"	Str.
W703	4	12'-2"	Str.
W704	4	11'-1"	Str.
W705	4	9'-11"	Str.
W706	4	8'-5"	Str.
W707	4	7'-4"	Str.
W708	4	6'-3"	Str.
W709	4	5'-1"	Str.
W710	4	4'-0"	Str.
W711	4	18'-3"	5¼"
F601	10	2'-2"	Str.

Bending Diagram



Dimensions are out to out of bars.





SECTION Z-Z
¾" = 1'-0"

MICROFILMED
SEP 07 2000

STATE OF ARKANSAS
Edward D. Fain
REGISTERED PROFESSIONAL ENGINEER
No. 3915
8-9-00
EDWARD D. FAIN

BRIDGE ENGINEER

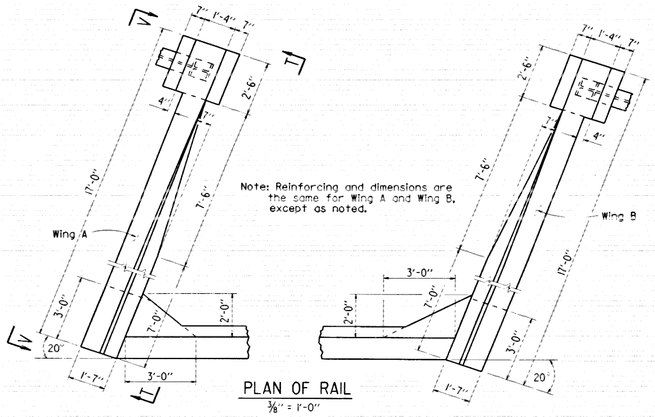
SHEET 2 OF 2
DETAILS OF WING & RAIL
BAYOU DES ARC
ROUTE 11 SEC. 10
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: LDF DATE: 7-14-00 FILENAME: BR60148.W2
CHECKED BY: DMM DATE: 07-28-00 SCALE: As Shown
DESIGNED BY: CAG DATE: 03-05-00

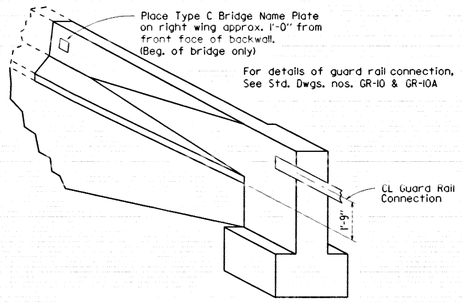
BRIDGE NO. 06813 DRAWING NO. 41497

D C B A 0 A B C D
TAMERAN

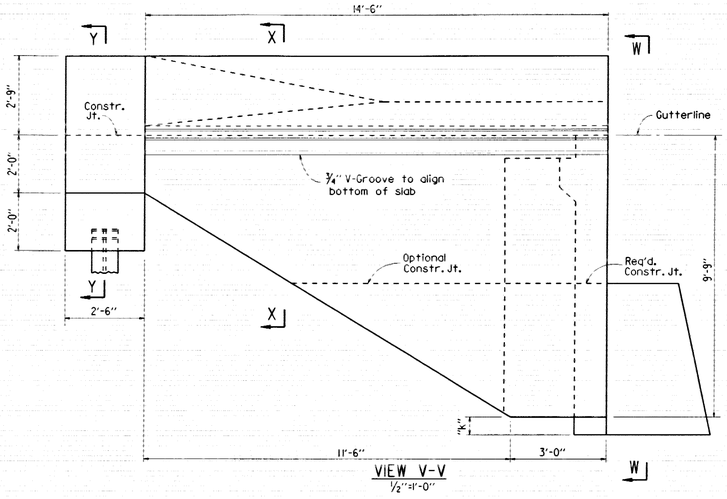
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R60148		
				1	06813	- WING DTLS. -		41496



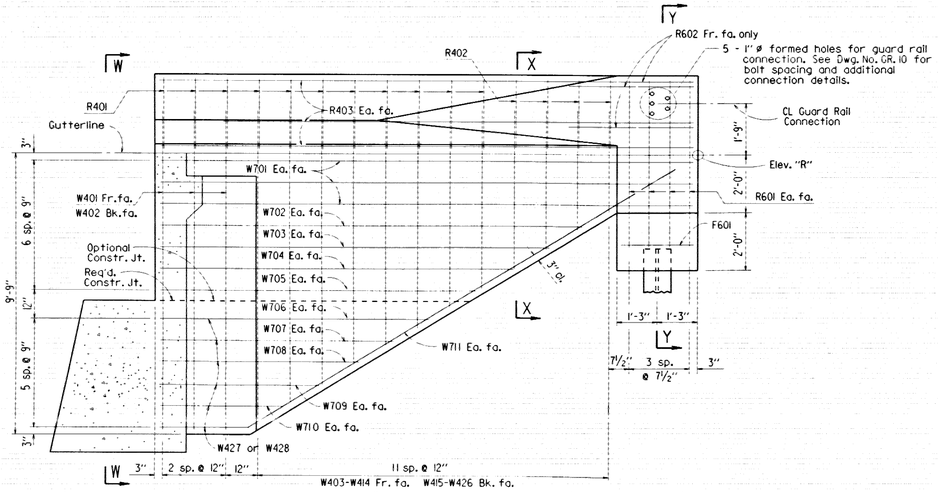
PLAN OF RAIL
3/8" = 1'-0"



THREE DIMENSIONAL VIEW OF RAIL
N.T.S



VIEW V-V
1/2" = 1'-0"



VIEW T-T
1/2" = 1'-0"

TABLE OF VARIABLES

Wing Location		Elev. "R"	"K"
Bent 1	Wing A	204.710	8"
	Wing B	206.035	7 7/16"
Bent 6	Wing A	206.996	9 9/16"
	Wing B	204.418	10 7/16"

MICROFILMED
SEP 07 2000

STATE OF ARKANSAS
Edward T. Fain
REGISTERED PROFESSIONAL ENGINEER
No. 3915
8-9-00
EDWARD T. FAIN

BRIDGE ENGINEER

SHEET 1 OF 2
DETAILS OF WING & RAIL
BAYOU DES ARC

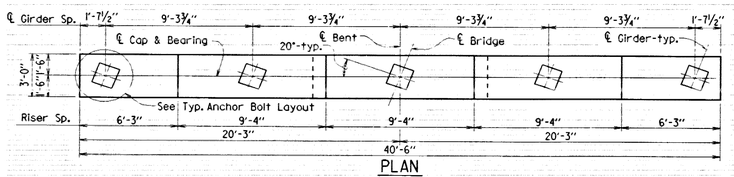
ROUTE 11 SEC. 10
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: LDF DATE: 7-11-00 FILENAME: BR60148.W1
CHECKED BY: D.A.M. DATE: 07-28-00 SCALE: As Shown
DESIGNED BY: CAG DATE: 03-03-00
BRIDGE NO. 06813 DRAWING NO. 41496

TAMERAN

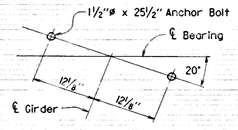
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10-13-00	11-16-00			6	ARK.			
				JOB NO.		R60148		

(1) 06813 -BENT NOS. 3 & 4- 41499



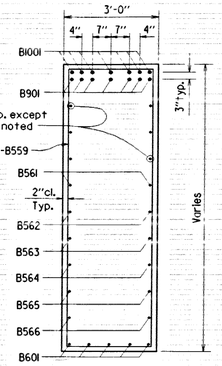
PLAN

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



TYP. ANCHOR BOLT LAYOUT

Scale: 1" = 1'-0"



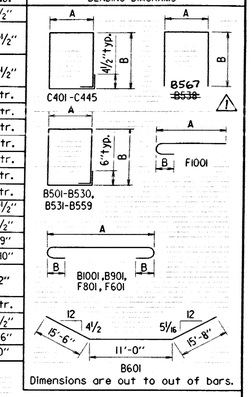
SECTION B-B

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

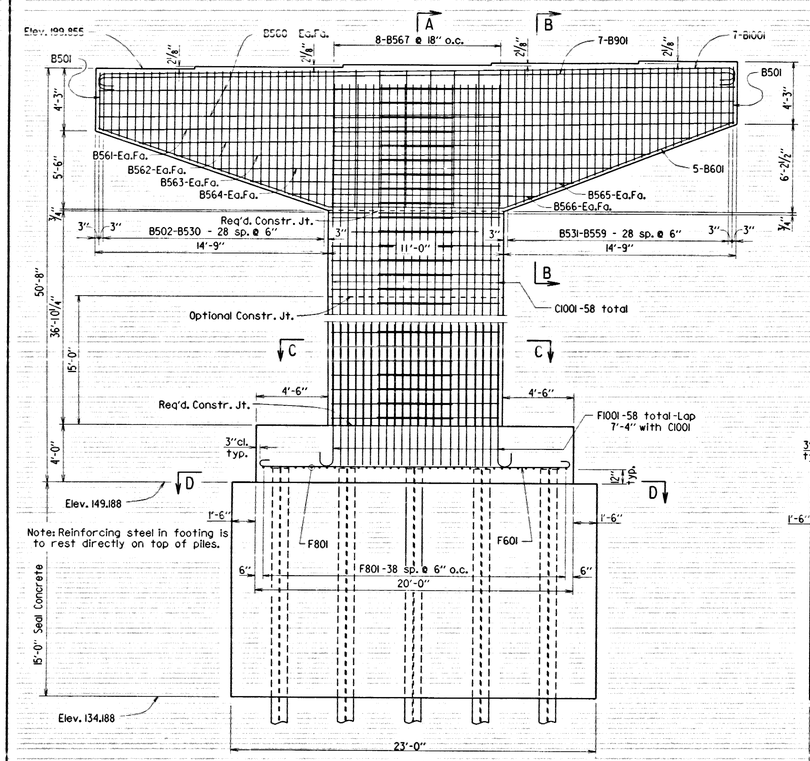
BAR LIST (EACH BENT)

MARK	NO. REQ'D.	LENGTH	'A'	'B'	P.D.
B50I	2	13'-10"	2'-8"	4'-0"	2½"
B502-B530	1 ea.	Var. 13'-8" to 24'-10"	2'-8"	Var. 3'-10¾" to 9'-6"	2½"
B531-B559	1 ea.	Var. 13'-10" to 25'-6"	2'-8"	Var. 3'-11½" to 9'-10"	2½"
B560	6	40'-4"			Str.
B56I	2	39'-1"			Str.
B562	2	34'-10"			Str.
B563	2	30'-0"			Str.
B564	2	25'-3"			Str.
B565	2	20'-6"			Str.
B566	2	15'-9"			Str.
B567	8	21'-10"	2'-8"	9'-8"	2½"
B60I	5	42'-0"			4½"
B90I	7	42'-8"	40'-2"	10"	9"
B100I	7	43'-0"	40'-2"	11½"	10"
C40I - C446	2 ea.	Var. 18'-10" to 22'-7"	7'-0"	Var. 2'-3" to 4'-1½"	2"
C100I	58	45'-9"			Str.
F60I	27	20'-10"	19'-6"	6"	4½"
F80I	39	15'-7"	13'-9"	8"	6"
F100I	58	11'-5"	10'-0"	11½"	10"

BENDING DIAGRAMS



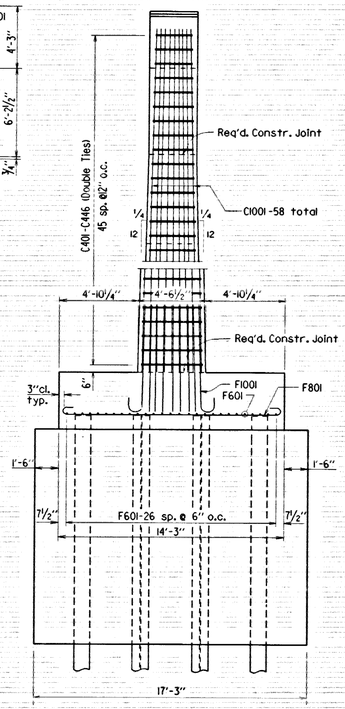
Dimensions are out to out of bars.



ELEVATION

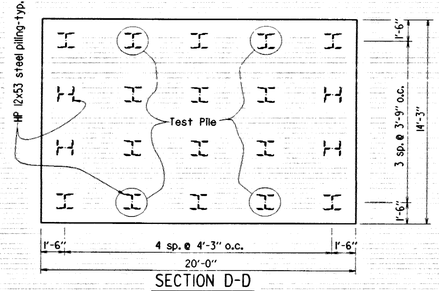
(Looking Back)

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



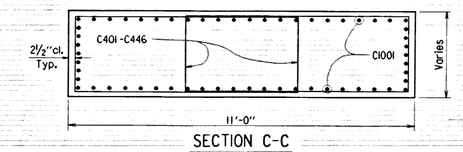
SECTION A-A

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



SECTION D-D

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



SECTION C-C

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

GENERAL NOTES

All concrete shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 psi. Concrete shall be poured in the dry and all exposed corners to be chamfered 3/4" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M53, Grade 60 (yield strength = 60,000 psi.).

All piles shall be HP 12x53 and driven to a safe minimum bearing capacity of 65 tons per pile.

Top reinforcing bars in cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

For anchor bolt and optional sheet metal sleeve detail, see Dwg. No. 41508.

For additional information, see Layout.

For Dewatering cofferdam, maximum water surface elevation is 179.8 for the seal size and pile lengths shown. However, if the piles cannot be driven to elevation 105.0 or below, then the water surface elevation will need to be reduced as directed by the Engineer.

⚠1 Revised: Changed Bar List- As Shown. 10-13-00

MICROFILMED

SEP 07 2000

STATE OF ARKANSAS
Edward F. Fain
REGISTERED PROFESSIONAL ENGINEER
No. 3915
8-9-00
EDWARD F. FAIN

BRIDGE ENGINEER

DETAILS OF BENT NOS. 3 & 4
BAYOU DES ARC
ROUTE 11 SEC. 10

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: LDF DATE: 7-17-00 FILENAME: BR60148.B4

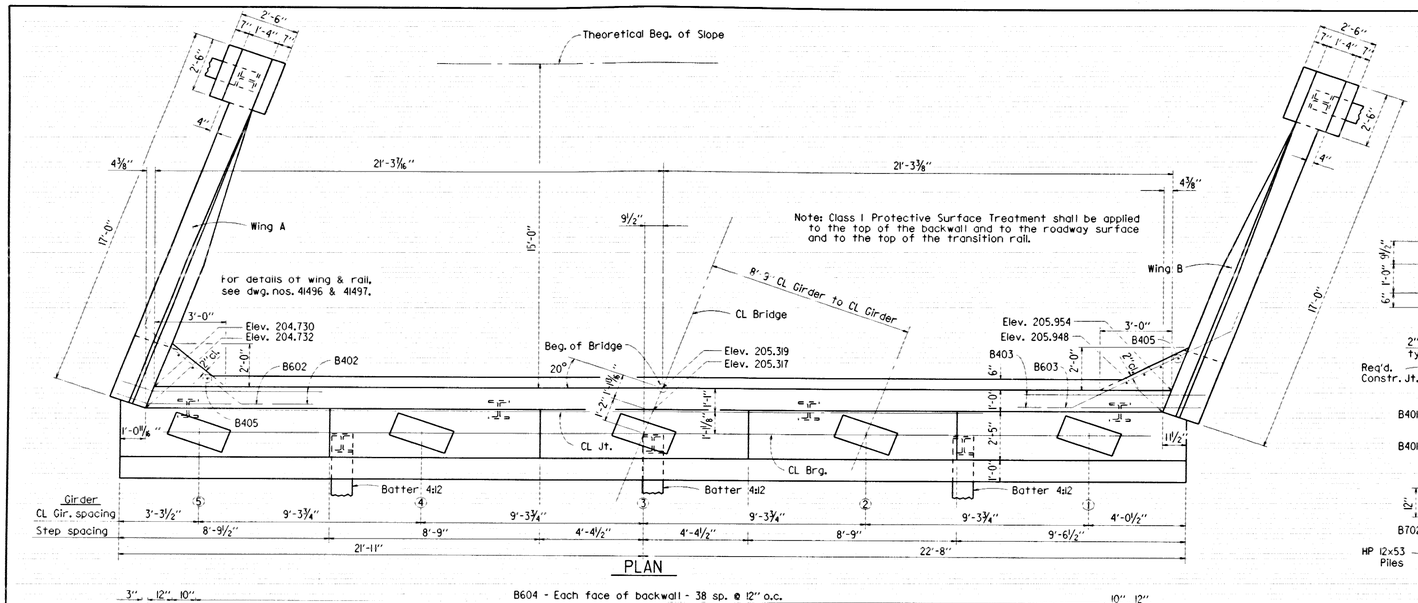
CHECKED BY: CAG DATE: 08-09-00 SCALE: AS NOTED

DESIGNED BY: CAG DATE: 03-05-99

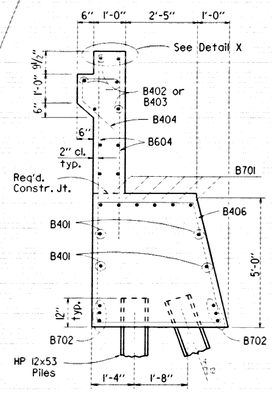
BRIDGE NO. 06813 DRAWING NO. 41499

TAMERAN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R60148		
				(1) 06813		- BENT DTLS. -		41495



PLAN



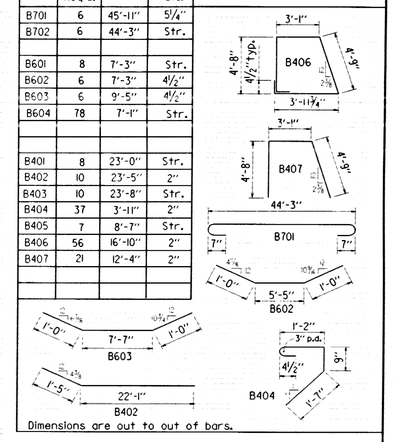
SECTION A-A

½" = 1'-0"

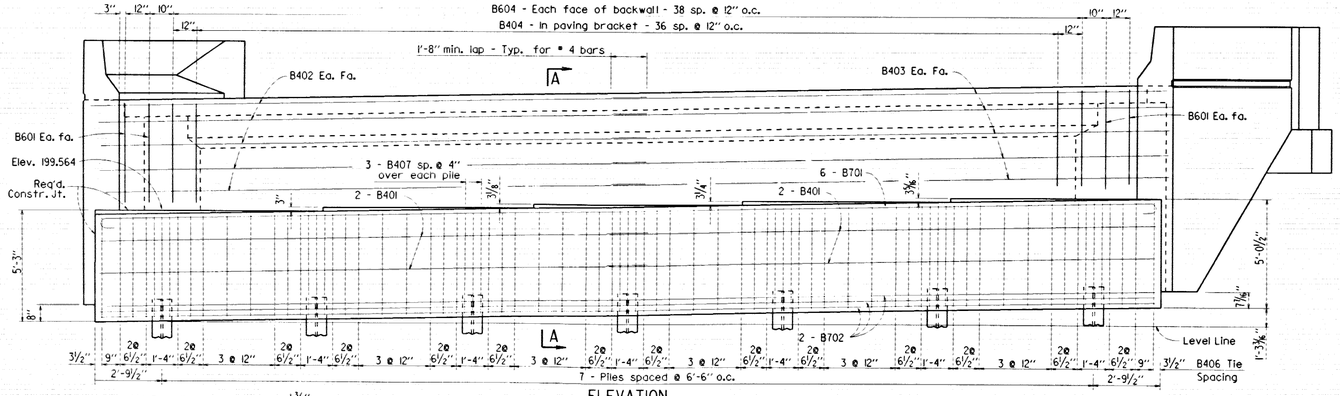
BAR LIST - ONE BENT

Mark	No. Req'd.	Length	Pin Dia.
B701	6	45'-11"	5¼"
B702	6	44'-3"	Str.
B601	8	7'-3"	Str.
B602	6	7'-3"	4½"
B603	6	9'-5"	4½"
B604	78	7'-1"	Str.
B401	8	23'-0"	Str.
B402	10	23'-5"	2"
B403	10	23'-8"	Str.
B404	37	3'-11"	2"
B405	7	8'-7"	Str.
B406	56	16'-10"	2"
B407	21	12'-4"	2"

Bending Diagram

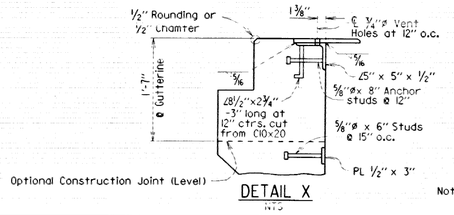


Dimensions are out to out of bars.



ELEVATION

(Looking Back)

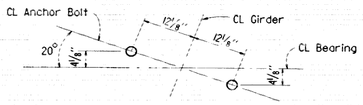


DETAIL X

NTS

Special care shall be taken to properly & thoroughly consolidate the concrete in the vicinity of the expansion joint device in the backwall. See Section 802.09(a)(3).

Note: For additional details of sliding plate joint, see Dwg. No. 41502.



TYP. ANCHOR BOLT LOCATION

NTS

GENERAL NOTES

All concrete shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 psi. Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M53, Grade 60 (yield strength = 60,000 psi.).

Structural steel in end bents shall be AASHTO M270, Gr. 50W and shall be paid for as "Structural Steel in Plate Girder Spans (M270, Gr. 50W)".

Top reinforcing bars in cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

The wings and backwall shown above the required or optional construction joints shall not be poured until girders are in place. The backwall above the optional construction joint shown in Detail X shall not be poured until the entire slab has been placed.

Avoid having heavy construction equipment behind the backwall until Pour (1) of the pouring sequence for end units have been poured.

For additional information, see layout.

For details of wings and rail see dwgs. 41496 & 41497.

MICROFILMED SEP 07 2000

STATE OF ARKANSAS Edward T. Fain REGISTERED PROFESSIONAL ENGINEER No. 3915 8-9-00 EDWARD T. FAIN

BRIDGE ENGINEER

DETAILS OF BENT I
BAYOU DES ARC
ROUTE 11 SEC. 10

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: LDF DATE: 7-11-00 FILENAME: BR60148.B1

CHECKED BY: [illegible] DATE: 07-28-00 SCALE: ⅛" = 1'-0" or as shown

DESIGNED BY: CAO DATE: 03-05-00

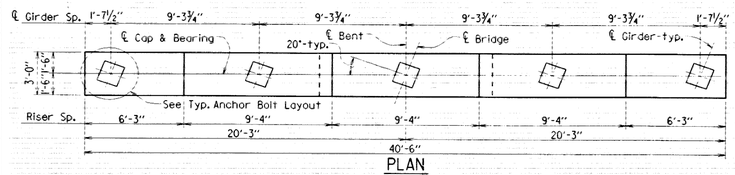
BRIDGE NO. 06813 DRAWING NO. 41495

D C B A 0 A B C D

TAMERAN

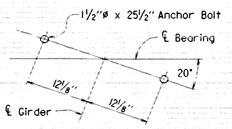
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10-13-00	11-16-00			6	ARK.			
1-24-01	2-13-01			JOB NO.		R60148		

(1) 06813 -BENT NOS. 2 & 5- 41498



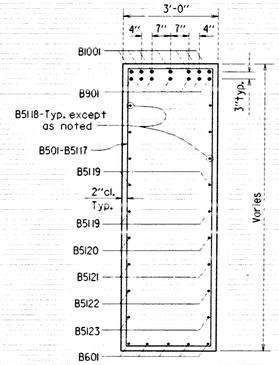
PLAN

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



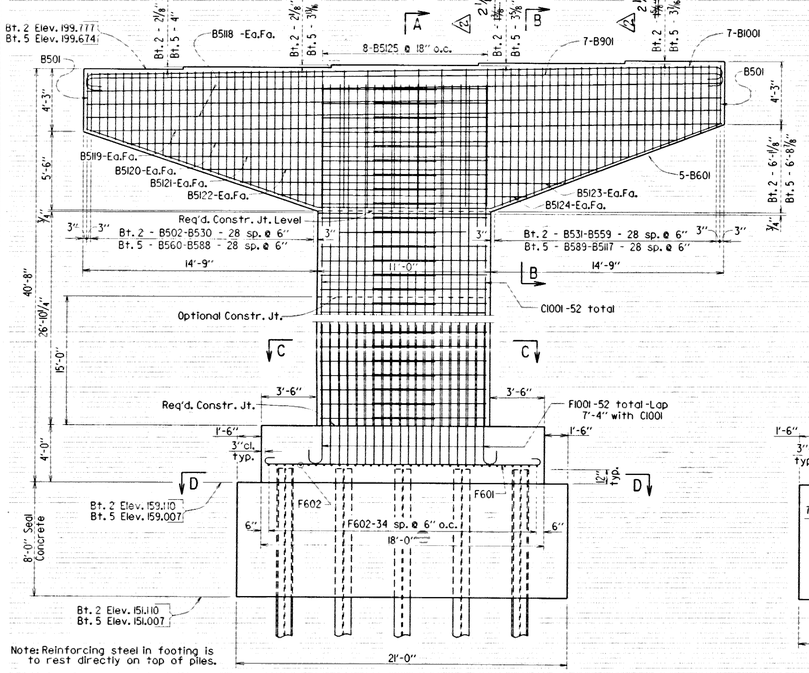
TYP. ANCHOR BOLT LAYOUT

Scale: 1" = 1'-0"



SECTION B-B

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



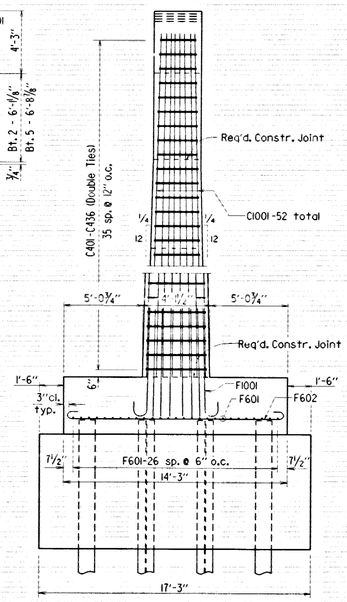
Note: Reinforcing steel in footing is to rest directly on top of piles.

A

ELEVATION

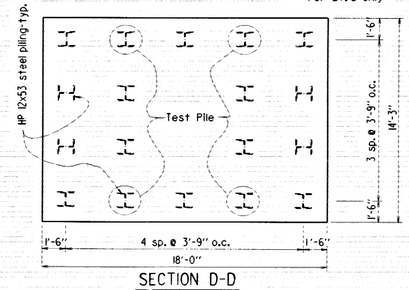
(Looking Back)

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



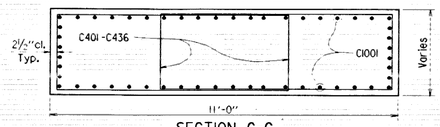
SECTION A-A

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



SECTION D-D

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



SECTION C-C

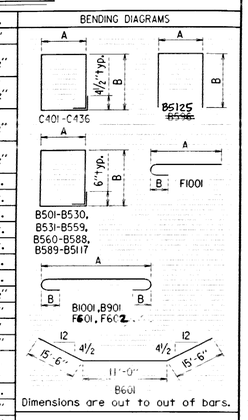
Scale: 1/2" = 1'-0"

BAR LIST (EACH BENT)

MARK	NO. REQ'D.	LENGTH	'A'	'B'	P.D.
B501	2	13'-10"	2'-8"	4'-0"	2½"
* B502-B530	1ea.	Var. 13'-7" to 24'-10"	2'-8"	Var. 3'-10½" to 9'-6"	2½"
* B531-B559	1ea.	Var. 13'-8" to 25'-2"	2'-8"	Var. 3'-11¼" to 9'-8"	2½"
** B560-B588	1ea.	Var. 13'-5" to 25'-1"	2'-8"	Var. 3'-9½" to 9'-7½"	2½"
** B589-B5117	1ea.	Var. ~~4'-6"~~ 13'-8" to ~~26'-6"~~ 25'-11"	2'-8"	Var. 3'-10¾" to 10'-0¼"	2½"
B5118	6	40'-4"			Str.
B5119	2	39'-7"			Str.
B5120	2	34'-10"			Str.
B5121	2	30'-0"			Str.
B5122	2	25'-3"			Str.
B5123	2	20'-6"			Str.
B5124	2	15'-9"			Str.
B5125	8	21'-10"	2'-8"	9'-8"	2½"
B601	5	42'-0"			4½"
B901	7	42'-8"	40'-2"	10"	9"
B1001	7	43'-0"	40'-2"	11½"	10"
C401 - C436	2 ea.	Var. 19'-5½" to 22'-4"	7'-4"	Var. 2'-2¾" to 3'-8"	2"
C1001	52	35'-6"			Str.
F601	27	18'-10"	17'-6"	6"	4½"
F602	35	15'-1"	13'-9"	6"	4½"
F1001	52	10'-11"	9'-6"	11½"	10"

* For Bt. 2 Only
** For Bt. 5 Only

BENDING DIAGRAMS



GENERAL NOTES

All concrete shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 psi. Concrete shall be poured in the dry and all exposed corners to be chamfered 3/4" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M53, Grade 60 (yield strength = 60,000 psi.).

All piles shall be HP 12x53 and driven to a safe minimum bearing capacity of 65 tons per pile.

Top reinforcing bars in cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

For anchor bolt and optional sheet metal sleeve detail, see Dwg. No. 41508.

For additional information, see Layout.

For Dewatering cofferdam, maximum water surface elevation is 179.8 for the seal size and pile lengths shown. However, if the piles cannot be driven to elevation 120.0 or below @ bent 2 and 115.0 or below @ bent 6, then the water surface elevation will need to be reduced as directed by the Engineer.

⚠1 Revised: Changed Bar List-As Shown. 10-13-00 LDF
⚠2 Revised: Changed Bt. 2 Riser Dims.-As Shown. 1-24-01 LDF

STATE OF ARKANSAS
Edward T. Fain
REGISTERED PROFESSIONAL ENGINEER
No. 3915
8-9-00
EDWARD T. FAIN
BRIDGE ENGINEER

DETAILS OF BENT NOS. 2 & 5
BAYOU DES ARC
ROUTE 11 SEC. 10
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	LDF	DATE:	6-30-00	FILENAME:	BR60148.B3
CHECKED BY:	CAG	DATE:	08-07-00	SCALE:	AS NOTED
DESIGNED BY:	CAG	DATE:	03-03-00		

BRIDGE NO. 06813 DRAWING NO. 41498

MICROFILMED
SEP 07 2000

TAMERAN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R60148		
				(1) 06813 -PLATE GIRDER UNIT-				41506

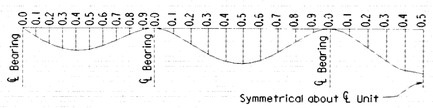
TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

Deflections shown are off a chord from C.L. Brg. to C.L. Brg.
Vertical curve correction not included.
Negative sign (-) indicates point above chord.

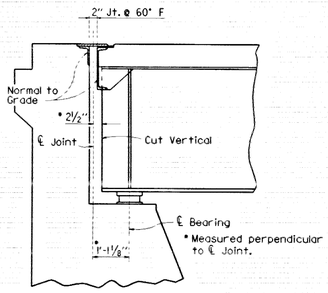
Camber for Dead Load Deflection plus Vertical curve ± 1/4" tolerance.

Span	Point of Deflection	Structural Steel		Structural Steel + Slab		Structural Steel + Slab + Parapet	
		Interior	Exterior	Interior	Exterior	Interior	Exterior
1	0	0	0	0	0	0	0
	0.1	0.056	0.052	0.273	0.258	0.295	0.281
	0.2	0.102	0.095	0.502	0.474	0.544	0.516
	0.3	0.133	0.124	0.655	0.619	0.710	0.673
	0.4	0.145	0.136	0.715	0.676	0.775	0.736
	0.5	0.138	0.130	0.681	0.643	0.739	0.701
	0.6	0.114	0.107	0.563	0.532	0.611	0.580
	0.7	0.078	0.074	0.388	0.367	0.422	0.401
	0.8	0.039	0.037	0.197	0.186	0.214	0.204
	0.9	0.009	0.008	0.045	0.042	0.048	0.046
2	0	0	0	0	0	0	0
	0.1	0.038	0.035	0.178	0.168	0.197	0.186
	0.2	0.104	0.097	0.501	0.473	0.551	0.523
	0.3	0.171	0.158	0.826	0.778	0.905	0.858
	0.4	0.217	0.202	1.050	0.990	1.149	1.090
	0.5	0.231	0.215	1.117	1.053	1.222	1.158
	0.6	0.209	0.194	1.009	0.951	1.104	1.047
	0.7	0.156	0.144	0.753	0.710	0.825	0.782
	0.8	0.087	0.080	0.418	0.394	0.459	0.436
	0.9	0.024	0.022	0.116	0.109	0.128	0.121
3	0	0	0	0	0	0	0
	0.1	0.042	0.040	0.208	0.197	0.228	0.217
	0.2	0.124	0.116	0.607	0.573	0.664	0.631
	0.3	0.209	0.195	1.019	0.962	1.113	1.057
	0.4	0.270	0.252	1.317	1.244	1.437	1.364
	0.5	0.293	0.273	1.425	1.345	1.555	1.475

Note: Deflections shown in table are symmetrical about centerline of unit.



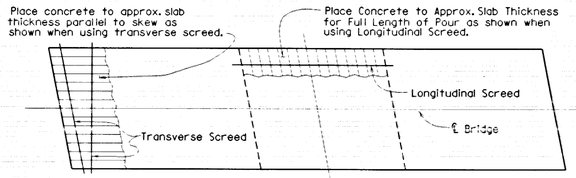
CAMBER DIAGRAM



JOINT DETAIL AT BENT 1 OR 6

No Scale

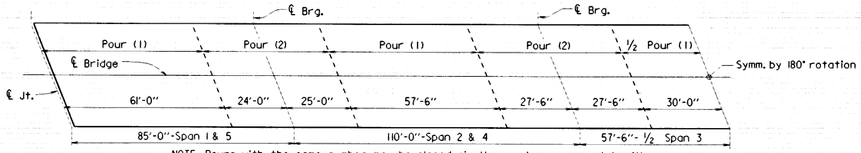
A Transverse Screed is the preferred method of finishing the new bridge deck. Use of a Longitudinal Screed must be approved by the Bridge Engineer.



Note: At the Contractor's Option, the Transverse Screed may be placed parallel to the skew or perpendicular to ℄ Bridge.

CONCRETE PLACEMENT PROCEDURE

No Scale



NOTE: Pours with the same number may be placed simultaneously or separately. All Pours (1) must be placed before Pours (2) can be placed. 48 hours shall elapse between pours and 72 hours shall elapse between adjacent pours. Any railing pours made before the entire slab unit has been placed must be approved by the Bridge Engineer.

SLAB POURING SEQUENCE

No Scale

MICROFILMED
SEP 07 2000

STATE OF ARKANSAS
Edward T. Kean
REGISTERED PROFESSIONAL ENGINEER
No. 3915
8-9-00
EDWARD T. KEAN

BRIDGE ENGINEER

SHEET 6 OF 7
DETAILS OF 505'-0" CONTINUOUS
COMPOSITE PLATE GIRDER UNIT
BAYOU DES ARC

ROUTE 11 SEC. 10

ARKANSAS STATE HIGHWAY COMMISSION

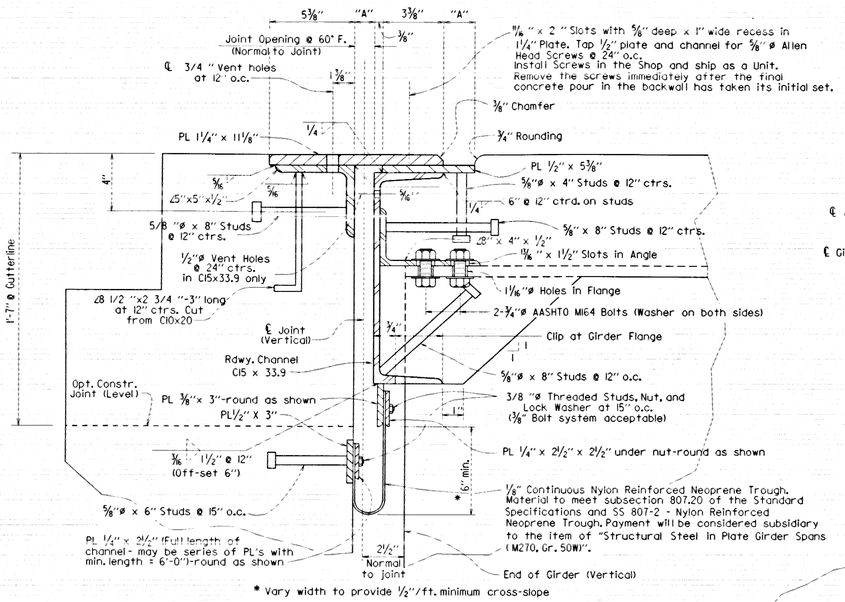
LITTLE ROCK, ARK.

DRAWN BY: LDF DATE: 6-20-00 FILENAME: BR60148.S6
CHECKED BY: DAN DATE: 07-28-00 SCALE: AS NOTED
DESIGNED BY: CAS DATE: 03-05-00

BRIDGE NO. 06813 DRAWING NO. 41506

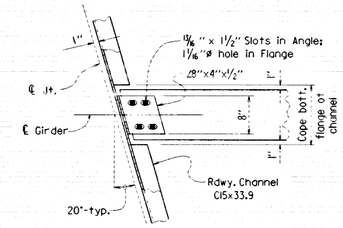
D C B A 0 A B C D
TAMERAN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R60148		
				1	06813	-PLATE GIRDER UNIT-		41502



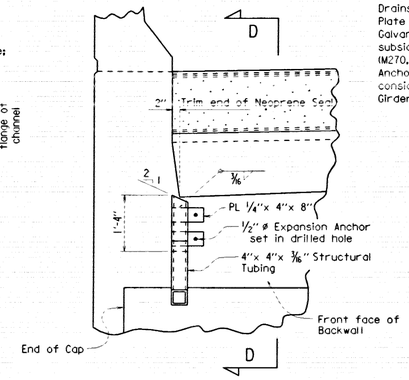
SECTION THRU JOINT AT END BENT

Scale: 3" = 1'-0"



CHANNEL CONNECTION DETAIL

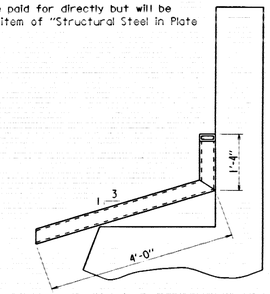
No Scale



DRAIN DETAIL AT BENTS 1 & 6

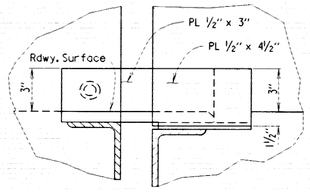
No Scale

Drains are to installed on low side of roadway at Bents 1 & 6.
Drains may be M270, Gr. 36 Structural Steel and hot-dipped galvanized after fabrication in accordance with Section 807.19, or drains may be M270, Gr. 50W Structural Steel.
Drains shall be measured and paid for as "Structural Steel in Plate Girder Spans (M270, Gr. 50W)".
Galvanizing will not be paid for directly but will be considered subsidiary to the item of "Structural Steel in Plate Girder Spans (M270, Gr. 50W)".
Anchor installation will not be paid for directly but will be considered subsidiary to the item of "Structural Steel in Plate Girder Spans (M270, Gr. 50W)".



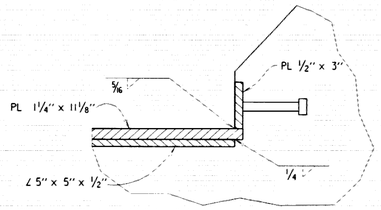
VIEW D-D

No Scale



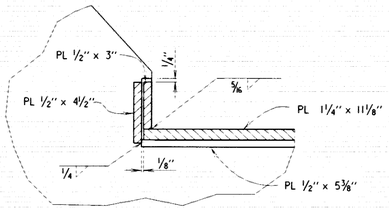
VIEW A-A

Scale: 3" = 1'-0"



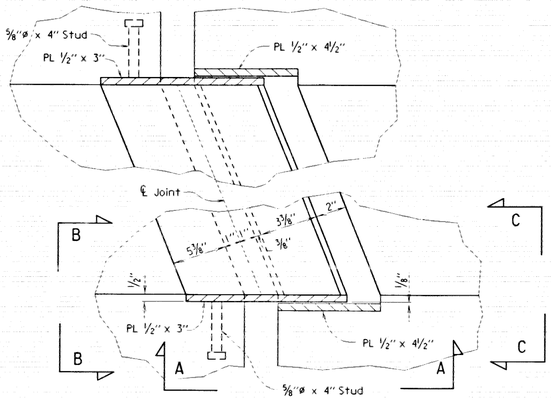
VIEW B-B

Scale: 3" = 1'-0"



VIEW C-C

Scale: 3" = 1'-0"



PLAN OF JOINT AT CURB

Scale: 3" = 1'-0"

Temperature (Bents 1 & 6)	"A"
80°	1⅝"
60°	2"
40°	2⅜"

SLIDING PLATE JOINT INSTALLATION

After all girders are in place, the sliding plate unit shall be bolted to girders and adjusted for grade. Prior to making the deck pour, the unit half of the joint dimension "A" shall be set according to the ambient temperature as shown in the table. This setting is made by moving the 8"x4"x ½" slotted connection angles relative to the girders at the connection bolts. Interpolation of the temperature table may be necessary.
Prior to making the final pour for the backwall, the joint dimension "A" shall be set according to the ambient temperature. This setting is made by moving the slotted 1¼" sliding plate relative to the ½" plate at the erection screws. Then the 5"x 5"x ½" angle shall be firmly secured to the backwall forms. A final adjustment of the forms should be made to ensure that the 1¼" sliding plate is seated against the ½" plate. Also, the reinforcing in the top of the backwall should be adjusted to maintain the clearance shown on the details. The erection screws must be removed after the final pour in the backwall has taken its initial set.

STATE OF ARKANSAS
Edward T. Fain
REGISTERED PROFESSIONAL ENGINEER
No. 3915
8-9-00
EDWARD T. FAIN

BRIDGE ENGINEER

SHEET 2 OF 7
DETAILS OF 505'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BAYOU DES ARC

ROUTE 11 SEC. 10
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: LDF DATE: 6-15-00 FILENAME: BR60148.S2
CHECKED BY: DATE: 07-28-00 SCALE: AS NOTED
DESIGNED BY: C.A.S. DATE: 03-23-00

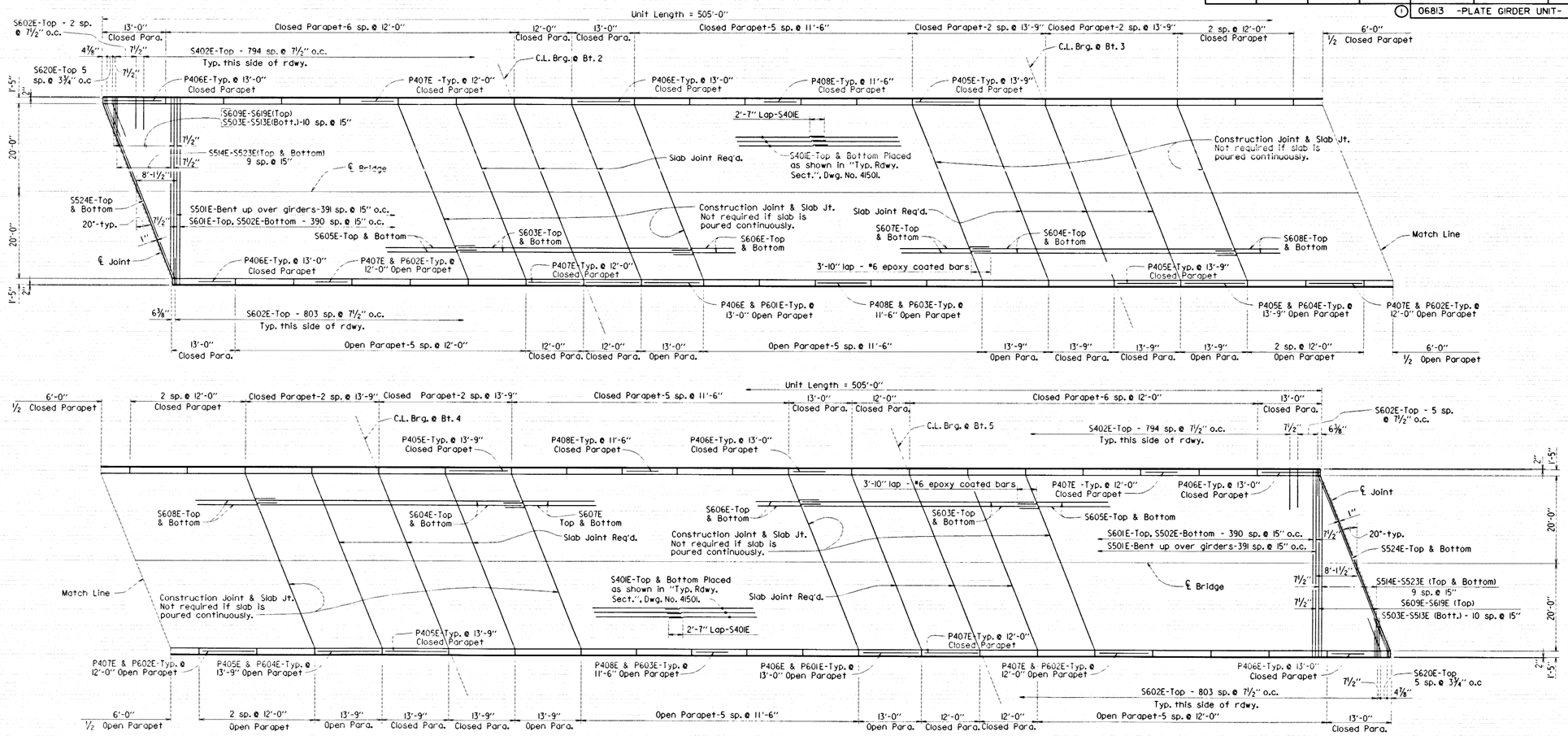
BRIDGE NO. 06813 DRAWING NO. 41502

SEP 07 2000

TAMERAN

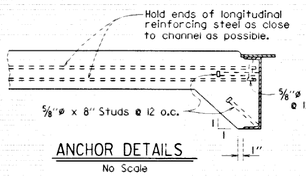
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R60148		

① 06813 -PLATE GIRDER UNIT- 41503



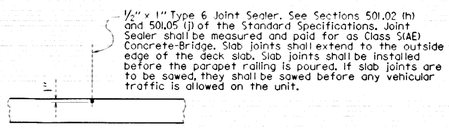
REINFORCING PLAN

Scale: 7/32" = 1'-0"



ANCHOR DETAILS

No Scale



SLAB JOINT DETAIL

No Scale

MICROFILMED
SEP 07 2000

STATE OF ARKANSAS
Edward T. Tain
REGISTERED PROFESSIONAL ENGINEER
No. 5915
8-9-00
EDWARD T. TAIN

BRIDGE ENGINEER

SHEET 3 OF 7
DETAILS OF 505'-0" CONTINUOUS
COMPOSITE PLATE GIRDER UNIT
BAYOU DES ARC

ROUTE 11 SEC. 10

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

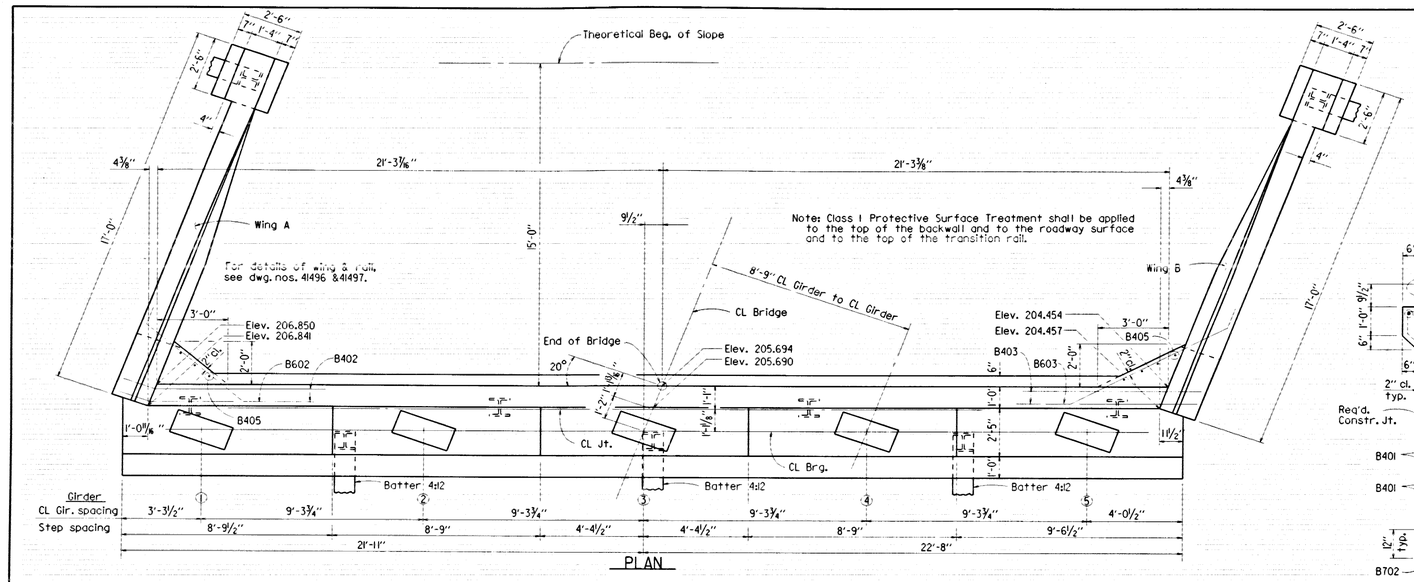
DRAWN BY: LDF DATE: 6-14-00 FILENAME: BR60148.S3
CHECKED BY: R.D.M. DATE: 07-28-00 SCALE: AS NOTED
DESIGNED BY: CAB DATE: 03-05-00

BRIDGE NO. 06813 DRAWING NO. 41503

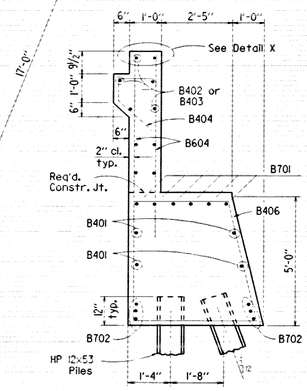
D C B A 0 A B C D

TAMERAN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R60148		
				(1) 06813		- BENT DTLS. -		41500

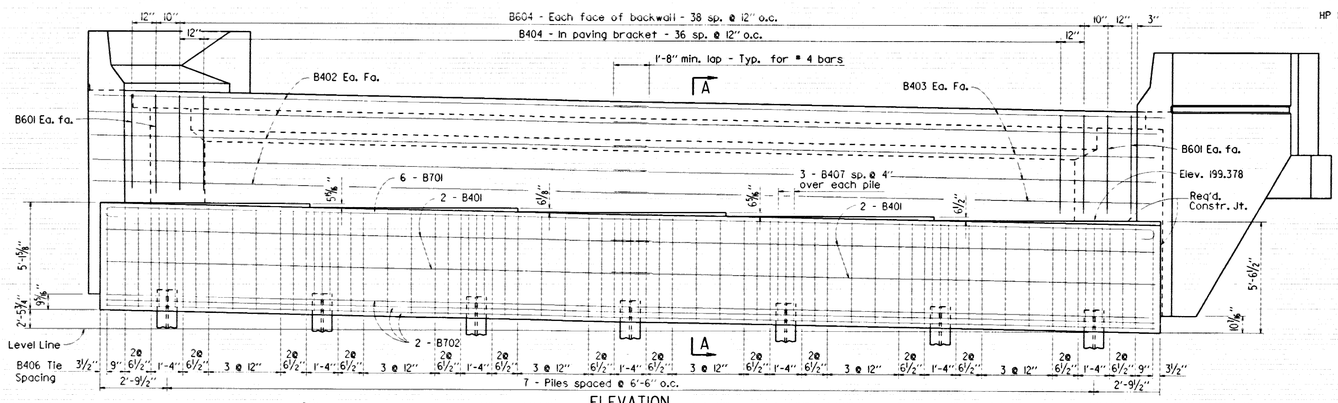


PLAN



SECTION A-A

½" = 1'-0"



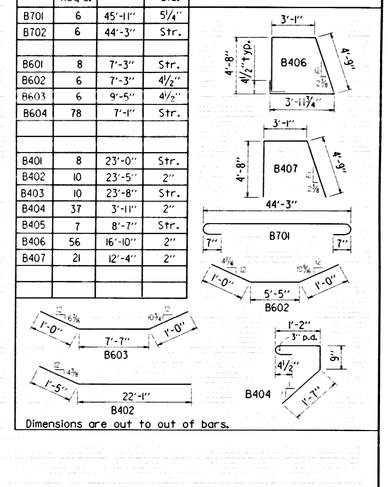
ELEVATION

(Looking Forward)

BAR LIST - ONE BENT

Mark	No. Req'd.	Length	Pin Dia.
B701	6	45'-11"	5¼"
B702	6	44'-3"	Str.
B601	8	7'-3"	Str.
B602	6	7'-3"	4½"
B603	6	9'-5"	4½"
B604	78	7'-1"	Str.
B401	8	23'-0"	Str.
B402	10	23'-5"	2"
B403	10	23'-8"	Str.
B404	37	3'-11"	2"
B405	7	8'-7"	Str.
B406	56	16'-10"	2"
B407	21	12'-4"	2"

Bending Diagram



Dimensions are out to out of bars.

GENERAL NOTES

All concrete shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 psi. Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M53, Grade 60 (yield strength = 60,000 psi).

Structural steel in end bents shall be AASHTO M270, Gr. 50W and shall be paid for as "Structural Steel in Plate Girder Spans (M270, Gr. 50W)".

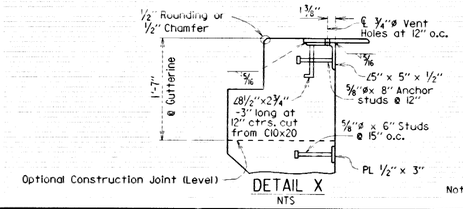
Top reinforcing bars in cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

The wings and backwall shown above the required or optional construction joints shall not be poured until girders are in place. The backwall above the optional construction joint shown in Detail X shall not be poured until the entire slab has been placed.

Avoid having heavy construction equipment behind the backwall until Pour (1) of the pouring sequence for end units have been poured.

For additional information, see layout.

For details of wings and rail see dwgs. 41496 & 41497.

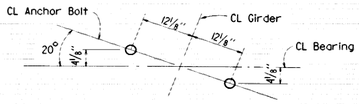


DETAIL X

NTS

Special care shall be taken to properly & thoroughly consolidate the concrete in the vicinity of the expansion joint device in the backwall. See Section 802.09(a)(3).

Note: For additional details of sliding plate joint, see Dwg. No. 41502.



TYP. ANCHOR BOLT LOCATION

NTS

MICROFILMED

SEP 07 2000

STATE OF ARKANSAS
Edward T. Wain
REGISTERED PROFESSIONAL ENGINEER
No. 3915
3-9-00
EDWARD T. WAIN

BRIDGE ENGINEER

DETAILS OF BENT 6
BAYOU DES ARC

ROUTE 11 SEC. 10

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: LDF DATE: 7-13-00 FILENAME: BR60148.B2

CHECKED BY: RHM DATE: 07-28-00 SCALE: ⅛" = 1'-0" or as shown

DESIGNED BY: CAS DATE: 03-05-00

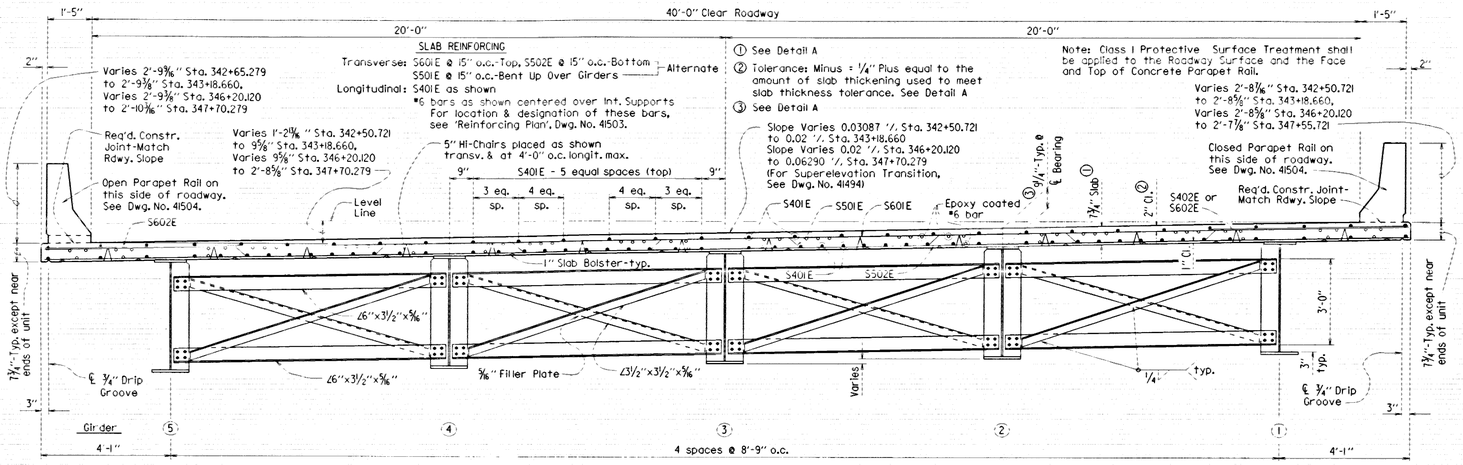
BRIDGE NO. 06813 DRAWING NO. 41500

D C B A 0 A B C D

TAMERAN

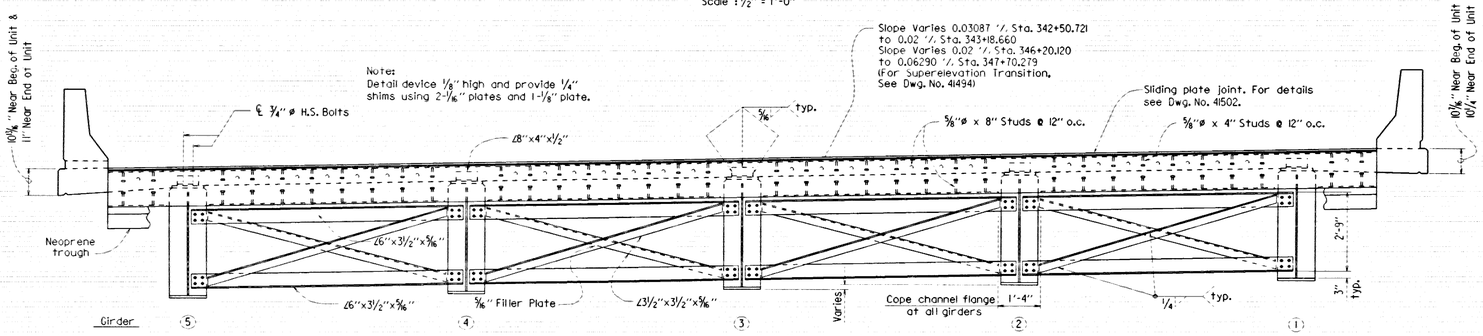
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R60148		

(1) 06813 - PLATE GIRDER UNIT - 41501



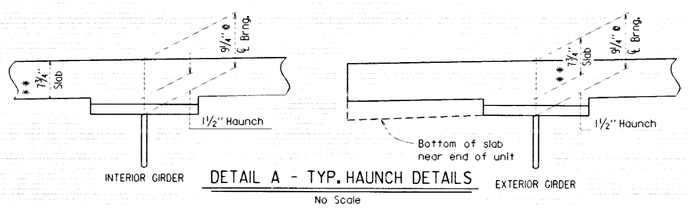
TYPICAL ROADWAY SECTION

(Looking Back)
Scale : 1/2" = 1'-0"



SECTION THRU JOINTS AT ENDS OF UNIT

(Looking Back)
Scale : 1/2" = 1'-0"



DETAIL A - TYP. HAUNCH DETAILS

No Scale

Haunch dimensions may vary within the following limits to maintain the grade and slab thickness tolerance: Minimum - occurs when top flange contacts bottom reinforcing steel; Maximum - top flange thickness plus 1 3/4". No increase in concrete and structural steel quantities will be made to maintain tolerances.

** Tolerance when removable deck forming is used is +1/2", -1/4". Haunch forming is required and shall be adjusted to maintain slab thickness tolerance.

Tolerances shown are applicable only when removable deck forming is used. See Std. Dwg. No. 14991 for tolerances when permanent steel deck forms are used. Payment for concrete shall be based on removable deck forming.

Groove welds in main members shall be Quality Control (Q.C.) tested by nondestructive testing, as required by the Standard Specifications. Fillet weld at flange to web plate connections shall be Q.C. tested by the magnetic particle method. All Quality Control (Q.C.) testing is at the contractor's expense.

Field connections to be bolted with high-strength bolts. Bolts shall be 3/4" dia. except as noted and open holes 15/16" dia. except as noted. Bolt spacing shall be 2 1/2" for 3/4" dia. bolts. Minimum edge distance shall be 1 1/4" unless otherwise noted. Bolts shall be placed with heads on the outside face of the exterior girder and on the bottom of the girder flanges.

Holes for 3/4" dia. high strength bolts in cross frames may be 15/16" dia. if a washer is supplied for use under both the nut and head of bolt.

LOAD DISTRIBUTION:

	INTERIOR GIRDER	EXTERIOR GIRDER
DEAD LOAD		
To Girder:	848 plf + 1.3(Wt. of Girder)	819 plf + 1.3(Wt. of Girder)
To Composite Girder:	337 plf. *	337 plf. *

* Includes 192 plf future wearing surface

LIVE LOAD
To composite girder: 1.5909 Wheels + Impact 1.4286 Wheels + Impact

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (1996 edition) with applicable supplemental specifications and special provisions. Unless otherwise noted in the plans, Section and Subsection refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO Standard Specifications for Highway Bridges (1996 edition) with current interim specificat'ns.

LIVE LOADING: HS20 METHOD OF DESIGN: Load Factor

MATERIALS AND STRENGTHS:

Class S(AE) Concrete (superstructure)	f'c = 4,000 psi
Reinforcing Steel (AASHTO M31 or M53, Gr. 60)	fy = 60,000 psi
Structural Steel (AASHTO M270, Gr. 50W)	Fy = 50,000 psi
Structural Steel (AASHTO M270, Gr. 36)	Fy = 36,000 psi

CONCRETE: All concrete shall be Class S(AE) with a minimum 28 day compressive strenght f'c = 4,000 psi. Concrete shall be poured in the dry and all exposed corners to be chamfered 3/4" unless otherwise noted.

CONCRETE: 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 deck shall be given a tine finish in accordance with Section 802.19 of the Standard Specifications for Class 5, Tined Bridge Roadway Surface Finish. 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 the pour. Sufficient concrete must be placed ahead of the strike-off to fully load the girder. If a longitudinal strike-off is used, a vertical camber adjustment must be made in the strike-off to account for the future dead-load deflection of the railing. Any railing pours made before the entire slab unit has been placed must be approved by the Bridge Engineer.

REINFORCING: All reinforcing steel to be AASHTO M31 or M53, Gr. 60. 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.'

STRUCTURAL STEEL: All structural steel shall be AASHTO M270, Gr. 50W unless otherwise noted and shall be paid for at the unit price per pound bid for 'Structural Steel in Plate Girder Spans (M270, Gr. 50W)'. AASHTO M270, Gr. 50W steel shall not be painted. All exposed surfaces to be cleaned in accordance with SP Job R60148 'Unpainted Weathering Structural Steel'. Structural steel completely embedded in concrete may be AASHTO M270, Gr. 36.

Girder webs may be made by shop splicing with minimum lengths of 25'-0" for sections. Flange plates longer than 50'-0" may be made by shop splicing with minimum lengths of 25'-0" for sections. No additional payment for welds for these splices will be made.

All plate girder webs and flanges are considered main load carrying members, and shall meet the longitudinal Charpy V-Notch Test specified in Section 807.05 of the Standard Specifications. This work and material are to be considered as subsidiary to the item 'Structural Steel in Plate Girder Spans (M270, Gr. 50W)' and will not be paid for directly. Charpy V-Notch test will not be required on web and flange splice plates.

Web and flange plates for main members and flange splice plates for main members 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.

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

Cross-frames shall be installed as girders are erected. All bolts in cross-frames and field splices shall be installed and tightened in accordance with Subsection 807.71 of the Standard Specifications prior to pouring of the floor slabs.

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.

All girders shall be blocked in their true position in the shop with the webs horizontal, in groups of a minimum of three sections. See Section 807.54(b)(2) of the Standard Specifications. The camber, length of sections, distance between bearings and opening of joints shall be measured with the girders in this position and this information shall become a part of the permanent records of this job. The component parts shall be match marked in this assembly and these marks shall be shown on the erection diagram. All girder dimensions are based on a temperature of 60° F. A tolerance of 1/4": is allowed for camber.

All welding that is to be done during fabrication of structural steel, including temporary welds, shall be detailed on the shop drawings and submitted for approval. If the contractor or erector should want to make additional welds, whether temporary or permanent, he shall submit detailed drawings with a formal request to the Bridge Engineer of the Arkansas State Highway and Transportation Department for approval. All welding shall conform to Subsection 807.26 and applicable Supplemental specifications.

STATE OF ARKANSAS
Edward F. Fain
REGISTERED PROFESSIONAL ENGINEER
No. 3915
EDWARD F. FAIN
8-29-00
BRIDGE ENGINEER

SHEET 1 OF 7
DETAILS OF 505'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BAYOU DES ARC
ROUTE 11 SEC. 10
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	LDF	DATE:	7-17-00	FILENAME:	BR60148.S1
CHECKED BY:	RAM	DATE:	07-28-00	SCALE:	As Noted
DESIGNED BY:	CAS	DATE:	03-05-00		

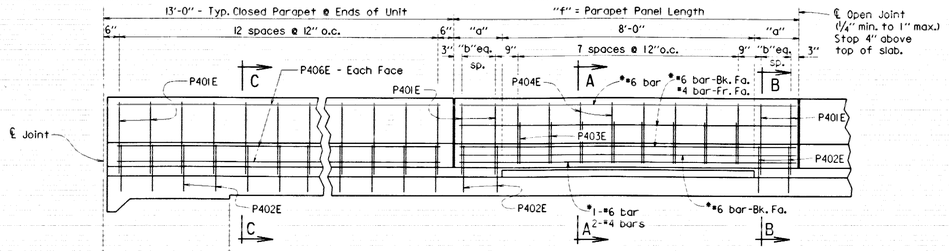
BRIDGE NO. 06813 DRAWING NO. 41501

MICROFILMED
SEP 07 2000

TAMERAN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R60148	2	

(1) 06813 -PLATE GIRDER UNIT- 41504

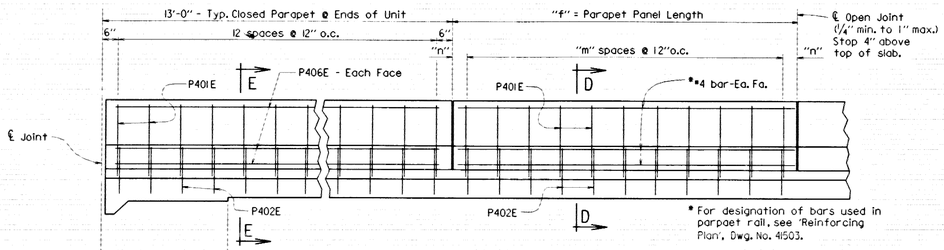


Thicken overhang slab to 10 7/16" at Beg. Bridge and 11" at End of Bridge. Use 6 1/2" Hi-Chairs in this area.

DETAILS OF PARAPET RAIL - LOW SIDE OF BRIDGE

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

* For designation of bars used in parpaet rail, see 'Reinforcing Plan', Dwg. No. 41503.



Thicken overhang slab to 10 7/16" at Beg. Bridge and 10 1/4" at End of Bridge. Use 7" Hi-Chairs in this area.

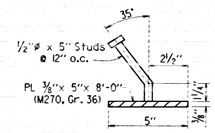
DETAILS OF PARAPET RAIL - HIGH SIDE OF BRIDGE

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

* For designation of bars used in parpaet rail, see 'Reinforcing Plan', Dwg. No. 41503.

TABLE OF VARIABLES FOR OPEN PARAPET

"f"	"a"	"b"
12'-0"	2'-0"	3
13'-0"	2'-6"	4
11'-6"	1'-9"	3
13'-9"	2'-10 1/2"	5



DETAIL Z

No Scale

Note:
Parapet Studs shall be 5" long, granular flux filled, solid fluxed, or equal, and automatically end welded to the plate. Studs and plate shall meet the requirements of Section 807. Studs and plate shall be measured and paid for as "Structural Steel in Plate Girder Spans (M270, Gr. 50W)."

The surfaces of the 3/8" Plates which will not be in contact with concrete shall be painted with aluminum epoxy paint in accordance with Section 638, or as approved by the Engineer. Only one coat is required and shall be applied in the fabricator's shop. Painting will not be paid for directly, but will be considered subsidiary to Structural Steel.

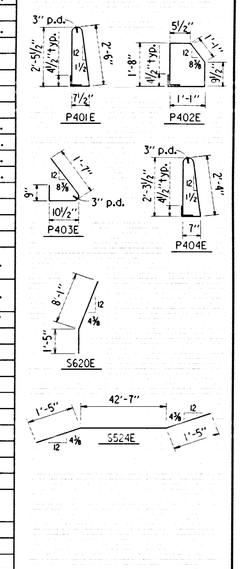
TABLE OF VARIABLES FOR CLOSED PARAPET

"f"	"m"	"n"
12'-0"	11	6"
13'-0"	12	6"
11'-6"	11	3"
13'-9"	13	4 1/2"

BAR LIST-PER UNIT

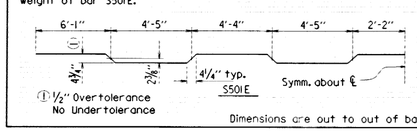
MARK	NO. REQ'D.	LENGTH	P.D.
S401E	1,120	38'-6"	Str.
S402E	795	5'-5"	Str.
P401E	910	6'-2"	2"
P402E	910	5'-5"	2"
P403E	248	3'-2"	2"
P404E	248	5'-10"	2"
P405E	88	13'-3"	Str.
P406E	44	12'-6"	Str.
P407E	198	11'-6"	Str.
P408E	100	11'-0"	Str.
S501E	392	43'-10"	3"
S502E	391	42'-10"	Str.
S503E - S513E	2 ea.	Var. 6'-11" to 41'-3"	Str.
S514E - S523E	4 ea.	Var. 8'-8" to 39'-6"	Str.
S524E	4	45'-5"	3 3/4"
S601E	391	42'-10"	Str.
S602E	813	6'-2"	Str.
S603E	120	48'-8"	Str.
S604E	120	54'-8"	Str.
S605E	120	18'-6"	Str.
S606E	120	13'-0"	Str.
S607E	120	19'-0"	Str.
S608E	120	16'-6"	Str.
S609E - S619E	2 ea.	Var. 6'-11" to 41'-3"	Str.
S620E	12	9'-6"	4 1/2"
P601E	10	12'-6"	Str.
P602E	75	11'-6"	Str.
P603E	50	11'-0"	Str.
P604E	20	13'-3"	Str.

BENDING DIAGRAMS

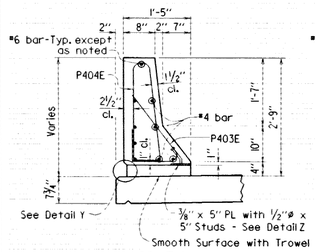


At the contractor's option, two straight #5 bars may be substituted for the bar S501E with the top & bottom bars epoxy coated. Payment for reinforcing will be based on the weight of bar S501E.

Note:
Bar designations ending with "E" indicate Epoxy Coated Bars.

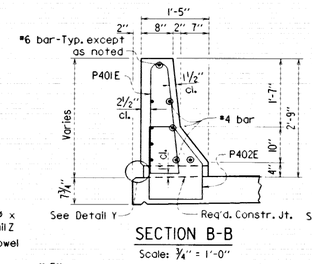


Dimensions are out to out of bars.



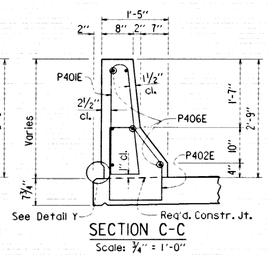
SECTION A-A

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



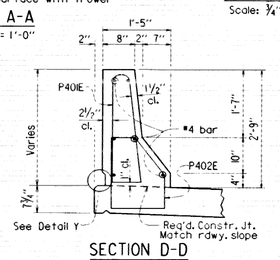
SECTION B-B

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



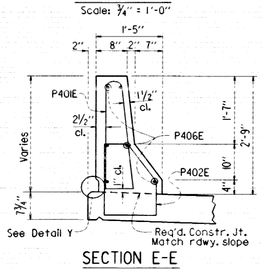
SECTION C-C

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



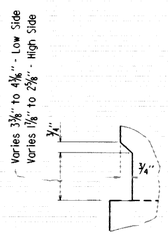
SECTION D-D

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



SECTION E-E

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



DETAIL Y

No Scale

MICROFILMED
SEP 07 2000

STATE OF ARKANSAS
Edward T. Pain
REGISTERED PROFESSIONAL ENGINEER
No. 3915
9-7-00
EDWARD T. PAIN

BRIDGE ENGINEER

SHEET 4 OF 7
DETAILS OF 505'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BAYOU DES ARC

ROUTE 11 SEC. 10

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: LDF DATE: 6-16-00 FILENAME: BR60148.S4
CHECKED BY: [illegible] DATE: 07-28-00 SCALE: AS NOTED
DESIGNED BY: CAD DATE: 03-05-00

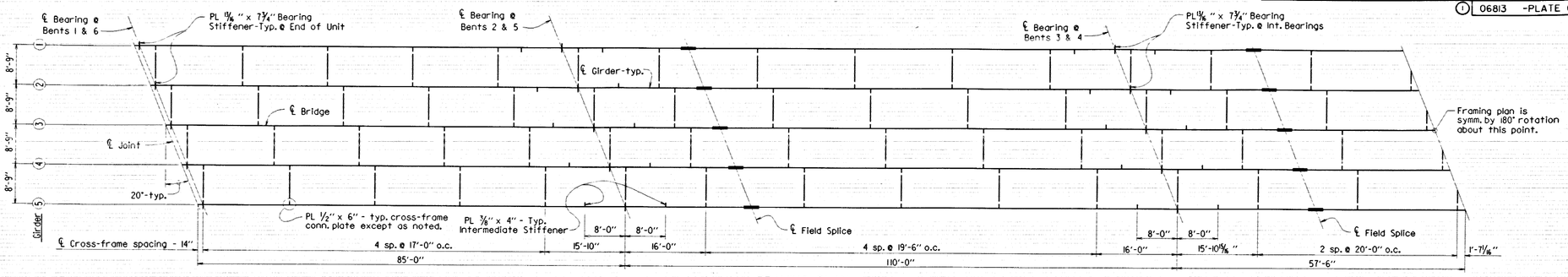
BRIDGE NO. 06813 DRAWING NO. 41504

D C B A 0 A B C D

TAMERAN

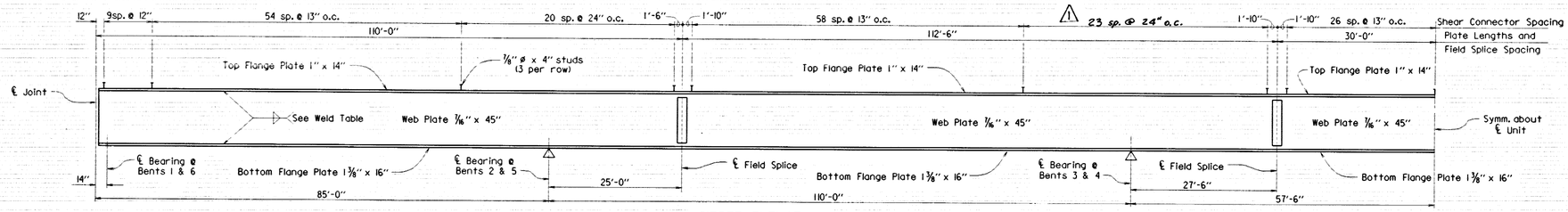
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10-13-00	11-16-00			6	ARK.			
				JOB NO.		R60148		

1 06813 -PLATE GIRDER UNIT- 41505



FRAMING PLAN

Scale: 1/32" = 1'-0"



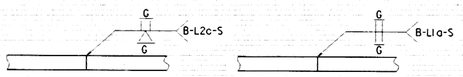
GIRDER ELEVATION

No Scale

TABLE FOR WELD

Material Thickness of Thicker Part Joined (Inches)	Minimum Size of Fillet Weld (Inches)	Single Pass Weld Must Be Used
To 3/4" Inclusive	1/4"	
Over 3/4"	5/16"	

NOTE: When a fillet weld size, as shown on the plans, is larger than the minimum, the first pass shall be that specified for minimum size of fillet weld.

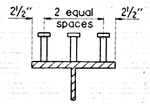


Equal Thickness FLANGE SPLICE

Equal Thickness WEB SPLICE

DETAILS OF WELDED SPLICES

No Scale



Stud Shear Connectors shown shall be 7/8"ø x 4" long, granular flux filled, solid fluxed or equal, and automatically end welded to the girder flange in accordance with the recommendations of the Manufacturer. 3/4"ø studs may be used in place of the 7/8"ø studs shown, at the ratio of 1.361-3/4"ø studs in place of one 7/8"ø stud. 7/8"ø studs are estimated at 81 pounds per 100 studs as basis for payment for structural steel. Maximum stud spacing = 24".

SHEAR CONNECTOR DETAIL

No Scale

1 Revised: Added Shear Connector Spacing. 10-13-00 LDF

MICROFILMED
SEP 07 2000

STATE OF ARKANSAS
Edward T. Tai
REGISTERED PROFESSIONAL ENGINEER
No. 5915
8-9-00
EDWARD T. TAI

BRIDGE ENGINEER

SHEET 5 OF 7
DETAILS OF 505'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BAYOU DES ARC

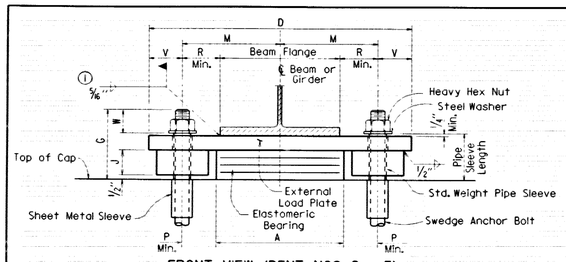
ROUTE 11 SEC. 10
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: LDF DATE: 6-19-00 FILENAME: BR60148.S5
CHECKED BY: RAM DATE: 07-28-00 SCALE: AS NOTED
DESIGNED BY: CAS DATE: 03-03-00

BRIDGE NO. 06813 DRAWING NO. 41505

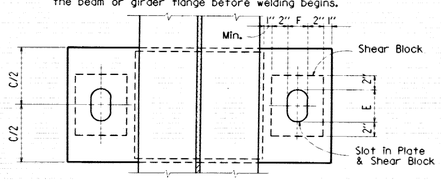
TAMERAN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R60148	-	-
				① 06813		- ELASTO. BRGS. -		41508

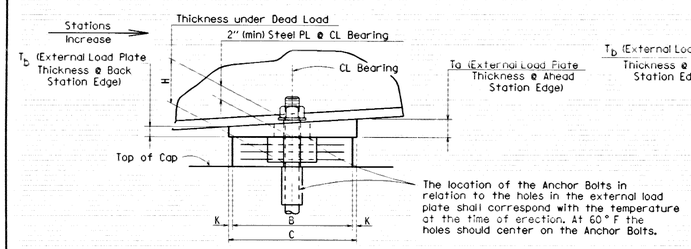


FRONT VIEW (BENT NOS. 2 - 5)

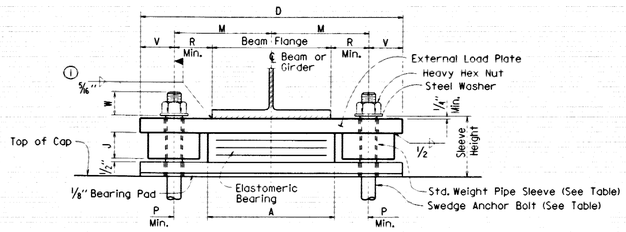
① Care shall be taken to ensure that the external load plate is in full and complete contact with the beam or girder flange before welding begins.



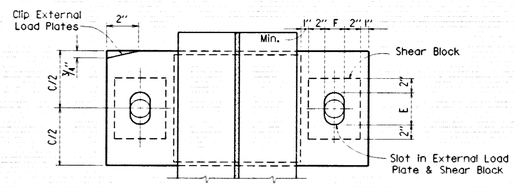
PLAN VIEW (BENT NOS. 2 - 5)



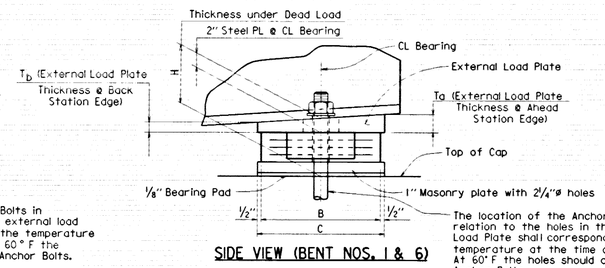
SIDE VIEW (BENT NOS. 2 - 5)



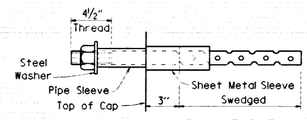
FRONT VIEW (BENT NOS. 1 & 6)



PLAN VIEW (BENT NOS. 1 & 6)



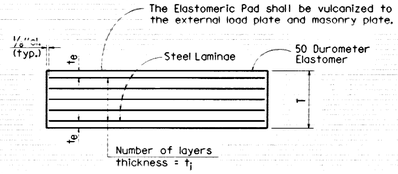
SIDE VIEW (BENT NOS. 1 & 6)



ANCHOR BOLT DETAIL

TABLE OF DESIGN VARIABLES

ANCHOR BOLT DIAMETER	PIPE SLEEVE NOMINAL DIAMETER	SHEET METAL SLEEVE DIA.	STANDARD WASHER SIZE (O.D.)	MINIMUM EMBEDMENT LENGTH	SLOT WIDTH "F"	P Min.	R Min.	V	W
1 1/2"	1 1/2"	3"	3"	15"	2 1/4" ø	4 1/8"	2 1/2"	4 1/8"	2 1/2"



t_e = thickness of elastomer cover on top and bottom of pad

t_i = thickness of elastomer between steel laminae

N = number of elastomer layers of thickness t_i

ELASTOMERIC PAD

NOTE: Anchor Bolts may be cast in place or drilled and grouted into place. If Anchor Bolts are to be cast in place, the Galvanized Sheet Metal Sleeves will not be required.

If Anchor Bolts are to be drilled and grouted in place, the Galvanized Sheet Metal Sleeves shall be cast in place as shown. Sleeves shall be dry packed with styrofoam, urethane foam or approved equal prior to pouring of concrete. After pouring of the cap and prior to erection of Structural Steel, the dry pack shall be removed and holes for the anchor bolts shall be accurately drilled into the masonry. Bolts placed in drilled holes shall be accurately set and fixed using a OPL approved epoxy or non-shrink grout that completely fills the holes. Galvanized Sheet Metal Sleeves will not be paid for directly, but will be considered subsidiary to the item "Structural Steel in Plate Girder Spans, (M 270, Gr. 50W)"

GENERAL NOTES

Elastomeric Bearings shall conform to Section 808 of the Standard Specifications and SP JOB R60148 Elastomeric Bearings and shall be paid for at the unit price bid for "Elastomeric Bearings."

External load plates and masonry plates and shear blocks shall conform to AASHTO M270, Grade 50W and will not be paid for separately, but will be included in the unit price bid for "Elastomeric Bearings". Pipe sleeves shall be ASTM A53, Grade B, and shall be galvanized to conform to AASHTO M 232, Class C or AASHTO M 298, Class 50.

External load plates with shear blocks and masonry plates shall be completely fabricated (including bevel, bolt holes and all shop welding) and shall be blast cleaned to remove rust, loose mill scale, dirt, oil, grease and other foreign substances before vulcanizing to the elastomeric bearing. The surface in contact with the elastomeric bearing shall be blast cleaned to the surface finish specified in subsection 808.04(b). Other surfaces shall be blast cleaned in accordance with governing specifications.

Anchor Bolts, Washers and Nuts shall conform to subsection 807.07 of the Standard Specifications. The anchor bolt grade of steel shall be as specified in the "Table of Fabricator Variables". Indentations shall be circular with rounded bottoms and staggered as shown in the details.

Pipe Sleeves, Anchor Bolts, Washers and Nuts shall be paid for at the unit price bid for "Structural Steel in Plate Girder Spans (M270, Gr. 50W)".

TABLE OF FABRICATOR VARIABLES

BRIDGE NO.	LOCATION: BENT NO(S).	SPAN NO.	BEAM OR GIRDER NO.	BEARING TYPE	NO. of BEARINGS EACH BENT	* MAXIMUM DESIGN LOAD (KIPS)	G	H	ELASTOMERIC PAD: A	B	N	t_i	t_e	NO. & THICKNESS OF STEEL LAMINAE	T	EXTERNAL LOAD PLATE: C	D	E	F	J	K	M	T_a	T_b	ANCHOR BOLT: ANCHOR BOLT (ø x L)	GRADE	PIPE SLEEVE SIZE (ø x L)	SHEET METAL SLEEVE SIZE (ø x L)	STEEL WASHER SIZE (O.D.)
	1	1	1	EXP.	1	102.61	10"	7 1/4"	16"	12 1/2"	6	1/2"	5/16"	7 @ 14 Ga.	4 1/8"	13 1/2"	32 1/2"	6	2 1/4"	3 5/8"	1/2"	12 1/8"	1 9/32"	2 1/32"	1 1/2" x 27 1/4"	55	1 1/2" x 7 1/2"	3" x 9"	3"
	1	1	2, 3	EXP.	2	102.61	10"	7 1/4"	16"	12 1/2"	6	1/2"	5/16"	7 @ 14 Ga.	4 1/8"	13 1/2"	32 1/2"	6	2 1/4"	3 5/8"	1/2"	12 1/8"	1 15/64"	2 1/64"	1 1/2" x 27 1/4"	55	1 1/2" x 7 1/2"	3" x 9"	3"
	1	1	4, 5	EXP.	2	102.61	10"	7 1/4"	16"	12 1/2"	6	1/2"	5/16"	7 @ 14 Ga.	4 1/8"	13 1/2"	32 1/2"	6	2 1/4"	3 5/8"	1/2"	12 1/8"	2"	2"	1 1/2" x 27 1/4"	55	1 1/2" x 7 1/2"	3" x 9"	3"
	2	1, 2	1-5	EXP.	5	248.71	8"	5 1/4"	16"	16"	6	3/8"	1/4"	7 @ 14 Ga.	3 1/4"	17"	32 1/2"	4 7/8"	2 1/4"	2 3/4"	1/2"	12 1/8"	2"	2"	1 1/2" x 25 1/4"	55	1 1/2" x 5 1/2"	3" x 9"	3"
06813	3, 4	2, 3, 4	1-5	EXP.	5	248.71	7 1/2"	4 5/8"	16"	16"	4	3/8"	1/4"	5 @ 14 Ga.	2 3/4"	17"	32 1/2"	2 1/4"	2 1/4"	1 11/16"	1/2"	12 1/8"	2"	2"	1 1/2" x 24 1/4"	55	1 1/2" x 4 5/8"	3" x 9"	3"
	5	4, 5	1	EXP.	1	248.71	8"	5 1/4"	16"	16"	6	3/8"	1/4"	7 @ 14 Ga.	3 1/4"	17"	32 1/2"	4 7/8"	2 1/4"	2 3/4"	1/2"	12 1/8"	2 5/64"	1 15/64"	1 1/2" x 25 1/4"	55	1 1/2" x 5 1/2"	3" x 9"	3"
	5	4, 5	2	EXP.	1	248.71	8"	5 1/4"	16"	16"	6	3/8"	1/4"	7 @ 14 Ga.	3 1/4"	17"	32 1/2"	4 7/8"	2 1/4"	2 3/4"	1/2"	12 1/8"	2 1/32"	1 11/32"	1 1/2" x 25 1/4"	55	1 1/2" x 5 1/2"	3" x 9"	3"
	5	4, 5	3	EXP.	1	248.71	8"	5 1/4"	16"	16"	6	3/8"	1/4"	7 @ 14 Ga.	3 1/4"	17"	32 1/2"	4 7/8"	2 1/4"	2 3/4"	1/2"	12 1/8"	2 1/32"	1 11/32"	1 1/2" x 25 1/4"	55	1 1/2" x 5 1/2"	3" x 9"	3"
	5	4, 5	4	EXP.	1	248.71	8"	5 1/4"	16"	16"	6	3/8"	1/4"	7 @ 14 Ga.	3 1/4"	17"	32 1/2"	4 7/8"	2 1/4"	2 3/4"	1/2"	12 1/8"	2 1/64"	1 15/64"	1 1/2" x 25 1/4"	55	1 1/2" x 5 1/2"	3" x 9"	3"
	5	4, 5	5	EXP.	1	248.71	8"	5 1/4"	16"	16"	6	3/8"	1/4"	7 @ 14 Ga.	3 1/4"	17"	32 1/2"	4 7/8"	2 1/4"	2 3/4"	1/2"	12 1/8"	2 1/64"	1 15/64"	1 1/2" x 25 1/4"	55	1 1/2" x 5 1/2"	3" x 9"	3"
	6	5	1	EXP.	1	102.61	10"	7 1/4"	16"	12 1/2"	6	1/2"	5/16"	7 @ 14 Ga.	4 1/8"	13 1/2"	32 1/2"	6	2 1/4"	3 5/8"	1/2"	12 1/8"	2 1/16"	1 15/16"	1 1/2" x 27 1/4"	55	1 1/2" x 7 1/2"	3" x 9"	3"
	6	5	2	EXP.	1	102.61	10"	7 1/4"	16"	12 1/2"	6	1/2"	5/16"	7 @ 14 Ga.	4 1/8"	13 1/2"	32 1/2"	6	2 1/4"	3 5/8"	1/2"	12 1/8"	2 1/64"	1 15/64"	1 1/2" x 27 1/4"	55	1 1/2" x 7 1/2"	3" x 9"	3"
	6	5	3	EXP.	1	102.61	10"	7 1/4"	16"	12 1/2"	6	1/2"	5/16"	7 @ 14 Ga.	4 1/8"	13 1/2"	32 1/2"	6	2 1/4"	3 5/8"	1/2"	12 1/8"	2 1/64"	1 15/64"	1 1/2" x 27 1/4"	55	1 1/2" x 7 1/2"	3" x 9"	3"
	6	5	4	EXP.	1	102.61	10"	7 1/4"	16"	12 1/2"	6	1/2"	5/16"	7 @ 14 Ga.	4 1/8"	13 1/2"	32 1/2"	6	2 1/4"	3 5/8"	1/2"	12 1/8"	2"	2"	1 1/2" x 27 1/4"	55	1 1/2" x 7 1/2"	3" x 9"	3"
	6	5	5	EXP.	1	102.61	10"	7 1/4"	16"	12 1/2"	6	1/2"	5/16"	7 @ 14 Ga.	4 1/8"	13 1/2"	32 1/2"	6	2 1/4"	3 5/8"	1/2"	12 1/8"	1 15/64"	2 1/64"	1 1/2" x 27 1/4"	55	1 1/2" x 7 1/2"	3" x 9"	3"

* Maximum Design Load - Service Load

MICROFILMED SEP 07 2000

Tabular Data by : LDF Date: 7-21-00

Checked by : DJN Date: 07-28-00

Designed by : CAG Date: 03-05-00

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 3915 EDWARD T. BAILEY 8-9-2000

BRIDGE ENGINEER

DETAILS OF ELASTOMERIC BEARINGS WITH SHEAR BLOCKS

ROUTE 11 SEC. 10

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: LDF DATE: 7-21-00 FILENAME: BR60148.EBI

CHECKED BY: DJN DATE: 07-28-00 SCALE: NONE

DESIGNED BY: Std. DATE:

BRIDGE NO. 06813 DRAWING NO. 41508

TAMERAN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R60148		
				(1) 06813		- LAYOUT -		41494

GENERAL NOTES

BENCH MARK: Standard Disk stamped RGW 1963, 57.36 feet right of C.L. Sta. 347+74.05, Elev. 200.777.

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (1996 edition) with applicable supplemental specifications and special provisions. Unless otherwise noted in the plans, Section and Subsection refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO Standard Specifications for Highway Bridges (1996 edition) with current interim specifications.

LIVE LOADING: HS20 METHOD OF DESIGN: Load Factor

SEISMIC PERFORMANCE CATEGORY: A

MATERIALS AND STRENGTHS:

Superstructure Concrete (Class S(AE))	f'c = 4,000 psi
Substructure Concrete (Class S)	f'c = 3,500 psi
Substructure Concrete (Seal)	f'c = 2,100 psi
Reinforcing Steel (AASHTO M31 or M53, Gr. 60)	fy = 60,000 psi
Structural Steel (AASHTO M270, Gr. 50W)	Fy = 50,000 psi
Structural Steel (AASHTO M270, Gr. 36)	Fy = 36,000 psi

STEEL PILING: Piling in Bents 1 Thru 6 shall be HP 12×53 and shall be driven with an approved air, steam, or diesel hammer. Piling in Bents 1 and 6 shall be driven to a minimum safe bearing capacity of 55 tons per pile. Piling in Bents 2 thru 5 shall be driven to a minimum safe bearing capacity of 65 tons per pile. Lengths of piling shown are assumed for estimating quantities only. Actual lengths to be determined in the field. Test piles are not required at Bents 1 and 6, but may be driven for the Contractor's information in accordance with the Subsection 805.08(g). No piles will be paid for as test piles at Bents 1 and 6.

Drive piles in Bents 1 & 6 to a minimum penetration of 20' below natural ground. Piles to be driven after embankment to bottom of cap is in place.

Piling on Bent 2 shall be driven to a tip elevation of 120.0 or lower.
Piling on Bents 3 & 4 shall be driven to a tip elevation of 105.0 or lower.
Piling on Bent 5 shall be driven to a tip elevation of 115.0 or lower.
At Bents 2 - 5, four piles in each bent designated as test piles in the bent details shall be long piles driven without a follower to determine the established tip elevation. All piling shall be driven to the established tip elevation. A follower may be used on piles which are not test piles.

Payment for test piles at bents 2 thru 5 will be based on the actual accepted length left in place. No payment will be made for cut-off or build-up of the test piles or piles.

EXISTING PILES: Decayed timber piles are visible in the vicinity of Bents 3 & 4 at low water and may be present elsewhere. The contractor shall be responsible for eliminating any interference between these piling and the construction of the new bents. No direct payment shall be made for this work; payment shall be subsidiary to other items.

BORING LOGS: Boring logs may be obtained from the Programs and Contracts Division.

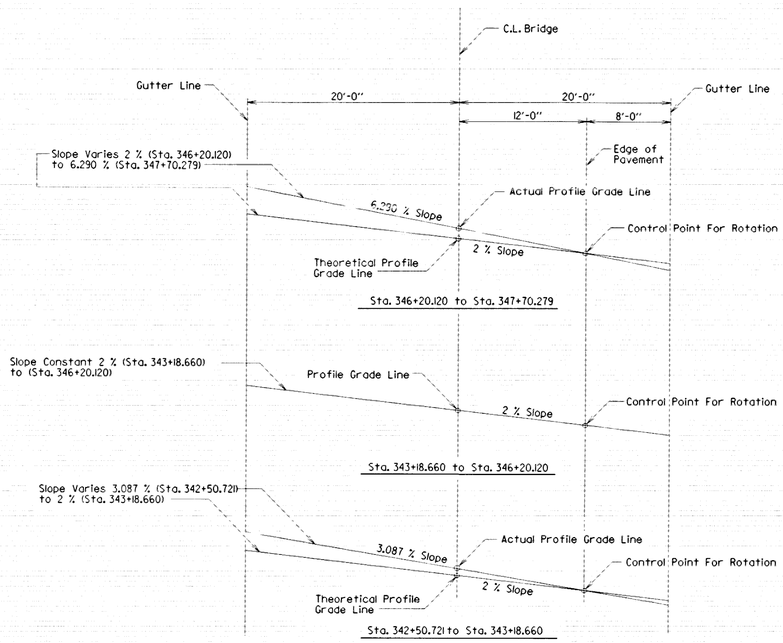
BRIDGE DECK: The concrete bridge deck shall be given a tine finish as specified for final finishing in subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish.

PROTECTIVE SURFACE TREATMENT: Class 1 Protective Surface Treatment shall be applied to the roadway surface and to the face and top of the concrete parapet rail.

DETAIL DRAWINGS:	DRAWING NO.
End Bents	41495-41497, 41500
Intermediate Bents	41498, 41499
505'-0" Cont. Comp. PL Gir. Unit	41501-41508
Steel Piling	14995A
Type C Bridge Name Plate	2389A
Embankment Construction	1888A
Computing Excavation for Structures	1891F
Dumped Riprap and Filter Blanket	1891F
Approach Gutters	41509

EXISTING BRIDGE: Existing Bridge No. 02548 (log mile 2.38) is 22' wide and 475' long and consists of steel multi-beam spans with concrete deck, supported by timber bent caps on timber piling, and concrete abutments. The existing bridge is located approximately 45' down stream from the proposed new bridge.

REMOVAL AND SALVAGE: After the new bridge is open to traffic, existing bridge No. 02548 shall be removed in accordance with Section 205 of the Standard Specifications. All material from the existing bridge shall become the property of the Contractor.



SUPERELEVATION TRANSITION

LOOKING FORWARD

A Transverse Screed is the preferred method of finishing the new bridge deck. Use of a Longitudinal Screed must be approved by the Bridge Engineer.

HYDRAULIC DATA

Drainage area = 674 square miles.

FLOOD			NATURAL * WATER SURFACE ELEVATION	WATER SURFACE ELEVATION WITH BACKWATER	WATER SURFACE ELEVATIONS OF THE WHITE RIVER AT THE CONFLUENCE OF BAYOU DES ARC **
				PLANS	
DESCRIPTION	YEARS	CFS	FEET	FEET	FEET
Design	50	40510	186.0	186.10	199.0
Base	100	47670	188.0	188.12	200.0
Extreme	500	66040	192.5	192.62	N/A
Over topping	>500				

* Unconstricted water surface without structure or roadway approaches.
Historical H.W. Elev. = 197.7 ft.
Low Bridge Member Elev. = 199.980 ft.
** Bridge Deck Elevation based on White River water surface Elevations.

MICROFILMED
SEP 07 2000

STATE OF ARKANSAS
Edward T. Mains
REGISTERED PROFESSIONAL ENGINEER
No. 3915
8-9-00
EDWARD T. MAINS

BRIDGE ENGINEER

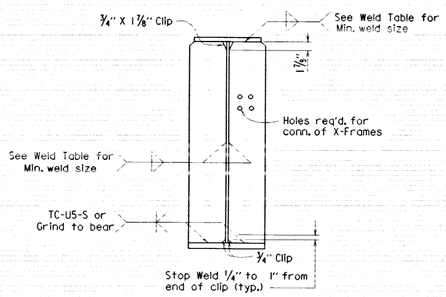
SHEET 2 OF 2
LAYOUT OF
BRIDGE OVER BAYOU DES ARC
BAYOU DES ARC STR. & APPRS. (S)
PRAIRIE COUNTY

ROUTE 11 SEC. 10
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: LDF DATE: 4-6-00 FILENAME: BR60148.L2
CHECKED BY: [illegible] DATE: 07-31-00 SCALE: 1" = 30'
DESIGNED BY: CAB DATE: 02-07-00
BRIDGE NO. 06813 DRAWING NO. 41494

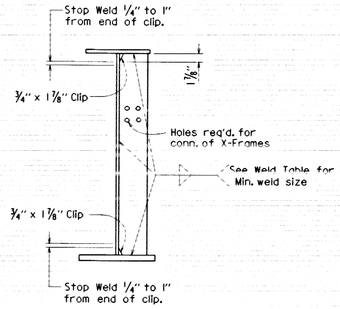
TAMERAN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R60148		
				(1) 06813 -PLATE GIRDER UNIT-				41507



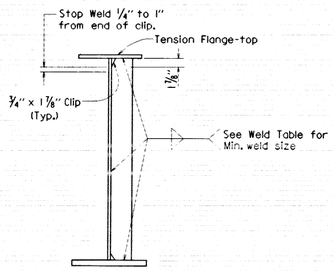
BEARING STIFFENER DETAILS

No Scale



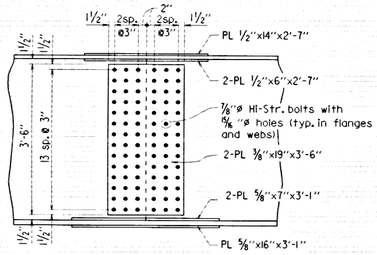
CONNECTION PLATE AT GIRDERS

No Scale

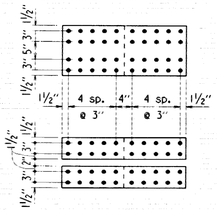


TYP. INTERMEDIATE STIFFENER

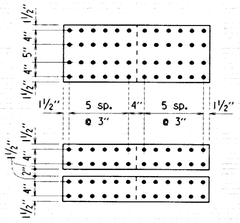
No Scale



WEB SPLICE



TOP FLANGE SPLICE



BOTTOM FLANGE SPLICE

TYP. FIELD SPLICE DETAILS

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

MICROFILMED
SEP 07 2000

STATE OF ARKANSAS
Edward T. Kain
REGISTERED PROFESSIONAL ENGINEER
No. 3915
8-9-00
EDWARD T. KAIN

BRIDGE ENGINEER

SHEET 7 OF 7
DETAILS OF 505'-0" CONTINUOUS
COMPOSITE PLATE GIRDER UNIT
BAYOU DES ARC
ROUTE 11 SEC. 10
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: LDF DATE: 6-20-00 FILENAME: BR60148.S7
CHECKED BY: KJM DATE: 07-28-00 SCALE: AS NOTED
DESIGNED BY: CAS DATE: 03-05-00
BRIDGE NO. 06813 DRAWING NO. 41507

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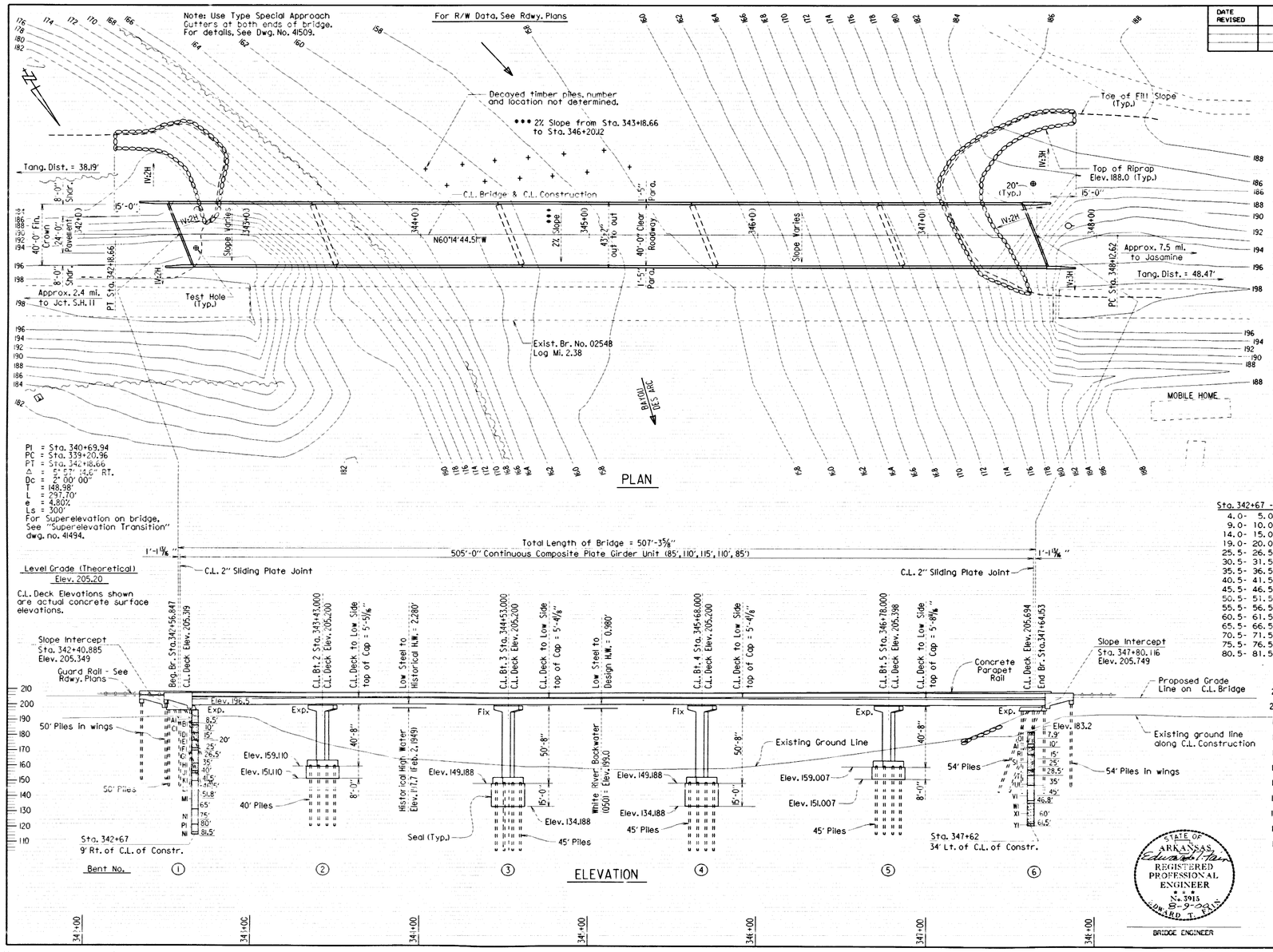
TAMERAN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R60148		
				1 06813		- LAYOUT -		41493



BORING LEGEND

AI-Moist, Stiff, Brown Sandy Clay
BI-Moist, Stiff, Brown Sandy, Silty Clay
CI-Moist, Soft, Gray and Brown Sandy, Silty Clay
DI-Wet, Very Soft, Gray and Brown Sandy, Silty Clay
EI-Wet, Soft, Brown Sandy Clay
FI-Wet, Very Loose, Brown Clayey Sand
GI-Wet, Medium Dense, Gray Clayey Sand
HI-Wet, Medium Stiff, Gray Clay with Sand Seams
JI-Wet, Loose, Gray Sand with Clay Seams and Organic Matter (Wood)
KI-Wet, Loose to Medium Dense, Gray Sand
LI-Wet, Dense, Gray Sand with Traces of Organic Matter
MI-Wet, Dense, Gray Sand with Traces of Pea Gravel
NI-Wet, Dense, Gray Sand with Traces of Lignite
PI-Wet, Dense, Gray Sand
QI-Moist, Stiff, Gray and Brown Silty Clay
RI-Moist, Stiff, Gray and Brown Sandy, Silty Clay
SI-Moist, Medium Stiff, Gray and Brown Silty Clay
TI-Moist, Medium Stiff, Gray and Brown Sandy, Silty Clay
UI-Wet, Medium Dense, Gray Sand with some Clay Seams
VI-Wet, Medium Dense to Dense, Gray Sand
WI-Wet, Dense, Gray Sand with Traces of Gravel
XI-Wet, Dense, Gray Sand and Gravel
YI-Wet, Dense, Gray Sand and Gravel with Traces of Lignite

"N" VALUES

Sta. 342+67 - 9' Rt. of C.L. of Constr.	Sta. 347+62 - 34' Lt. of C.L. of Constr.
4.0- 5.0, N=15	4.0- 5.0, N=10
9.0- 10.0, N=9	9.0- 10.0, N=12
14.0- 15.0, N=2	14.0- 15.0, N=9
19.0- 20.0, N=1	20.5- 21.5, N=7
25.5- 26.5, N=3	25.5- 26.5, N=8
30.5- 31.5, N=12	30.5- 31.5, N=25
35.5- 36.5, N=5	35.5- 36.5, N=20
40.5- 41.5, N=9	40.5- 41.5, N=46
45.5- 46.5, N=11	45.5- 46.5, N=37
50.5- 51.5, N=40	50.5- 51.5, N=35
55.5- 56.5, N=47	55.5- 56.5, N=32
60.5- 61.5, N=42	60.5- 61.5, N=38
65.5- 66.5, N=32	
70.5- 71.5, N=37	
75.5- 76.5, N=49	
80.5- 81.5, N=43	

MICROFILMED SEP 07 2000

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 3915 8-9-2000 JOHN T. LEWIS
BRIDGE ENGINEER

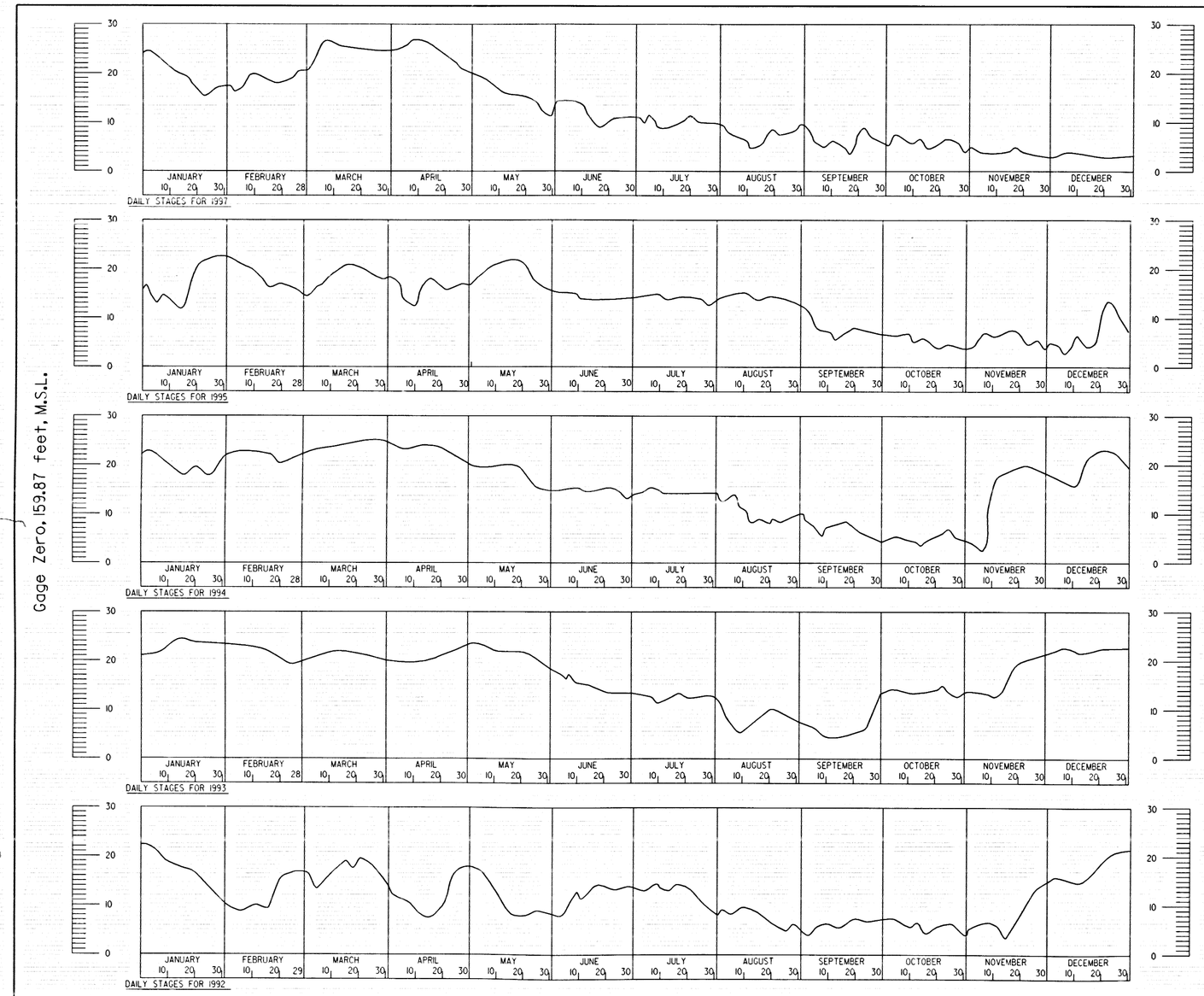
SHEET 1 OF 2
LAYOUT OF
BRIDGE OVER BAYOU DES ARC
BAYOU DES ARC STR. & APPRS. (S)
PRAIRIE COUNTY

ROUTE 11 SEC. 10
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: LDF DATE: 2-10-00 FILENAME: BR60148.L1
CHECKED BY: DATE: 07-31-00 SCALE: 1" = 30'
DESIGNED BY: CAB DATE: 02-07-00
BRIDGE NO. 06813 DRAWING NO. 41493

TAMERAN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R60148		
				(1) 06813		- HYDROGRAPH -	41494A	



This Stage Hydrograph was obtained from the United States Geological Survey Division and was plotted by the Arkansas State Highway and Transportation Department.

This hydrograph is provided for information only.

Location of White River Gage: Latitude 34°58'36". Longitude 91°29'33". In SW 1/4 Sec. 36, T.5.N., R.5.W. The proposed bridge is located approximately 2.5 miles upstream of the confluence of Bayou Des Arc with the White River; gage is on the White River (river mile 143.2) approximately 2.0 miles downstream of the confluence with Bayou Des Arc.

Location of Bridge #06813: SW 1/4 Sec. 35, T.5.N., R.5.W., approx. 2.5 miles North of Des Arc on U.S. Hwy. 11.

SEP 07 2000

STATE OF ARKANSAS
Edward T. Bain
REGISTERED PROFESSIONAL ENGINEER
No. 3915
8-9-00
EDWARD T. BAIN

BRIDGE ENGINEER

HYDROGRAPH - WHITE RIVER AT DES ARC (BAYOU DES ARC STR. & APPRS.) (S)

PRAIRIE COUNTY

ROUTE 11 SEC. 10

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY:	CAB	DATE:	8-04-00	FILENAME:	BR60148.HYG
CHECKED BY:	CAB	DATE:	08-09-00	SCALE:	
DESIGNED BY:	CAB	DATE:	08-04-00		

BRIDGE NO. 06813 DRAWING NO. 41494A

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TAMERAN