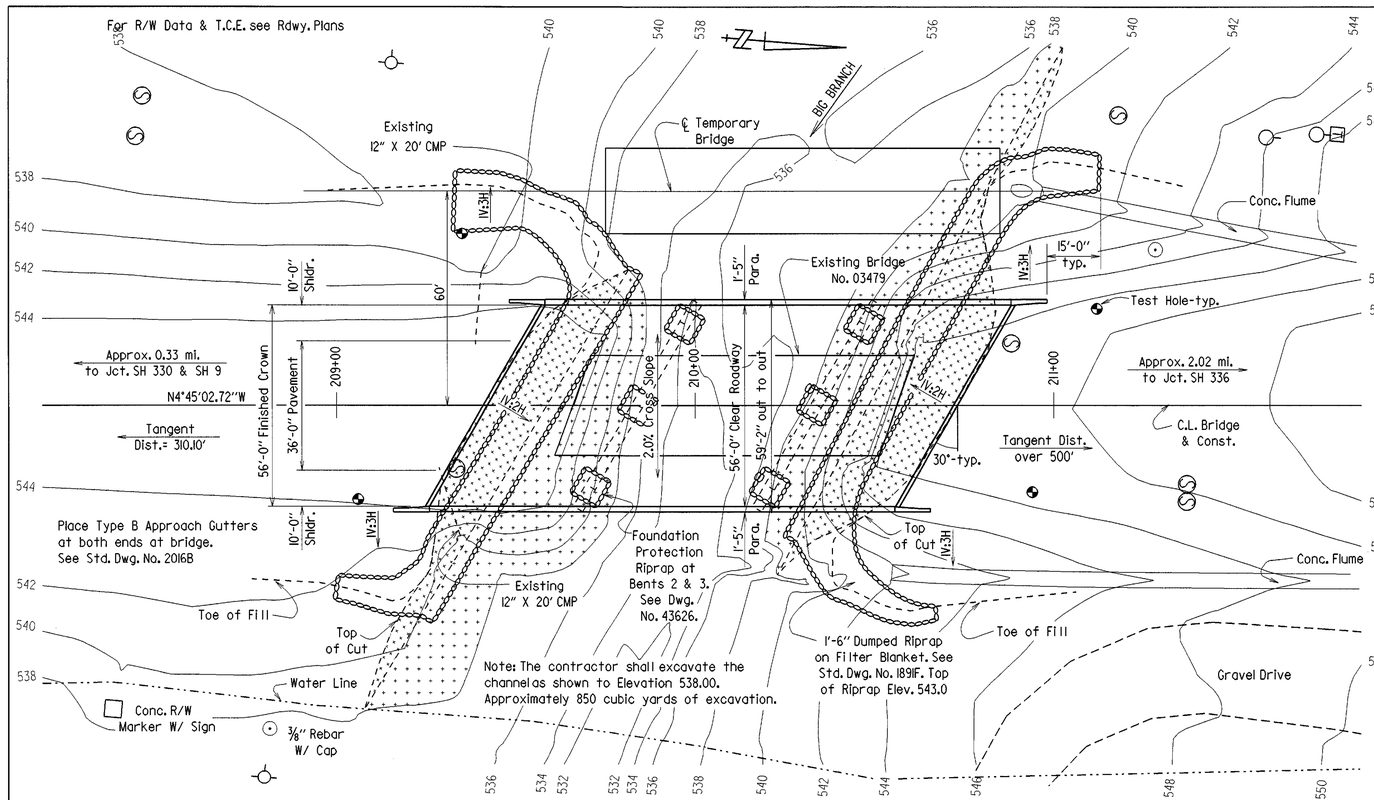
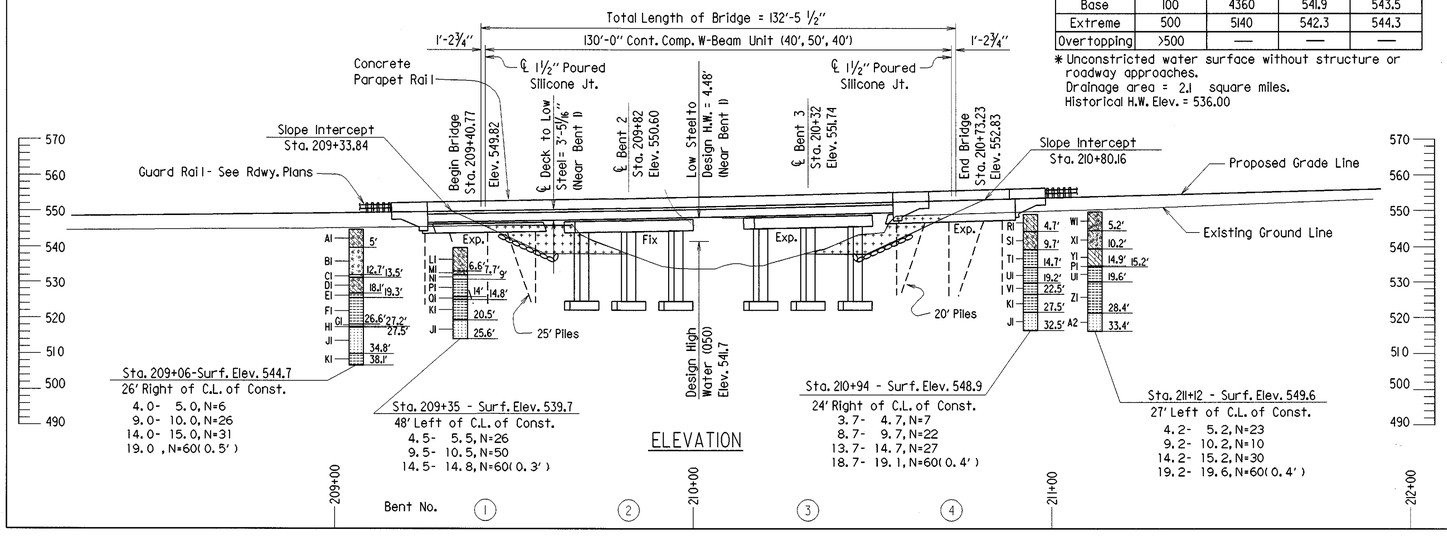


PLAN

Bent No.	℄ Deck at ℄ Bent to Low Seat of Cap	Bent Height at Low Seat of Cap	Bottom of Footing Elev.
2	4'-1¾"	26'-6"	519.96
3	4'- 2½"	22'-6"	525.03

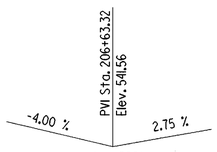


ELEVATION

HYDRAULIC DATA

FLOOD DESCRIPTION	FREQUENCY	DISCHARGE	*NATURAL WATER SURFACE ELEVATION	WATER SURFACE ELEV. WITH BACKWATER
	YEARS	CFS	FEET	FEET
Design	50	3970	541.7	543.1
Base	100	4360	541.9	543.5
Extreme	500	5140	542.3	544.3
Overtopping	>500	—	—	—

*Unconstricted water surface without structure or roadway approaches.
Drainage area = 2.1 square miles.
Historical H.W. Elev. = 536.00



VERTICAL CURVE DATA AT ℄ BRIDGE

BORING LEGEND

A1-Moist, Medium Stiff, Brown Sandy Clay w/Sandstone Frag. and some Organic Matter
B1-Moist, Medium Dense, Brown Sand, Gravel and Sandstone Fragments
** C1-Wet, Dense, Brown Sand and Sandstone Frag.
D1-Wet, Hard, Brown Sandy Clay w/ Sandstone Frag.
E1-Medium Hard, Dark Gray Weathered Shale
F1-Hard, Dark Gray Shale w/some Thin Medium Hard, Weathered Shale Seams
G1-Soft, Dark Gray Weathered Shale
H1-Hard, Dark Gray Shale
J1-Hard, Gray Sandstone w/some Calcareous Seams
K1-Hard, Dark Gray Shale w/Med. Hard, Weathered Shale Seams
L1-Moist, Very Stiff, Reddish Brown Clay w/Sand Seams, Sandstone Frag. and some Organic Matter
M1-Moist, Hard, Brown Sandstone Frag. and Cobbles
N1-Hard, Brown Sandstone
P1-Soft, Brown and Gray Highly Weathered Shale
Q1-Medium Hard, Gray Weathered Shale
R1-Moist, Med. Stiff, Reddish Brown Sandy, Silty Clay w/Traces of Gravel and some Organic Matter
S1-Moist, Very Stiff, Reddish Brown and Gray Clay w/ Sand Seams and Sandstone Fragments
T1-Soft, Gray and Brown Highly Weathered Shale
U1-Medium Hard, Gray and Brown Weathered Shale
V1-Hard, Dark Gray Shale w/Med. Hard Weathered Shale and some Thin Gray Sandstone Seams
W1-Moist, Very Stiff, Reddish Brown Sandy, Silty Clay w/ Sandstone Frag. and some Organic Matter
X1-Moist, Medium Dense to Loose, Brown Sand w/Clay Seams and Sandstone Fragments
Y1-Moist, Very Stiff, Brown Silty Clay w/Sand Seams
Z1-Hard, Dark Gray and Brown Shale w/Med. Hard, Weathered Shale Seams
A2-Hard, Gray Sandstone w/some Calcareous Seams

**A water stratum was encounterd at 12.7'

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.		080143	50	120
				(1) 06914 - LAYOUT - BIG BRANCH - 43639				

GENERAL NOTES

BENCH MARK: Chisled sq. 14.3I' Rt. C.L. Const., Sta. 209+60.40, Elev. 546.88

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, section and subsection numbers in the plans refer to the 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:

Class S(AE) Concrete (superstructure)	f'c = 4,000 psi
Class S Concrete (substructure)	f'c = 3,500 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

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

STEEL PILING: Piling in Bents 1 & 4 shall be HP 12x53 and shall be driven with an approved air, steam, or diesel hammer to a minimum safe bearing capacity of 55 tons per pile and into the material designated as hard sandstone or hard shale on the boring legend. Lengths shown are for estimating quantities and for use in determining payment for cut-off and build-up in accordance with the specifications. Piles in end bents to be driven after embankment to bottom of cap is in place. On all piles the contractor shall use approved steel H-Pile driving points.

FOOTINGS: Footings shall be set a minimum of 4'-6" into material designated as hard sandstone or hard shale on the boring legend. Foundations for footings shall be prepared in accordance with Section 801.04. Rock excavations shall be made to neat lines of the concrete footings. Care shall be exercised to avoid shattering of rock faces by excessive blasting. Concrete in footings shall be poured directly against excavated surfaces of rock.

BRIDGE DECK: The concrete bridge deck shall be given a tine finish as specified for final finishing in subsection 802.19 for Class S 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	43640-43645
Intermediate Bents	43646-43647
130'-0" Cont. Comp. W-Beam Unit	43648-43653
Elastomeric Bearings	43654
Type B Approach Gutters	2016B
Temporary Bridge Structure	2465 - 2467
Steel Piling	14995A

EXISTING BRIDGE: The existing bridge No. 03479 (log mile 5.09) is 33.5' wide and 90' long and consists of a reinforced concrete slab superstructure supported by a concrete substructure . The existing bridge is located at the site of the proposed bridge.

REMOVAL AND SALVAGE: Existing bridge No. 03479 shall be removed in accordance with Section 205. All material from the existing bridge shall become the property of the contractor.

TEMPORARY BRIDGE: Construct a temporary bridge approximately 60' upstream from centerline construction with a minimum deck elevation of 541.7. See roadway plans for actual detour grade and alignment. The temporary bridge shall be minimum 110' long with a minimum roadway width of 24', and a minimum live load capacity of H20. See Section 603 and drawing numbers 2465-2467 for standard temporary bridge details. A timber deck will not be allowed. If timber piling and pine timber are used on this temporary bridge structure, the materials shall be treated with a preservative according to Section 603. All piling in the temporary bridge shall be in accordance with the requirements of Section 805 using Method A, Empirical Pile Formula. Painting of steel piles will not be required.

STATE OF ARKANSAS
Edward T. Fain
REGISTERED PROFESSIONAL ENGINEER
No. 3915
3-28-02
EDWARD T. FAIN
BRIDGE ENGINEER

LAYOUT OF BRIDGE OVER BIG BRANCH
BIG BRANCH & CHOCTAW CREEK
STRS. & APPRS. (S)
VAN BUREN COUNTY

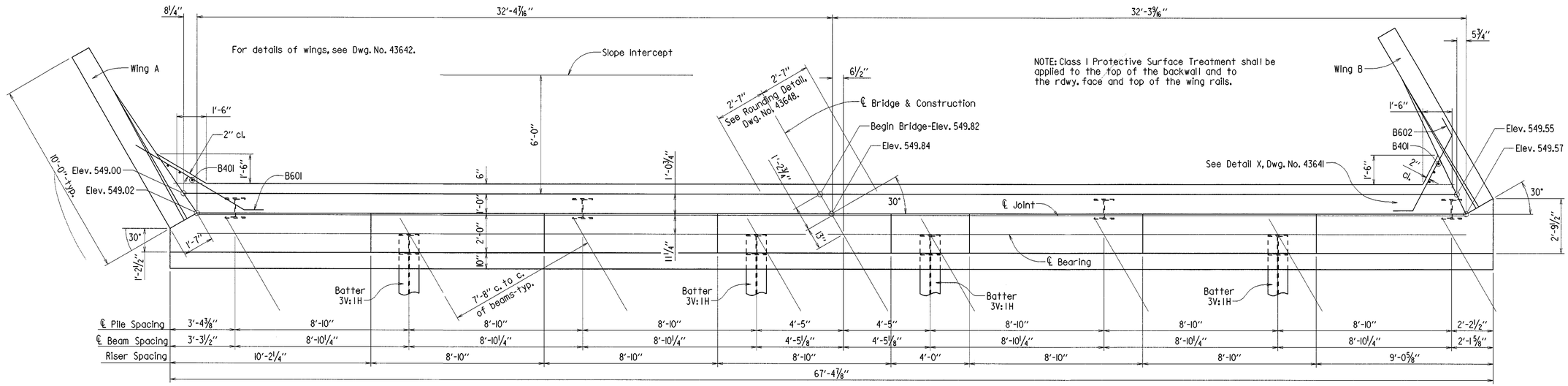
ROUTE 65 SEC. 8

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: SWP DATE: 1-9-02 FILENAME: B080143X2.L01
CHECKED BY: CJF DATE: 1-10-02 SCALE: 1"=20'
DESIGNED BY: CJF DATE: 1-9-02

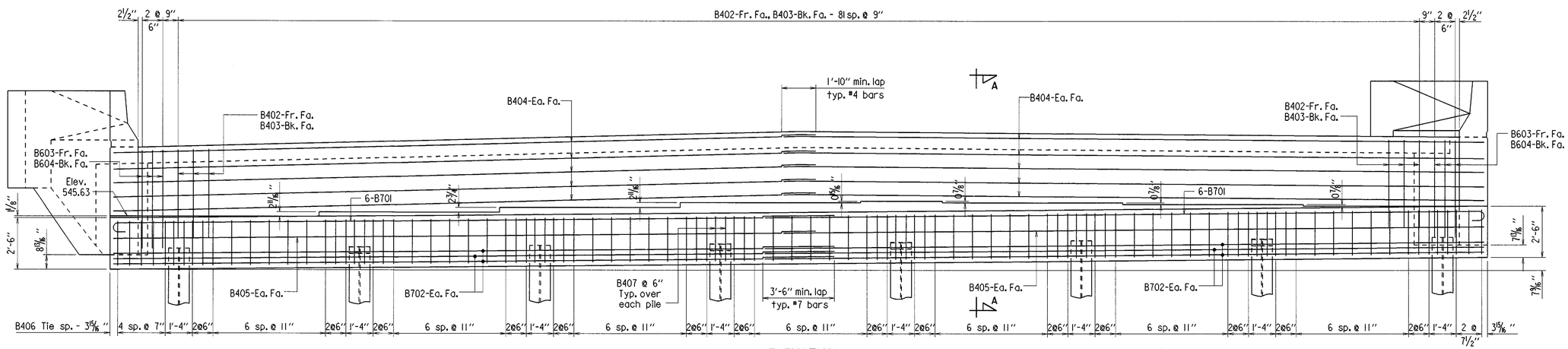
BRIDGE NO. 06914 DRAWING NO. 43639

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.		080143	51	120
				(1) 06914 -		BENT NO. 1 - 43640		



PLAN

Scale: ⅜" = 1'-0"



ELEVATION

Looking Back

Scale: ⅜" = 1'-0"

STATE OF ARKANSAS
Edward T. Cain
REGISTERED PROFESSIONAL ENGINEER
No. 3915
3-11-02
EDWARD T. CAIN

BRIDGE ENGINEER

SHEET 1 OF 3
DETAILS OF BENT 1
BIG BRANCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

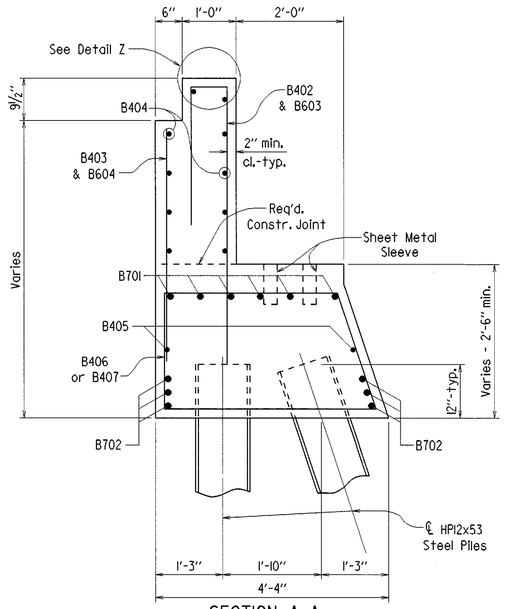
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 1-16-02
CHECKED BY: DHP DATE: 1-24-02
DESIGNED BY: DHP DATE: 1-11-02

FILENAME: B080143X2.B11
SCALE: AS NOTED

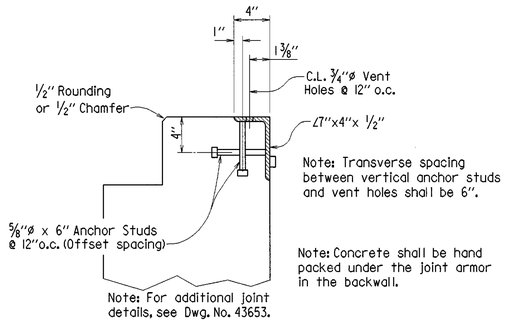
BRIDGE NO. 06914 DRAWING NO. 43640

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.		080143	52	120
				(1)	06914 -	END BENTS	- 43641	



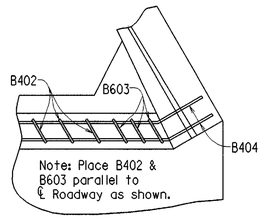
SECTION A-A

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



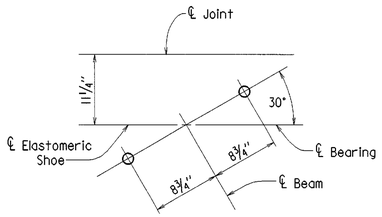
DETAIL Z

No Scale



DETAIL X

No Scale



TYP. ANCHOR BOLT LAYOUT

No Scale

GENERAL NOTES

All concrete shall be Class 'S' with a minimum 28-day compressive strength f'c = 3500 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 (fy = 60,000 psi). Top reinforcing bars in cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves. See Dwg. No. 43654.

Structural steel in backwall shall be AASHTO M270, Gr. 50W and shall be paid for as "Structural Steel in Beam Spans (M270, Gr.50W)".

Backwall and wings above required construction joint shall not be poured until the deck concrete for Pour (1) on the end span has been poured.

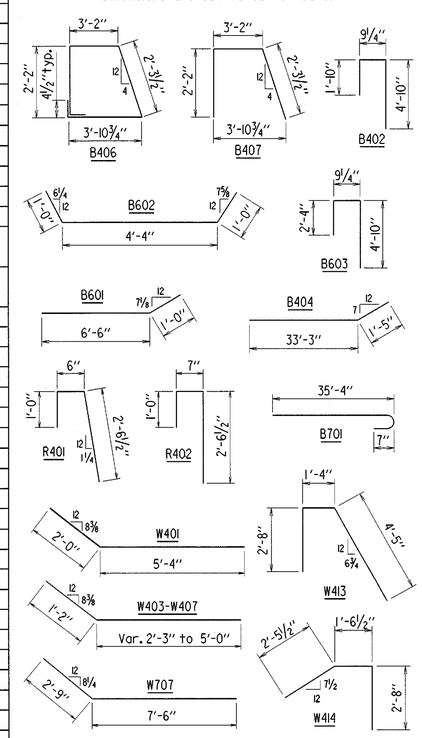
For additional information, see Layout.

BAR LIST

MARK	NO. REQ'D.	LENGTH	P.D.
B401	6	4'-1'	Str.
B402	82	7'-4"	2"
B403	82	4'-1"	Str.
B404	20	34'-8"	2"
B405	4	34'-6"	Str.
B406	85	11'-11"	2"
B407	16	7'-6"	2"
R401	8	3'-11"	2"
R402	8	4'-0"	2"
R403	12	9'-8"	Str.
W401	6	7'-4"	2"
W402	6	7'-8"	Str.
W403-W407	2 each	Var. 3'-5" to 6'-2"	2"
W408-W412	2 each	Var. 4'-7" to 7'-5"	Str.
W413	3	8'-3"	2"
W414	3	6'-7"	2"
B601	4	7'-6"	4½"
B602	4	6'-0"	4½"
B603	6	7'-8"	4½"
B604	6	4'-1"	Str.
R601	20	4'-5"	Str.
R602	6	5'-0"	Str.
B701	12	36'-2"	5¼"
B702	12	35'-4"	Str.
W701	12	9'-8"	Str.
W702	4	6'-4"	Str.
W703	4	5'-2"	Str.
W704	4	4'-1"	Str.
W705	4	3'-4"	Str.
W706	4	10'-3"	5¼"

BENDING DIAGRAMS

Dimensions are out to out of bars.



STATE OF ARKANSAS
Edward T. Fain
REGISTERED PROFESSIONAL ENGINEER
No. 3915
3-11-02
EDWARD T. FAIN

BRIDGE ENGINEER

SHEET 2 OF 3
DETAILS OF BENT 1
BIG BRANCH

ROUTE SEC.

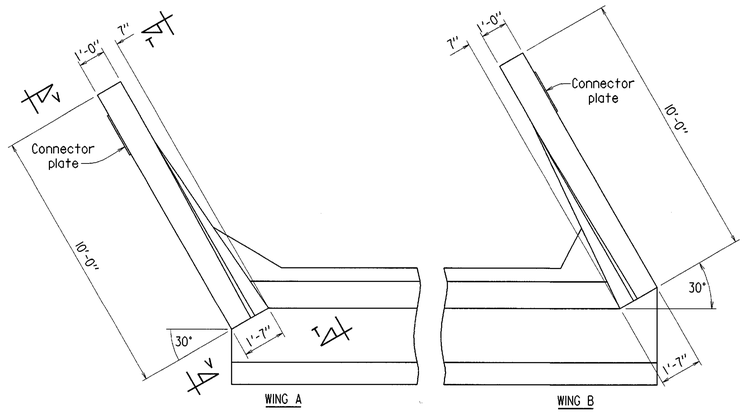
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

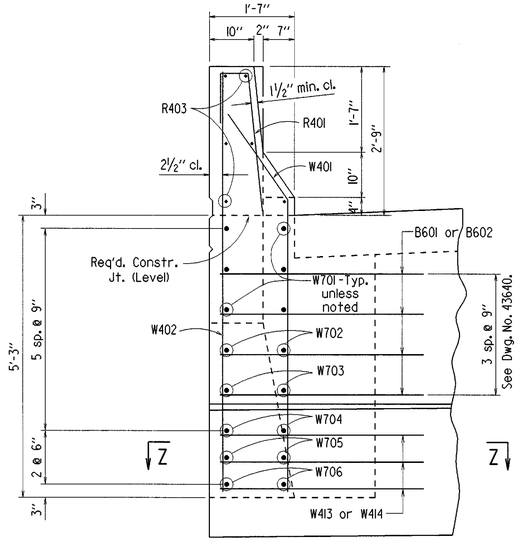
DRAWN BY: KDH DATE: 1-16-02 FILENAME: B080143X2.B12
CHECKED BY: DHP DATE: 1-24-02 SCALE: AS NOTED
DESIGNED BY: DHP DATE: 1-11-02

BRIDGE NO. 06914 DRAWING NO. 43641

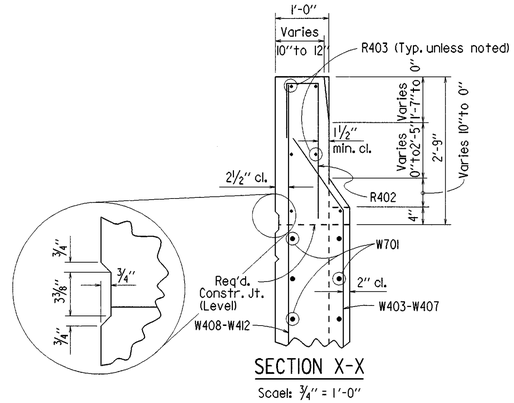
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080143	53	120
				①	06914 - BENT NO. 1 - 43642			



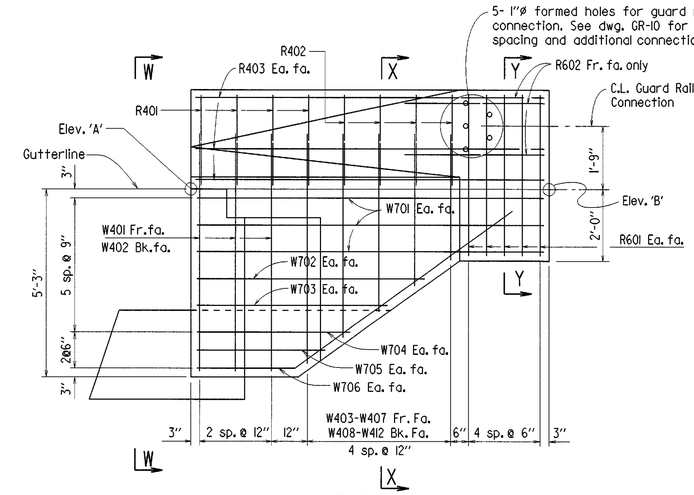
PLAN OF RAIL
Scale: 3/8" = 1'-0"



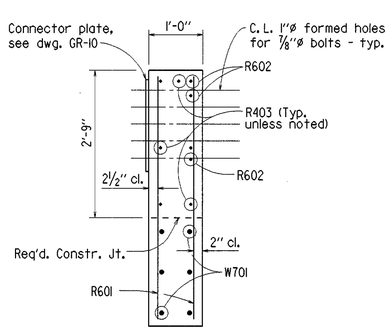
VIEW W-W
Scale: 3/4" = 1'-0"



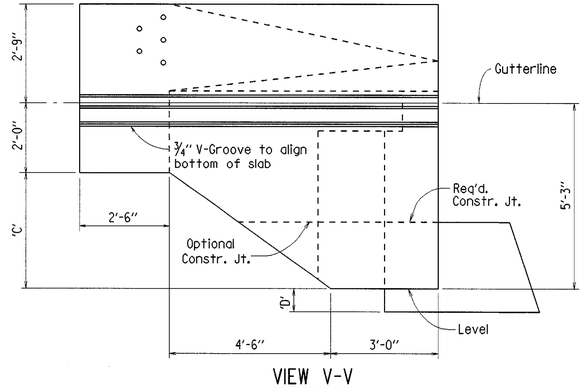
SECTION X-X
Scale: 3/4" = 1'-0"



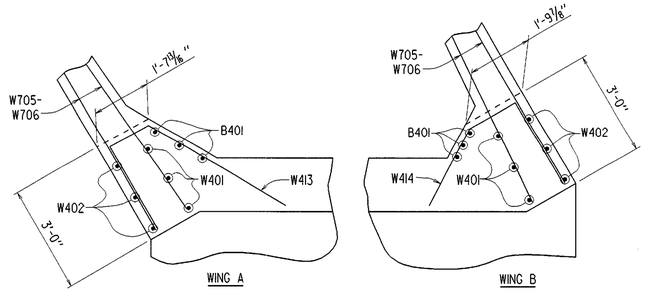
VIEW T-T
Scale: 1/2"= 1'-0"



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



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



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

For details of guard rail connection, See Std. Dwg. no. GR-10

THREE DIMENSIONAL VIEW OF RAIL
No Scale

TABLE OF VARIABLES

Wing	Elev. 'A'	Elev. 'B'	'C'	'D'
A	549.02	548.86	3'-1 1/16"	8 13/16"
B	549.57	549.39	3'-0 13/16"	7 15/16"

STATE OF ARKANSAS
Edward T. Fain
REGISTERED PROFESSIONAL ENGINEER
No. 3915
3-11-02
EDWARD T. FAIN
BRIDGE ENGINEER

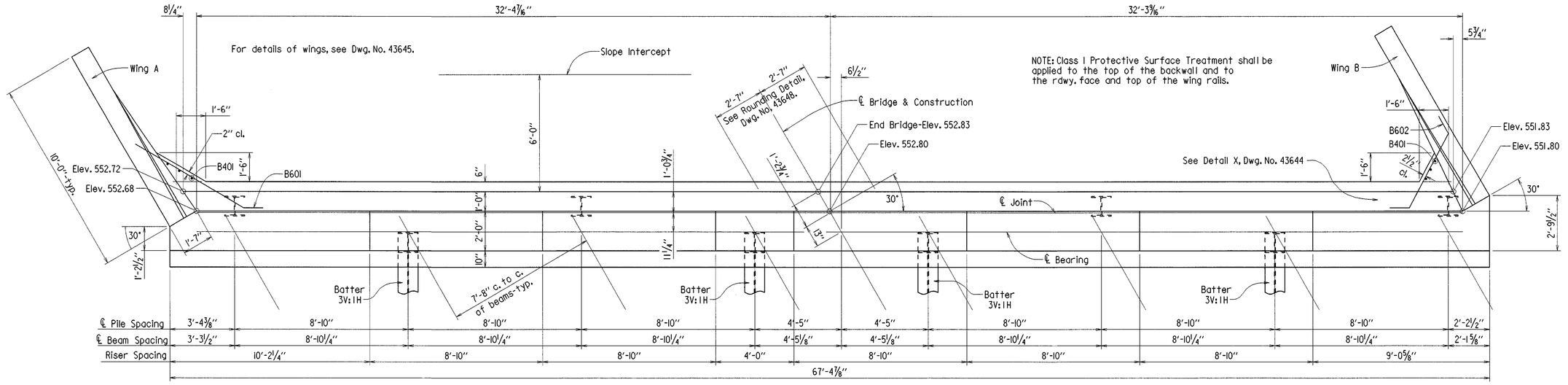
SHEET 3 OF 3
DETAILS OF BENT 1
BIG BRANCH
ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 1-17-02 FILENAME: B080143X2.BI3
CHECKED BY: DHP DATE: 1-24-02 SCALE: AS NOTED
DESIGNED BY: DHP DATE: 1-11-02

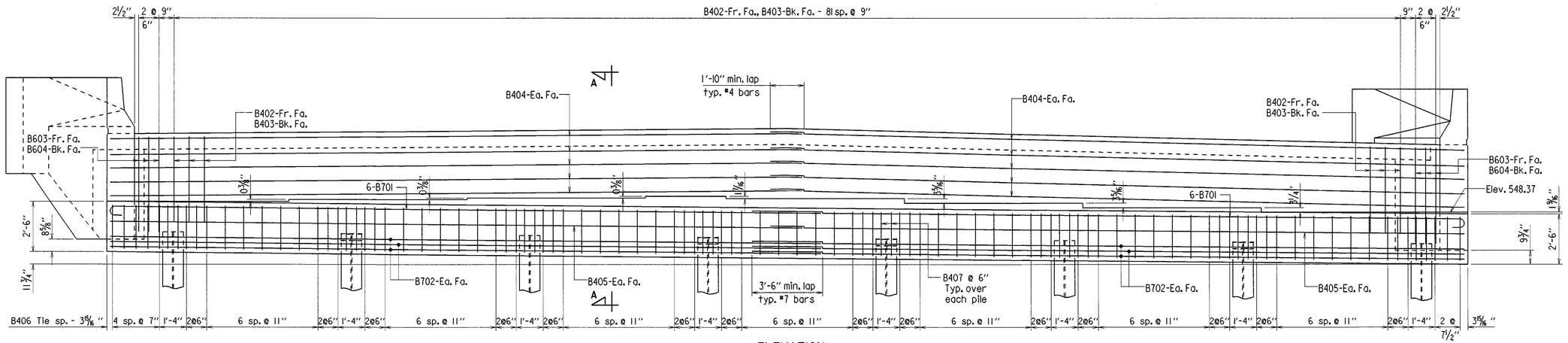
BRIDGE NO. 06914 DRAWING NO. 43642

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.		080143	54	120
				(1) 06914 -		BENT NO. 4		- 43643



PLAN

Scale: ⅜" = 1'-0"



ELEVATION

Looking Ahead

Scale: ⅜" = 1'-0"

STATE OF ARKANSAS
Edward T. Rain
REGISTERED PROFESSIONAL ENGINEER
No. 3915
3-11-02
EDWARD T. RAIN

BRIDGE ENGINEER

SHEET 1 OF 3
DETAILS OF BENT 4
BIG BRANCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

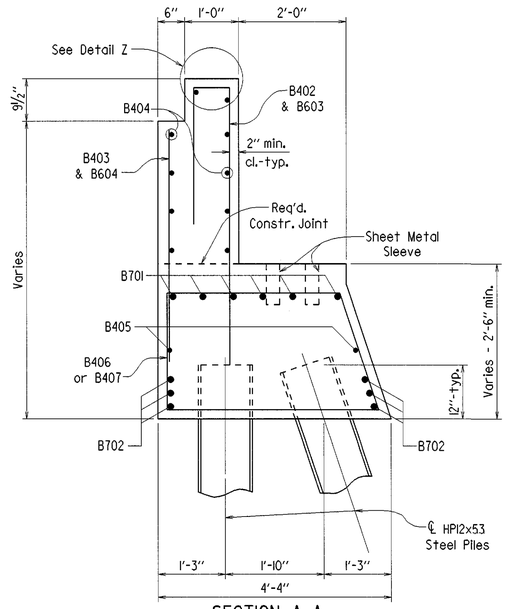
DRAWN BY: KDH DATE: 1-17-02 FILENAME: B080143X2.B41

CHECKED BY: DHP DATE: 1-24-02 SCALE: AS NOTED

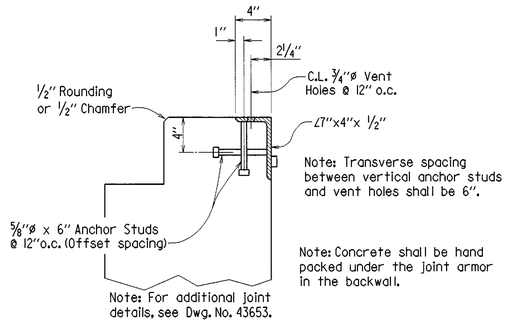
DESIGNED BY: DHP DATE: 1-11-02

BRIDGE NO. 06914 DRAWING NO. 43643

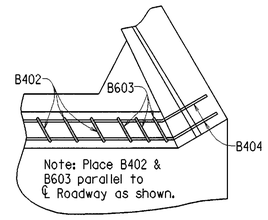
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080143	55	120
				(1)	06914 -	BENT NO. 4	- 43644	



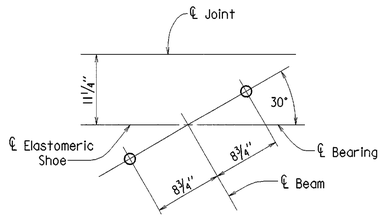
SECTION A-A
Scale: ¾" = 1'-0"



DETAIL Z
No Scale



DETAIL X
No Scale



TYP. ANCHOR BOLT LAYOUT
No Scale

GENERAL NOTES

All concrete shall be Class 'S' with a minimum 28-day compressive strength f'c = 3500 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 (fy = 60,000 psi). Top reinforcing bars in cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves. See Dwg. No. 43654.

Structural steel in backwall shall be AASHTO M270, Gr. 50W and shall be paid for as "Structural Steel in Beam Spans (M270, Gr.50W)".

Backwall and wings above required construction joint shall not be poured until the deck concrete for Pour (1) on the end span has been poured.

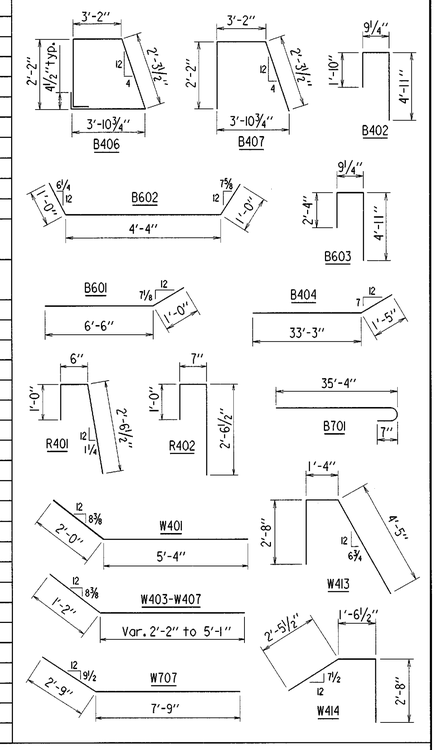
For additional information, see Layout.

BAR LIST

MARK	NO. REQ'D.	LENGTH	P.D.
B401	6	4'-1"	Str.
B402	82	7'-5"	2"
B403	82	4'-2"	Str.
B404	20	34'-8"	2"
B405	4	34'-6"	Str.
B406	85	11'-11"	2"
B407	16	7'-6"	2"
R401	8	3'-11"	2"
R402	8	4'-0"	2"
R403	12	9'-8"	Str.
W401	6	7'-4"	2"
W402	6	7'-8"	Str.
W403-W407	2 each	Var. 3'-4" to 6'-3"	2"
W408-W412	2 each	Var. 4'-7" to 7'-5"	Str.
W413	3	8'-3"	2"
W414	3	6'-7"	2"
B601	4	7'-6"	4½"
B602	4	6'-0"	4½"
B603	6	7'-9"	4½"
B604	6	4'-2"	Str.
R601	20	4'-5"	Str.
R602	6	5'-0"	Str.
B701	12	36'-2"	5¼"
B702	12	35'-4"	Str.
W701	12	9'-8"	Str.
W702	4	6'-5"	Str.
W703	4	5'-5"	Str.
W704	4	4'-6"	Str.
W705	4	3'-10"	Str.
W706	4	10'-6"	5¼"

BENDING DIAGRAMS

Dimensions are out to out of bars.



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 3915
EDWARD T. FAIN
3-11-02

BRIDGE ENGINEER

SHEET 2 OF 3
DETAILS OF BENT 4
BIG BRANCH

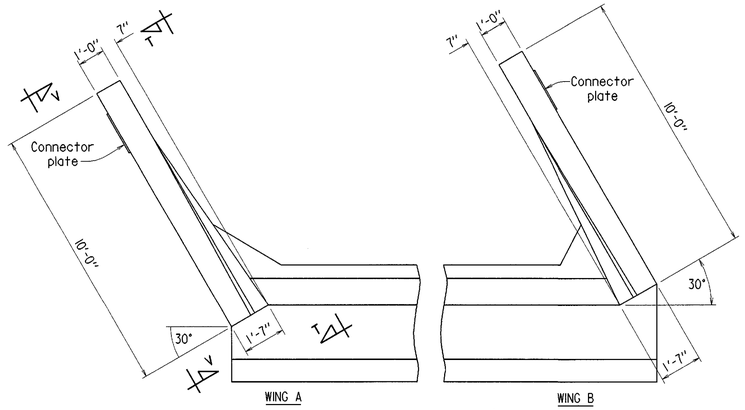
ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 1-17-02
CHECKED BY: DHP DATE: 1-24-02
DESIGNED BY: DHP DATE: 1-11-02
FILENAME: B080143X2.B42
SCALE: AS NOTED

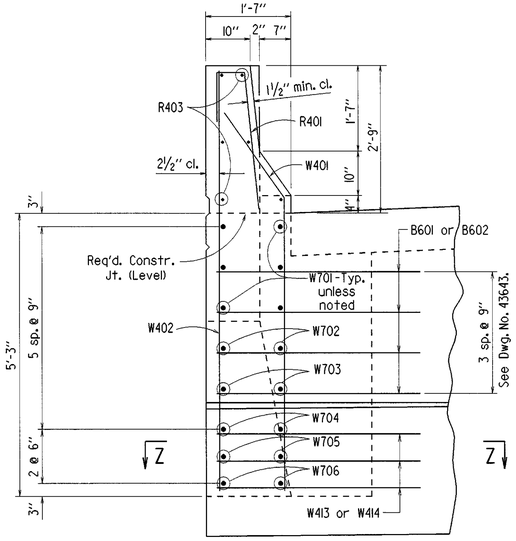
BRIDGE NO. 06914 DRAWING NO. 43644

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.		080143	56	120
				(1)	06914 -	BENT NO. 4	- 43645	



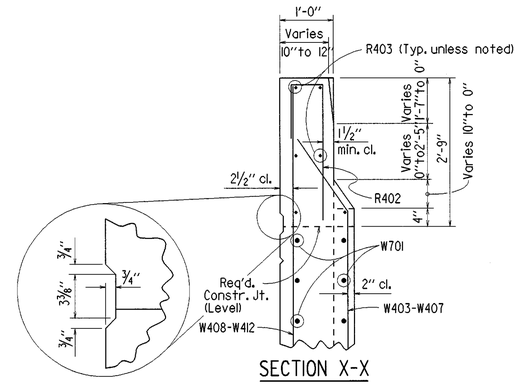
PLAN OF RAIL

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



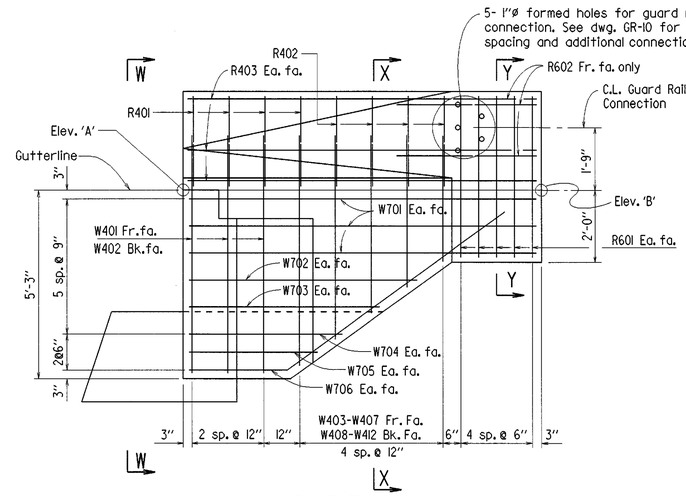
VIEW W-W

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



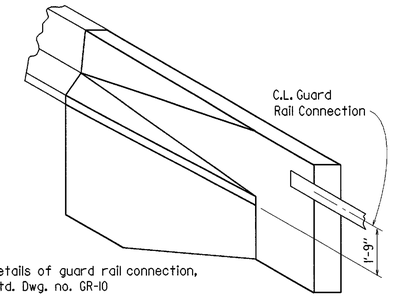
SECTION X-X

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



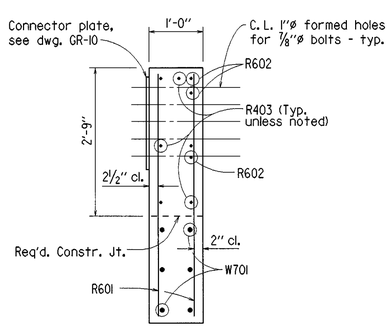
VIEW T-T

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



THREE DIMENSIONAL VIEW OF RAIL

No Scale

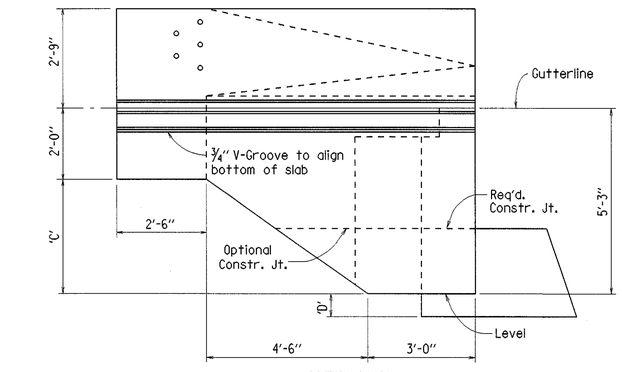


SECTION Y-Y

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

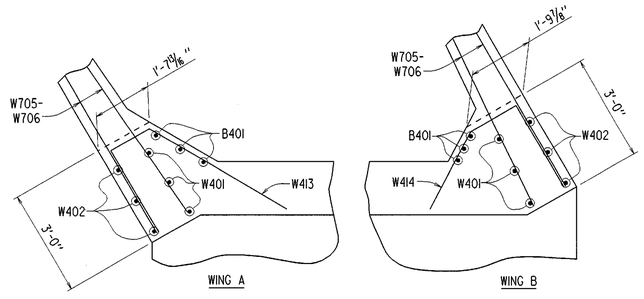
TABLE OF VARIABLES

Wing	Elev. 'A'	Elev. 'B'	'C'	'D'
A	552.68	552.96	3'-6⅜"	8⅝"
B	551.80	552.07	3'-6¼"	9¾"



VIEW V-V

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



SECTION Z-Z

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

STATE OF ARKANSAS
Edward T. Fain
REGISTERED PROFESSIONAL ENGINEER
No. 3915
3-11-02
EDWARD T. FAIN

BRIDGE ENGINEER

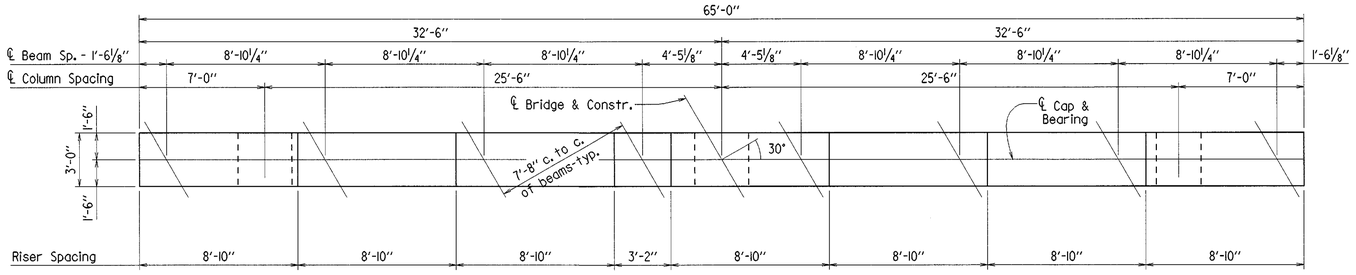
SHEET 3 OF 3
DETAILS OF BENT 4
BIG BRANCH
ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 1-18-02 FILENAME: B080143X2.B43
CHECKED BY: DHP DATE: 1-24-02 SCALE: AS NOTED
DESIGNED BY: DHP DATE: 1-11-02

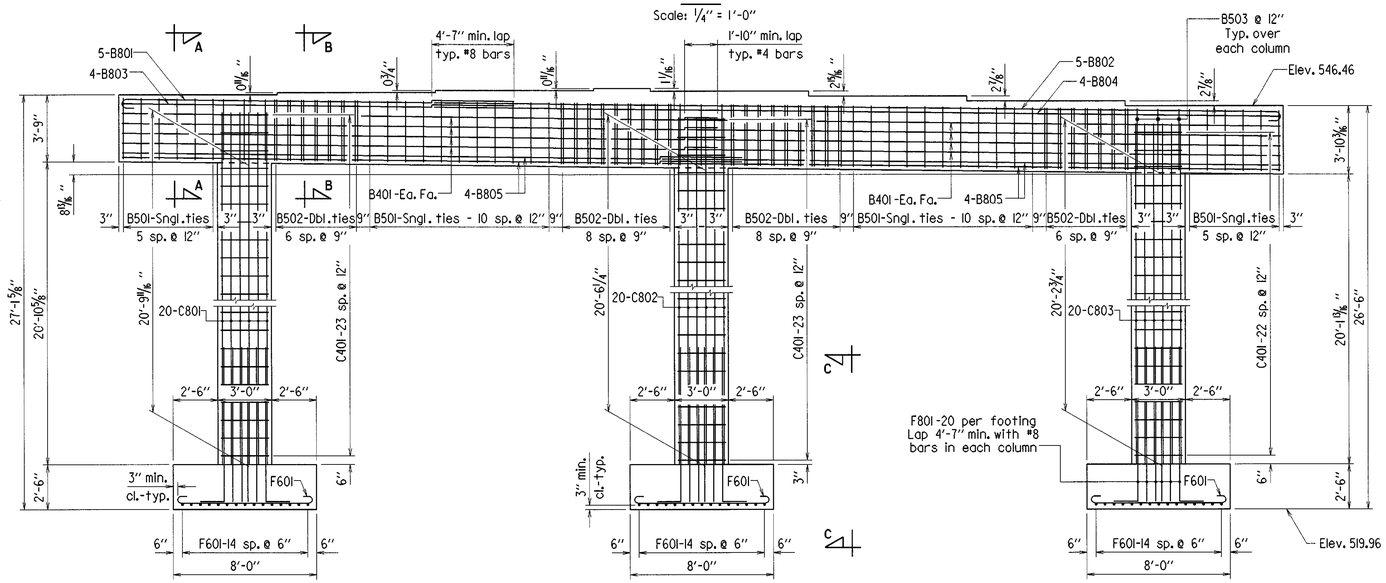
BRIDGE NO. 06914 DRAWING NO. 43645

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.		080143	57	120
				(1) 06914 -		BENT NO. 2		- 43646



PLAN

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



ELEVATION

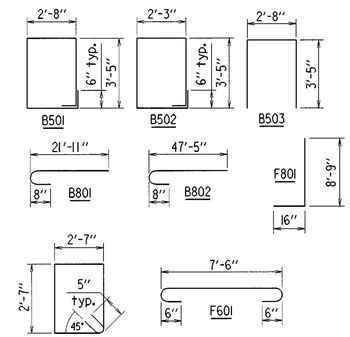
Looking Ahead
Scale: 1/4" = 1'-0"

BAR LIST

MARK	NO. REQ'D.	LENGTH	P.D.
B401	16	33'-3"	Str.
C401	71	10'-10"	3"
B501	34	12'-8"	2½"
B502	64	11'-10"	2½"
B503	9	9'-4"	2½"
F601	90	8'-10"	4½"
B801	5	22'-10"	6"
B802	5	48'-4"	6"
B803	4	21'-11"	Str.
B804	4	47'-5"	Str.
B805	16	34'-8"	Str.
C801	20	23'-7"	Str.
C802	20	23'-5"	Str.
C803	20	23'-0"	Str.
F801	60	9'-11"	6"

BENDING DIAGRAMS

Dimensions are out to out of bars.



INTERMEDIATE BENT NOTES

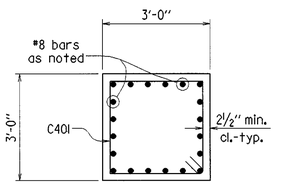
All concrete shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 psi. All exposed corners to be chamfered ¾" unless otherwise noted.

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

Reinforcing bars in top of cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves. See Dwg. No. 43654.

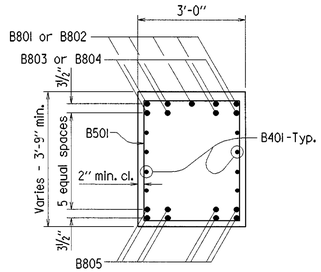
Maximum Footing Pressure: 10 ksf, Group I Design Max.

For additional information see layout.



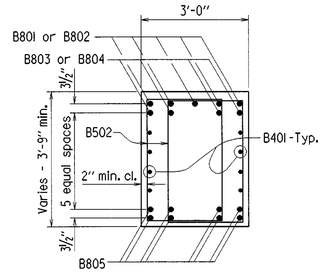
TYP. SECTION THRU COLUMN

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



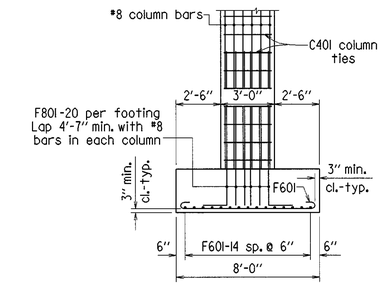
SECTION A-A

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



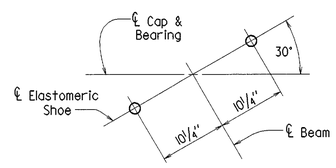
SECTION B-B

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



VIEW C-C

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



TYP. ANCHOR BOLT LAYOUT

No Scale

STATE OF ARKANSAS
Edward T. Fain
REGISTERED PROFESSIONAL ENGINEER
No. 3915
3-11-02
EDWARD T. FAIN

BRIDGE ENGINEER

DETAILS OF BENT NO. 2
BIG BRANCH

ROUTE SEC.

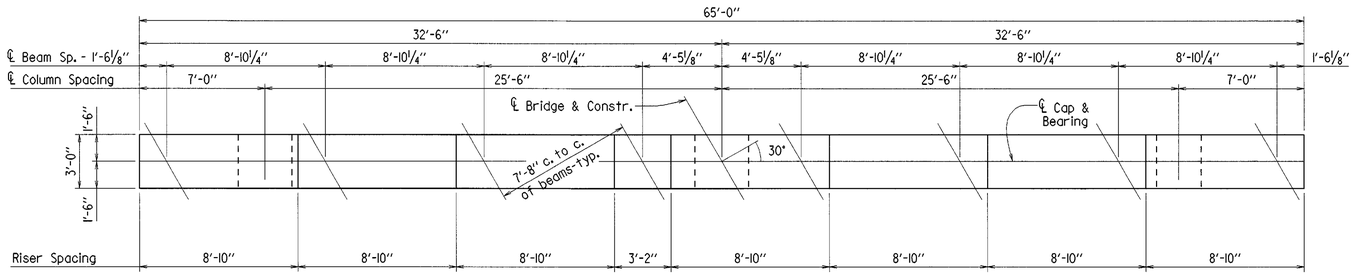
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 1-24-02 FILENAME: B080143X2.B21
CHECKED BY: DHP DATE: 1-30-02 SCALE: AS NOTED
DESIGNED BY: DHP DATE: 1-16-02

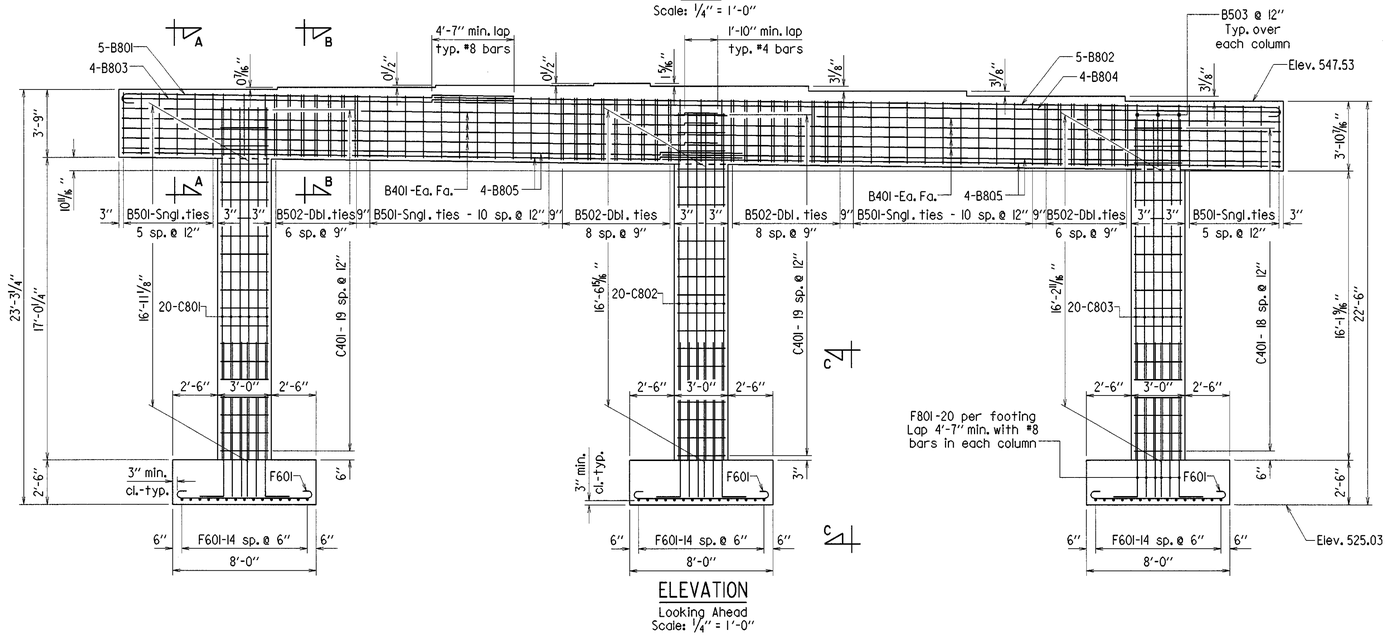
BRIDGE NO. 06914 DRAWING NO. 43646

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.		080143	58	120
				(1) 06914 -		BENT NO. 3		- 43647



PLAN

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

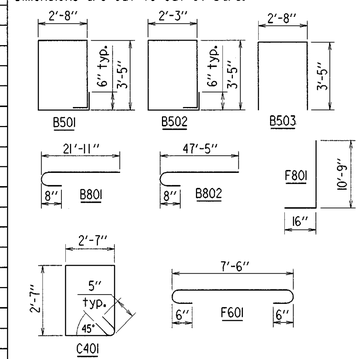


ELEVATION

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

BAR LIST

MARK	NO. REQ'D.	LENGTH	P.D.	BENDING DIAGRAMS
B401	16	33'-3"	Str.	Dimensions are out to out of bars.
C401	59	10'-10"	3"	
B501	34	12'-8"	2 1/2"	
B502	64	11'-10"	2 1/2"	
B503	9	9'-4"	2 1/2"	
F601	90	8'-10"	4 1/2"	
B801	5	22'-10"	6"	
B802	5	48'-4"	6"	
B803	4	21'-11"	Str.	
B804	4	47'-5"	Str.	
B805	16	34'-8"	Str.	
C801	20	19'-8"	Str.	
C802	20	19'-6"	Str.	
C803	20	19'-0"	Str.	
F801	60	11'-11"	6"	



INTERMEDIATE BENT NOTES

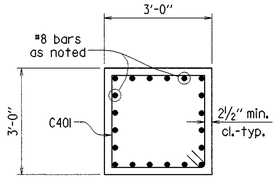
All concrete shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 psi. All exposed corners to be chamfered 3/4" unless otherwise noted.

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

Reinforcing bars in top of cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves. See Dwg. No. 43654.

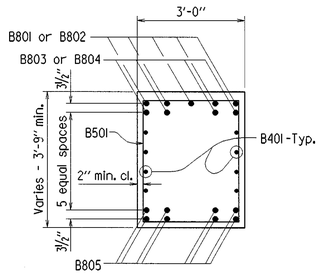
Maximum Footing Pressure: 10 ksf, Group I Design Max.

For additional information see layout.



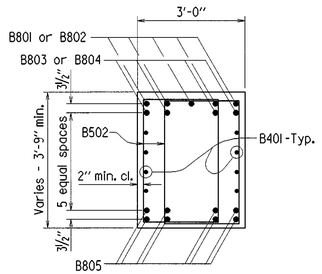
TYP. SECTION THRU COLUMN

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



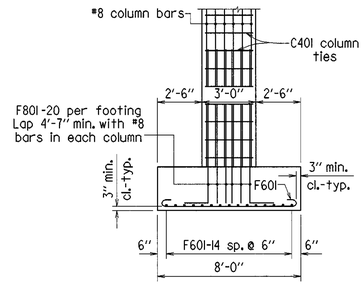
SECTION A-A

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



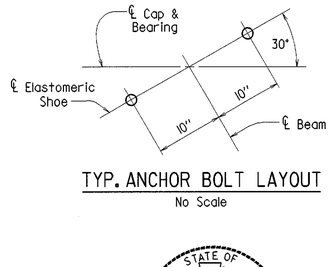
SECTION B-B

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



VIEW C-C

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



TYP. ANCHOR BOLT LAYOUT

No Scale

STATE OF ARKANSAS
Edward T. Fain
REGISTERED PROFESSIONAL ENGINEER
No. 3915
3-11-02
EDWARD T. FAIN
BRIDGE ENGINEER

DETAILS OF BENT NO. 3
BIG BRANCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

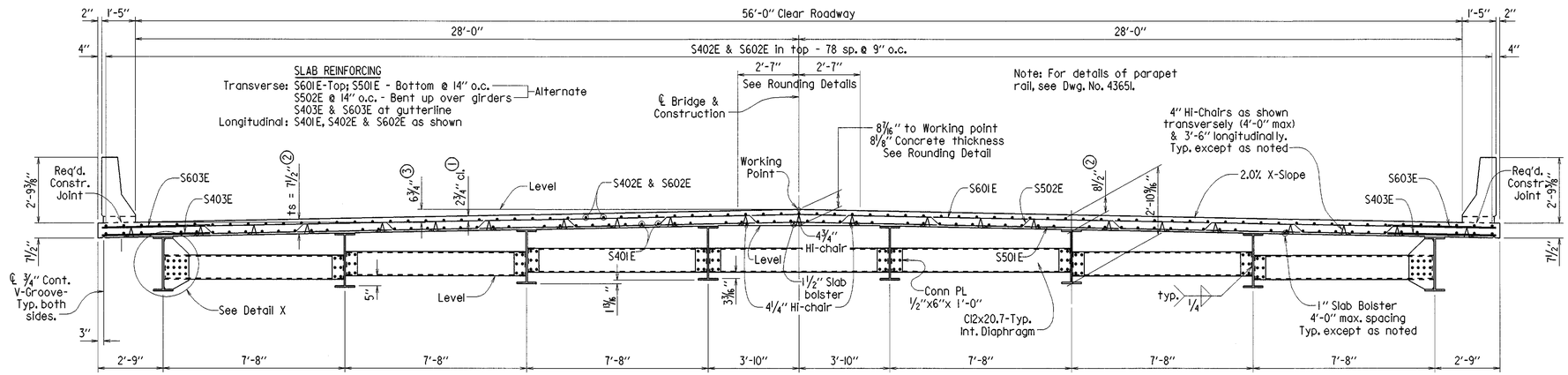
DRAWN BY: KDH DATE: 1-24-02 FILENAME: B080143X2.B31
CHECKED BY: DHP DATE: 1-30-02 SCALE: AS NOTED
DESIGNED BY: DHP DATE: 1-16-02

BRIDGE NO. 06914 DRAWING NO. 43647

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.		080143	58	120
				(1) 06914 -		130' W-BEAM UNIT		- 43648

NOTE: At the Contractor's option, two straight epoxy coated #5 bars may be substituted for bar S502E. Payment for reinforcing will be based on the weight of bar S502E.

NOTE: Class 1 Protective Surface Treatment shall be applied to the Roadway Surface and to the Face & Top of the Concrete Parapet Rail.



TYPICAL ROADWAY SECTION

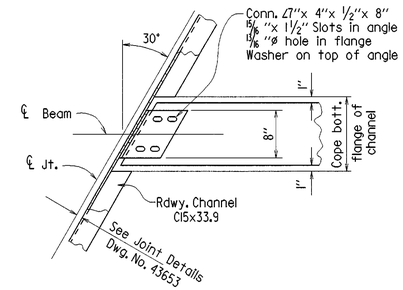
Scale: 3/8" = 1'-0"

The superstructure details shown are for use when removable deck forming is used and are the basis for measurement of Class S(AE) Concrete.

① Tolerance: Minus = 1/4"; Plus: equal to the amount of slab thickening used to meet slab thickness tolerance. See Adjustment for Slab and Haunch Thickness Tolerance.

② See Adjustment for Slab and Haunch Thickness Tolerance.

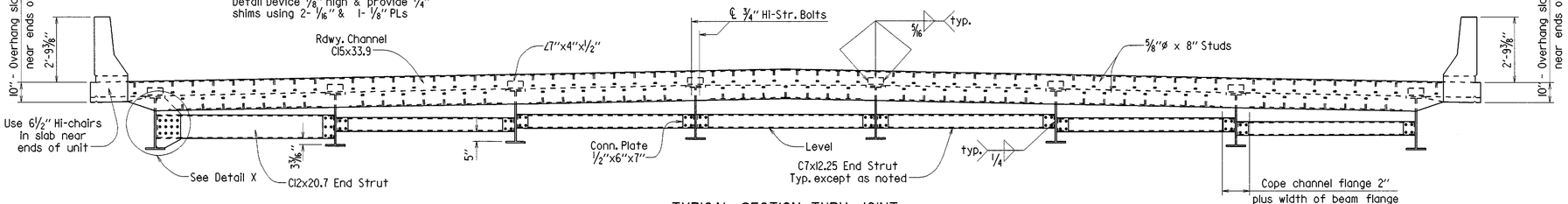
③ Working Point to Gutterline. See Rounding Detail



CHANNEL CONNECTION DETAIL

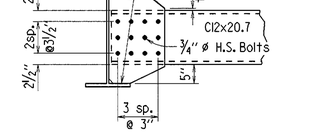
No Scale

Expansion Device:
Rdwy. Channel - C15x33.9
Conn. ∠s 7"x4"x 1/2"x8"
Detail Device 1/8" high & provide 1/4" shims using 2- 1/16" & 1- 1/8" PLs



TYPICAL SECTION THRU JOINT

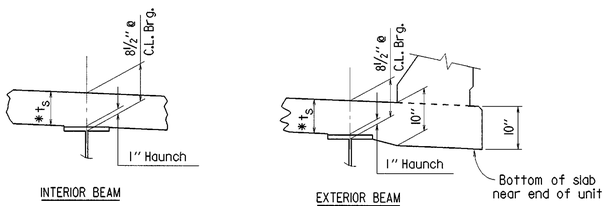
Scale: 3/8" = 1'-0"



Note: Bolts in diaphragm connections shall be properly installed and tightened in accordance with Subsection 807.11.

DETAIL X

No Scale



Note: t_s = slab thickness as shown in "Typical Roadway Section"

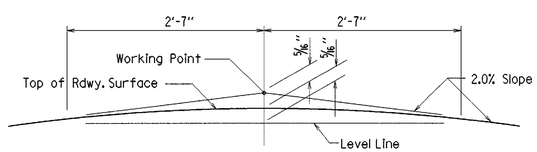
* Tolerance when removable deck forming is used is + 1/2", - 1/4". Haunch forming is required and shall be adjusted to maintain slab thickness tolerance.

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

ADJUSTMENT FOR SLAB AND HAUNCH THICKNESS TOLERANCE

No Scale

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.



NOTE: Working Point matches Theoretical Roadway Grade.

ROUNDING DETAILS

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.

STATE OF ARKANSAS
Edward T. Bain
REGISTERED PROFESSIONAL ENGINEER
No. 3915
3-11-02
EDWARD T. BAIN

BRIDGE ENGINEER

SHEET 1 OF 6
DETAILS OF 130' CONTINUOUS COMPOSITE W-BEAM UNIT BIG BRANCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

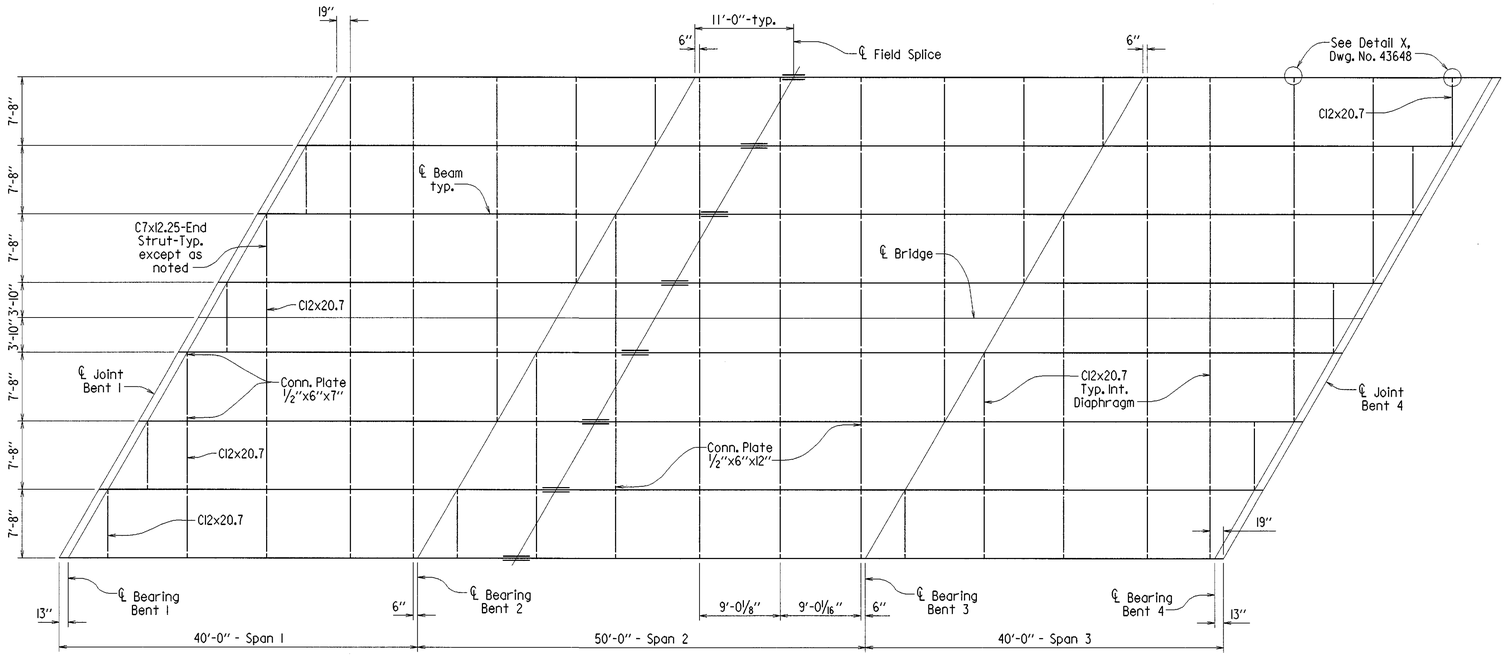
DRAWN BY: KDH DATE: 1-9-02
CHECKED BY: DHP DATE: 1-11-02
DESIGNED BY: DHP DATE: 1-8-02

FILENAME: B080143X2.S01
SCALE: AS NOTED

BRIDGE NO. 06914 DRAWING NO. 43648

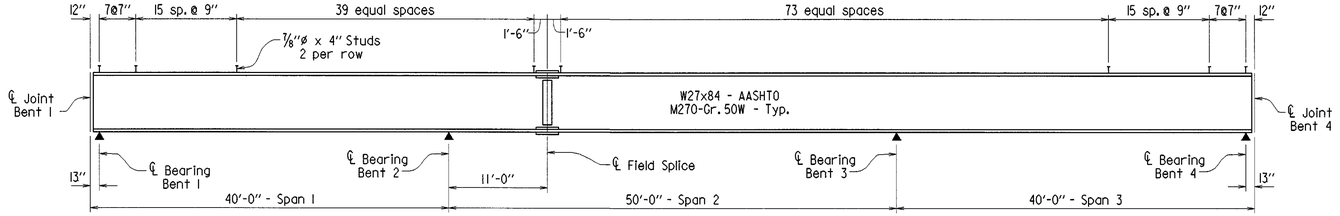
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080143	60	120

(1) 06914 - 130' W-BEAM UNIT - 43649



FRAMING PLAN

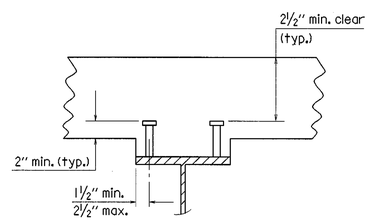
Scale: ⅛" = 1'-0"



BEAM ELEVATION

No Scale

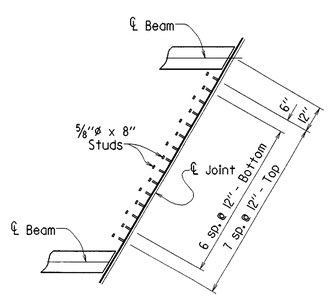
Note: Bolted field splices may be eliminated or shop welded splices may be substituted with the approval of the Bridge Engineer. Payment will be made on the basis of plan quantities.



Stud Shear Connectors shown shall be ⅞"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. ¾"ø studs may be used in place of the ⅞"ø studs shown, at the ratio of 1.361 -¾"ø studs in place of one ⅞"ø stud. ⅞"ø studs will be used as basis for measurement of structural steel in shear connectors. Maximum stud spacing = 24".

SHEAR CONNECTOR DETAIL

No Scale



STUD CONNECTORS IN EXP. DEVICE

No Scale

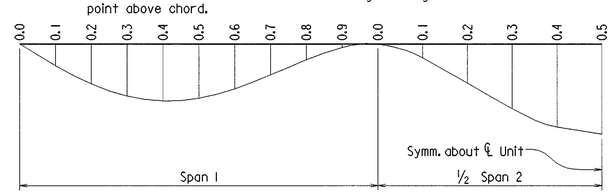
TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

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	0.011	0.009	0.076	0.066	0.080	0.070
	0.2	0.019	0.016	0.140	0.120	0.147	0.128
	0.3	0.025	0.022	0.183	0.157	0.192	0.167
	0.4	0.027	0.023	0.199	0.172	0.210	0.182
	0.5	0.025	0.024	0.190	0.163	0.200	0.174
	0.6	0.021	0.019	0.157	0.135	0.165	0.144
	0.7	0.015	0.013	0.108	0.093	0.114	0.099
	0.8	0.008	0.008	0.055	0.047	0.058	0.050
	0.9	0.002	0.001	0.012	0.010	0.013	0.011
2	0	0	0	0	0	0	0
	0.1	0.006	0.006	0.048	0.042	0.051	0.045
	0.2	0.017	0.016	0.135	0.118	0.144	0.127
	0.3	0.027	0.027	0.225	0.196	0.239	0.211
	0.4	0.036	0.035	0.289	0.252	0.307	0.271
	0.5	0.039	0.037	0.313	0.272	0.332	0.292

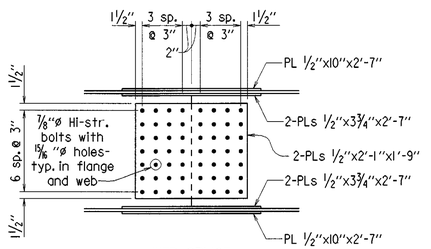
℄ Unit

Note: This table is symmetrical about ℄ Unit

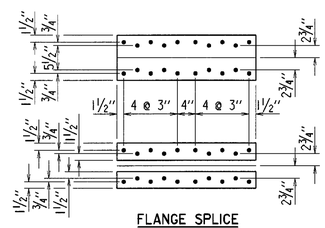
Note:
Camber for Dead Load Deflection plus Vertical curve ± ¼" tolerance.
Deflections shown are from a chord from ℄ Bearing to ℄ Bearing.
Vertical curve corrections not included. Negative sign (-) indicates point above chord.



DEAD LOAD DEFLECTION DIAGRAM



WEB SPLICE



FLANGE SPLICE

FIELD SPLICE

Scale: ¾" = 1'-0"

STATE OF ARKANSAS
Edward T. Pain
REGISTERED PROFESSIONAL ENGINEER
No. 9915
3-11-02
EDWARD T. PAIN

BRIDGE ENGINEER

SHEET 2 OF 6
DETAILS OF 130' CONTINUOUS COMPOSITE W-BEAM UNIT BIG BRANCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

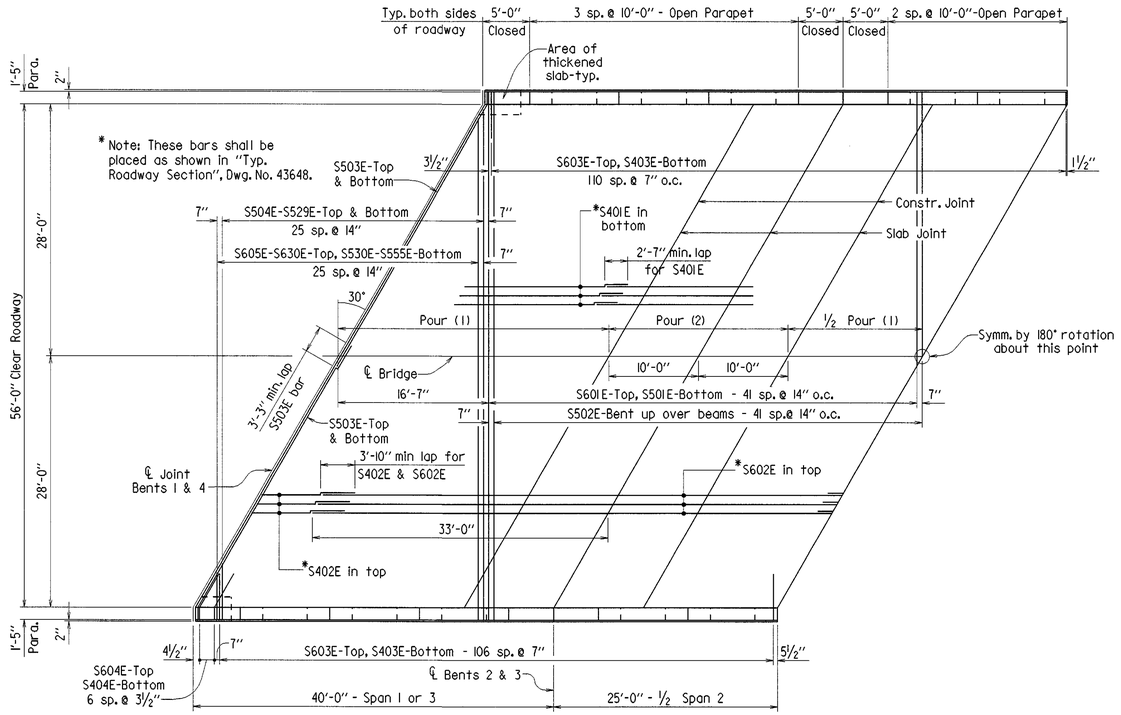
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 1-10-02 FILENAME: B080143X2.S02
CHECKED BY: DHP DATE: 1-11-02 SCALE: AS NOTED
DESIGNED BY: DHP DATE: 1-8-02

BRIDGE NO. 06914 DRAWING NO. 43649

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.		080143	G1	120
				(1) 06914 - 130' W-BEAM UNIT - 43650				

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 the end of a pour and the start of the next pour. 72 hours shall elapse between the end of a pour and the start of an adjacent pour. Any railing pours made before the entire slab unit has been placed must be approved by the Bridge Engineer. The contractor must obtain approval from the Bridge Engineer for any deviations from the pouring sequence.



REINFORCING PLAN

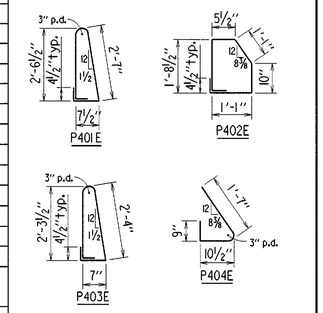
Scale: 1/8" = 1'-0"

BAR LIST

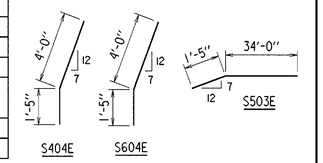
MARK	NO. REQ'D.	LENGTH	P.D.
S401E	304	34'-5"	Str.
S402E	158	10'-8"	Str.
S403E	436	4'-1"	Str.
S404E	14	5'-5"	3"
P401E	260	6'-4"	2"
P402E	260	5'-7"	2"
P403E	100	5'-10"	2"
P404E	100	3'-2"	2"
P405E	60	4'-6"	Str.
P406E	80	9'-6"	Str.
S501E	84	58'-10"	Str.
S502E	83	60'-0"	3"
S503E	8	35'-5"	3¾"
S504E-S529E	4 each	Var. 6'-3" to 56'-9"	Str.
S530E-S555E	2 each	Var. 5'-3" to 55'-9"	Str.
S601E	84	58'-10"	Str.
S602E	158	60'-0"	Str.
S603E	436	4'-10"	Str.
S604E	14	5'-5"	4½"
S605E-S630E	2 each	Var. 5'-3" to 55'-9"	Str.
P601E	100	9'-6"	Str.

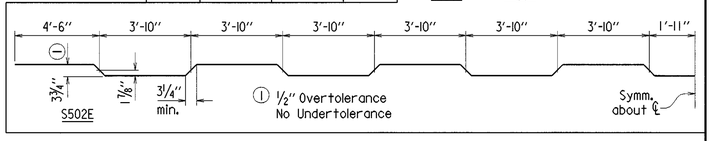
BENDING DIAGRAMS

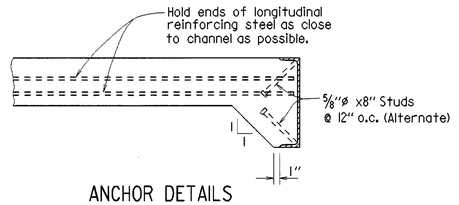
Dimensions are out to out of bars.



Bars designated with an "E" suffix are epoxy coated.

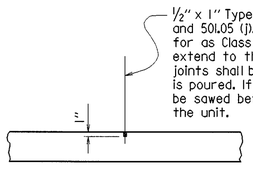






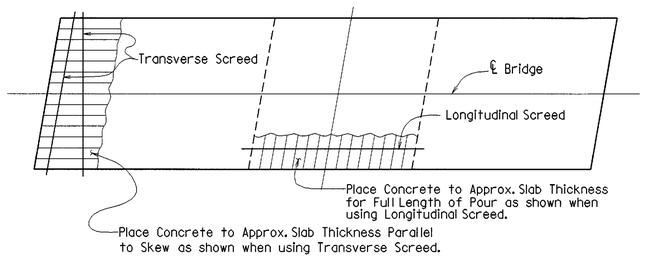
ANCHOR DETAILS

No Scale



SLAB JOINT DETAIL

No Scale



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

STATE OF ARKANSAS
Edward T. Fair
REGISTERED PROFESSIONAL ENGINEER
No. 9915
3-1-02
EDWARD T. FAIR

BRIDGE ENGINEER

SHEET 3 OF 6
DETAILS OF 130' CONTINUOUS COMPOSITE W-BEAM UNIT
BIG BRANCH

ROUTE SEC.

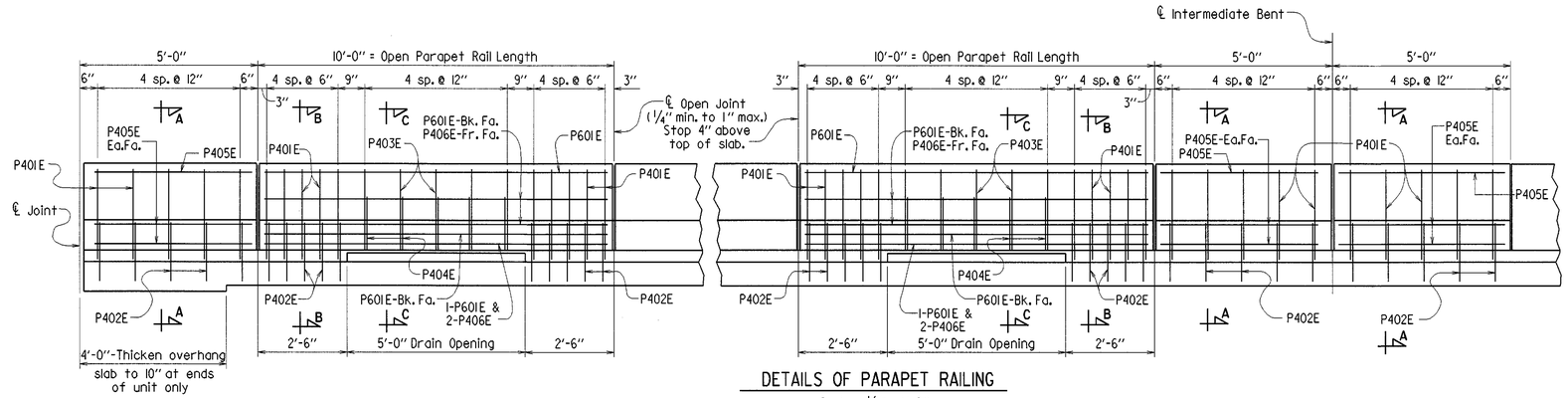
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 1-10-02
CHECKED BY: DHP DATE: 1-11-02
DESIGNED BY: DHP DATE: 1-8-02
FILENAME: B080143X2.S03
SCALE: AS NOTED

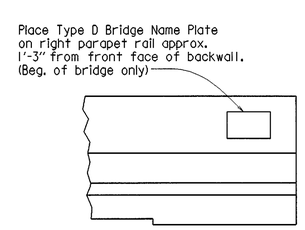
BRIDGE NO. 06914 DRAWING NO. 43650

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.		080143	C2	120
				(1) 06914 -		130' W-BEAM UNIT	- 43651	



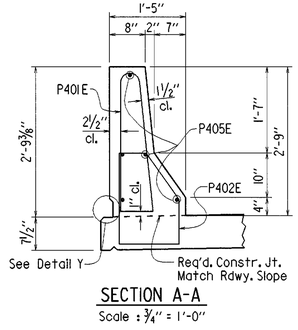
DETAILS OF PARAPET RAILING

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



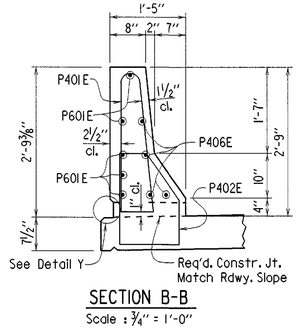
NAME PLATE DETAIL

No Scale



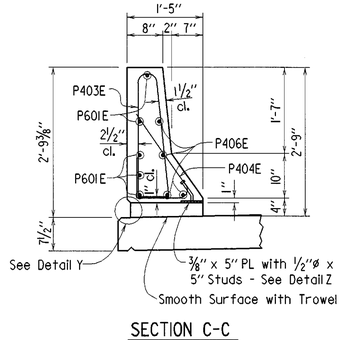
SECTION A-A

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



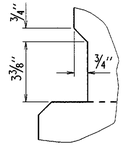
SECTION B-B

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



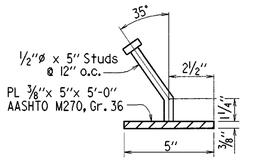
SECTION C-C

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



DETAIL Y

N.T.S.

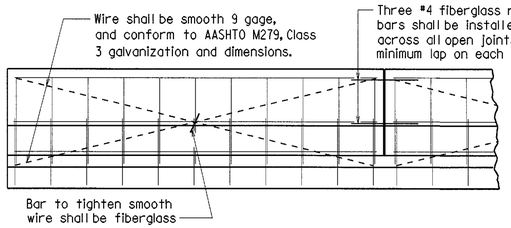


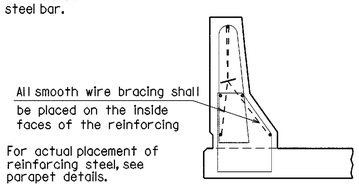
DETAIL Z

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 plates shall be measured and paid for as Structural Steel in Beam Spans (M270,GR. 50W).

The surfaces of the 3/8" plates which will not be in contact with concrete shall be painted 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 in Beam Spans (M270,GR.50W)".





All panels shall be braced as shown to prevent racking. All open joints shall be sawed as soon as practical to a minimum width of 1/4". To control cracking before sawing all joints must be grooved before the concrete is set. Sawing of the joints must be controlled so it will follow the grooved joint.

The extruded parapet shall conform to the horizontal and vertical lines shown on the plans or as directed by the Engineer and shall present a smooth, uniform appearance and texture. Exposed surfaces may be given a light brush finish or a Class 3, Sprayed Finish, in place of Class 2, Rubbed Finish.

DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE PARAPET RAIL

No Scale

STATE OF ARKANSAS
Edward T. Fain
REGISTERED PROFESSIONAL ENGINEER
No. 3915
3-11-02
EDWARD T. FAIN

BRIDGE ENGINEER

SHEET 4 OF 6
DETAILS OF 130' CONTINUOUS COMPOSITE W-BEAM UNIT
BIG BRANCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 1-9-02
CHECKED BY: DHP DATE: 1-11-02
DESIGNED BY: DHP DATE: 1-8-02
FILENAME: B080143X2.S04
SCALE: AS NOTED

BRIDGE NO. 06914 DRAWING NO. 43651

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.		080143	63	120
				(1) 06914 - 130' W-BEAM UNIT			- 43652	

GENERAL NOTES

All concrete shall be Class S(AE) with a minimum 28 day compressive strength f'c = 4000 psi. Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted.

Concrete in bridge superstructure shall be placed, consolidated, and screeded off 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 for Class S, 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 beam. 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 due to the parapet railing.

A minimum of 72 hours shall elapse between completion of the bridge deck slab and the pouring of the parapet railing. Any railing pours made before the entire slab has been placed and cured must be approved by the Bridge Engineer.

Pours with the same number may be placed simultaneously or separately. All Pours (1) must be placed before Pours (2) can be placed. Forty eight (48) hours shall elapse between the end of a pour and the start of the next pour. Seventy two (72) hours shall elapse between the end of a pour and the start of an adjacent pour. The contractor must obtain approval from the Bridge Engineer for any deviations from the pouring sequence shown.

All reinforcing steel shall conform to AASHTO M31 or M53, Grade 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 - Bridge (Grade 60)".

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 Beam Spans (M270, Gr. 50W)". Structural steel completely embedded in concrete may be AASHTO M270, Grade 36. M270, Gr. 50W steel shall not be painted. All structural steel shall be cleaned in accordance with Section 807.84(e) unless noted otherwise. See Drawing No. 43654 for cleaning requirements of external load plates, masonry plates , and shear blocks on elastomeric bearings.

Drawings show general features of design only. Shop drawings shall be made in accordance with Section 807.04, submitted and approval secured before fabrication is begun.

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

Beams are considered main load carrying members and shall meet the Longitudinal Charpy V-Notch Test specified in Section 807.05. This work and material will not be paid for directly but are considered as subsidiary to the item "Structural Steel in Beam Spans (M270, Gr. 50W)". A Charpy V-Notch Test will not be required on web and flange splice plates.

Diaphragms and end struts shall be installed as beams are erected. All bolts in diaphragms, end struts, and field splices shall be installed and tightened in accordance with Section 807.71 prior to pouring the deck.

All beams shall be blocked in their true position with webs horizontal in the shop, as specified in Section 807.54(b)(2). The camber, length of sections, distance between bearings and opening of joints shall be measured with the beams in this position and this information shall become part of the permanent record of this job. The component parts shall be match marked in this assembly and these marks shall be shown on the erection diagram. All beam dimensions are based on a temperature of 60 degrees F. A tolerance of 1/4" (plus or minus) is allowed for camber.

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.

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 for approval. All welding shall conform to Section 807.26.

Field connections shall be bolted with high-strength bolts. Bolts shall be ¾" diameter, except as noted, and open holes shall be 15/16", except as noted. Holes for ¾" diameter bolts may be 15/16" diameter if a washer is supplied for use under both the nut and head of the bolt. Bolt spacing shall be 2½" for ¾" diameter bolts unless otherwise noted. Bolts shall be placed with its heads on the outside face of the exterior beam and on the bottom of the beam flanges.

All stud shear connectors shall be granular flux filled, solid fluxed, or equal and shall be automatically end welded in accordance with recommendations of the manufacturer.

Bearings shall be seated in accordance with Section 807.66. This work and material will not be paid for directly but will be considered subsidiary to the item "Structural Steel in Beam Spans (M270, Gr. 50W)".

Load Distribution:

	Interior Beam	Exterior Beam
Dead Load:		
To Beam:	719 plf + 1.3 (Wt. of Beam)	617 plf + 1.3 (Wt. of Beam)
To Composite Beam:	* 265 plf	* 265 plf

* Includes 168 plf future wearing surface.

Live Load:		
To Composite Beam:	1.3939 Wheels + Impact	1.2958 Wheels + Impact

See detail drawings for additional notes.

STATE OF ARKANSAS
Edward T. Fain
REGISTERED PROFESSIONAL ENGINEER
No. 3915
3-1-02
EDWARD T. FAIN

BRIDGE ENGINEER

SHEET 5 OF 6
DETAILS OF 130' CONTINUOUS COMPOSITE W-BEAM UNIT
BIG BRANCH

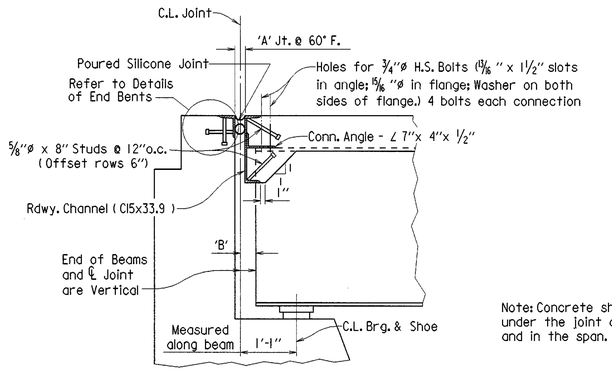
ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 1-9-02 FILENAME: B080143X2.S05
CHECKED BY: DHP DATE: 1-11-02 SCALE: NONE
DESIGNED BY: DHP DATE: 1-8-02

BRIDGE NO. 06914 DRAWING NO. 43652

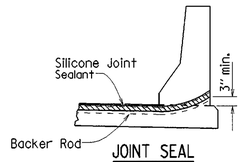
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080143	CA	120
				(1) 06914 - 130' W-BEAM UNIT - 43653				



Note: Concrete shall be hand packed under the joint armor in the backwall and in the span.

SECTION THRU JOINT AT END BENTS

Scale: ¾" = 1'-0"



JOINT SEAL PLACEMENT AT CURB

N.T.S.

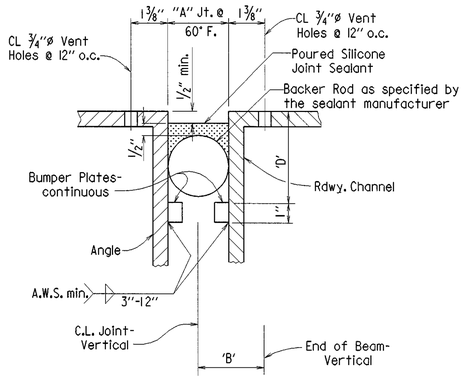
SILICONE JOINT DATA

"A" Width Perpendicular to Joint at 24 Hour Average Temperature* Of:			"B" Perpendicular to Joint at 60°F	Bumper Plate Size	'D'
40°F	60°F	80°F			
1⅝"	1½"	1⅜"	2" ±	1" x ⅜"	4"

* The temperature used to set the joint opening shall be the approximate average air temperature during the 24 hour period immediately before the bolts are tightened. The Engineer shall establish the temperature. Interpolation of the table may be necessary.

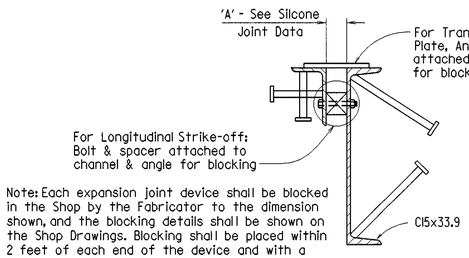
Notes: The temperature limitations recommended by the sealant manufacturer shall be observed.

The sealant shall be installed only when the average 24 hour air temperature is between 40° and 80°F.



DETAIL OF POURED SILICONE JOINT SEAL

No Scale



Note: Each expansion joint device shall be blocked in the Shop by the Fabricator to the dimension shown, and the blocking details shall be shown on the Shop Drawings. Blocking shall be placed within 2 feet of each end of the device and with a maximum spacing of 8 feet.

DETAILS FOR BLOCKING EXPANSION JOINT DEVICE

Scale: 1½" = 1'-0"

EXPANSION DEVICE INSTALLATION PROCEDURES

After the bent backwall forms are in place and all the beams are erected, the blocked expansion device shall be installed and adjusted for grade. The end bent angle shall then be firmly secured to the backwall forms and connection bolts on the beams loosely installed.

Immediately prior to pouring the concrete in Pour (1) of the end span, the blocking shall be removed and the joint width shall be adjusted for temperature. Joint openings shown are for when concrete is poured at an air temperature of 60 F. If concrete is poured at other temperatures, set the joint width by interpolating from Silicone Joint Data table. After the joint width has been set, the connection bolts on the beams shall be tightened and the concrete deck can then be poured. The concrete in Pour (1) of the end span shall be poured before the backwall concrete is poured. A joint opening adjustment is not required for end rotation of the beams caused by the weight of the slab and parapets.

STATE OF ARKANSAS
Edward T. Fain
REGISTERED PROFESSIONAL ENGINEER
No. 3915
3-11-02
EDWARD T. FAIN

BRIDGE ENGINEER

SHEET 6 OF 6
DETAILS OF 130' CONTINUOUS COMPOSITE W-BEAM UNIT
BIG BRANCH

ROUTE SEC.

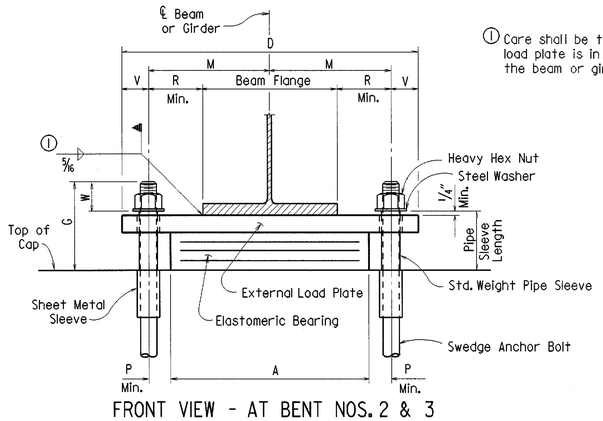
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 1-9-02 FILENAME: B080143X2.S06
CHECKED BY: DHP DATE: 1-11-02 SCALE: AS NOTED
DESIGNED BY: DHP DATE: 1-8-02

BRIDGE NO. 06914 DRAWING NO. 43653

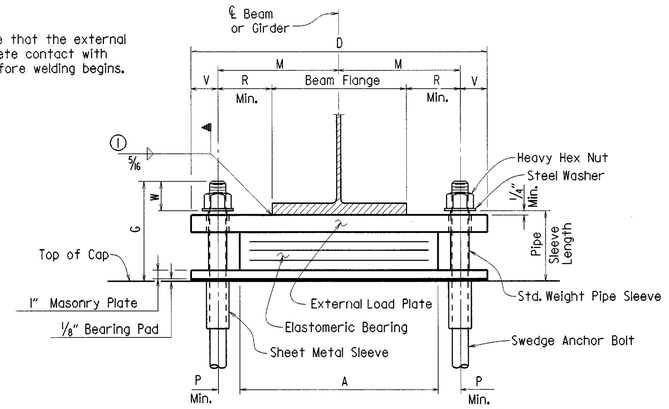
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080143	65	120

① 06914 - ELASTOMERIC BRGS. - 43654

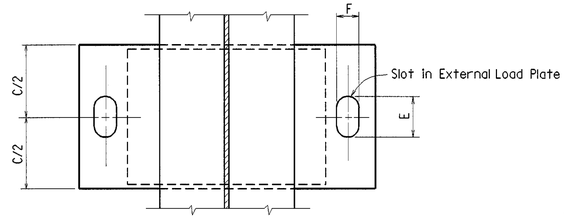


FRONT VIEW - AT BENT NOS. 2 & 3

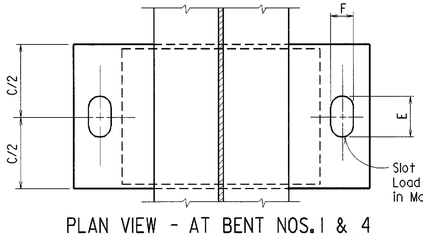
① Care shall be taken to ensure that the external load plate is in full and complete contact with the beam or girder flange before welding begins.



FRONT VIEW - AT BENT NOS. 1 & 4



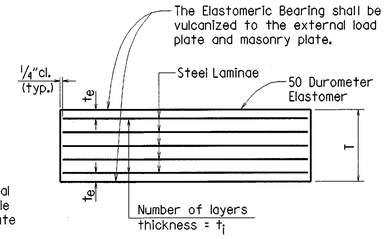
PLAN VIEW - AT BENT NOS. 2 & 3



PLAN VIEW - AT BENT NOS. 1 & 4

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 1/4"	1 1/4"	3"	2 1/2"	12"	2" ø	2"	2 1/4"	2 1/2"	2 1/4"
1 1/2"	1 1/2"	3"	3"	15"	2 1/4" ø	2 1/4"	2 1/2"	2 3/4"	2 1/2"
1 3/4"	2"	4"	3 3/8"	18"	2 5/8" ø	2 1/2"	2 3/4"	3"	2 3/4"
2"	2 1/2"	4"	3 3/4"	20"	3 1/8" ø	2 3/4"	3"	3 1/4"	3"
2 1/4"	2 1/2"	4"	4"	23"	3 1/8" ø	2 3/4"	3"	3 1/4"	3 1/4"
2 1/2"	3"	4"	4 1/2"	25"	3 3/4" ø	3"	3 1/4"	3 1/2"	3 1/2"
2 3/4"	3"	5"	5"	28"	3 3/4" ø	3"	3 1/2"	3 1/2"	4"

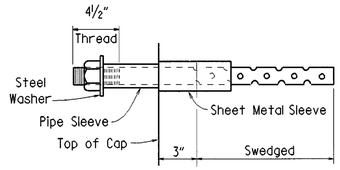


t_e = thickness of elastomer cover on top and bottom of pad

t_i = thickness of elastomer between steel laminae

N = number of elastomer layers of thickness t_i

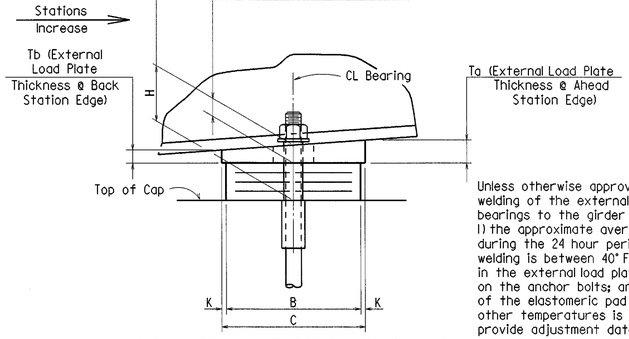
ELASTOMERIC BEARING



ANCHOR BOLT DETAIL

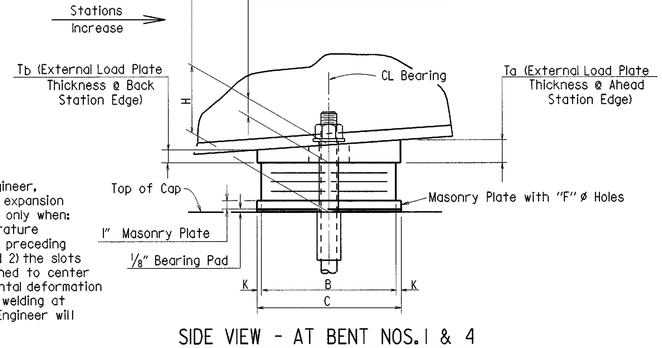
NOTE: Anchor Bolts may be cast in place or drilled and grouted into place. If Anchor Bolts are to be cast in place, the Galvanized Sheet Metal Sleeves will not be required.

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 Beam Spans, (M270, Gr. 50W)"



SIDE VIEW - AT BENT NOS. 2 & 3

Unless otherwise approved by the Engineer, welding of the external load plate at expansion bearings to the girder will be allowed only when: 1) the approximate average air temperature during the 24 hour period immediately preceding welding is between 40° F and 80° F; and 2) the slots in the external load plate are positioned to center on the anchor bolts; and 3) no horizontal deformation of the elastomeric pad is evident. If welding at other temperatures is required, the Engineer will provide adjustment data.



SIDE VIEW - AT BENT NOS. 1 & 4

TABLE OF FABRICATOR VARIABLES

BRIDGE NO.	LOCATION: BENT NO(S).	LOCATION: SPAN/ UNIT	LOCATION: 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	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.)
06914	1	130'	All	Exp.	8	58.9	9 1/2"	6 11/16"	13"	9"	5	1/2"	1/4"	6 @ 12 Gauge	3 5/8"	10"	23"	2 3/4"	2 1/4"	1/2"	8 3/4"	2.087"	1.913"	1 1/2"ø x 27"	55	1 1/2"ø x 7"	3"ø x 9"	3"
	2	130'	All	Fixed	8	110.4	8 1/2"	5"	15"	12"	4	1/2"	1/4"	5 @ 12 Gauge	3"	13"	27"	3 1/8"	3 1/8"	1/2"	10 1/4"	2.136"	1.864"	2 1/4"ø x 36"	55	2 1/2"ø x 5 1/4"	4"ø x 12"	4"
	3	130'	All	Exp.	8	110.4	8"	5"	15"	12"	4	1/2"	1/4"	5 @ 12 Gauge	3"	13"	26"	3 1/4"	2 5/8"	1/2"	10"	2.162"	1.838"	1 3/4"ø x 30"	55	2"ø x 5 1/4"	4"ø x 12"	3 3/8"
	4	130'	All	Exp.	8	58.9	9 1/2"	6 11/16"	13"	9"	5	1/2"	1/4"	6 @ 12 Gauge	3 5/8"	10"	23"	3 3/4"	2 1/4"	1/2"	8 3/4"	2.138"	1.863"	1 1/2"ø x 27"	55	1 1/2"ø x 7"	3"ø x 9"	3"

* Maximum Design Load = Service Load

** The dimension "E" does not apply to masonry plates - See "SIDE VIEW - AT BENT NOS. 1 & 4"

Tabular Data by : KDH Date: 1-16-02

Checked by : SWP Date: 1-16-02

Designed by : DHP Date: 1-16-02

STATE OF ARKANSAS
Edward T. Bain
REGISTERED PROFESSIONAL ENGINEER
No. 2915
3-1-02
EDWARD T. BAIN

BRIDGE ENGINEER

GENERAL NOTES

Elastomeric Bearings shall conform to Special Provision Job 080143 "Elastomeric Bearings" and Section 808 and shall be paid for at the unit price bid for "Elastomeric Bearings." Long-duration testing of random lot samples specified in subsection 808.05 is not required.

External load plates and masonry plates shall conform to AASHTO M 270, Grade 50W. 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 and masonry plates shall be completely fabricated (including bevel and bolt holes) and shall be cleaned before vulcanizing to the elastomeric bearing. Surfaces in contact with the elastomeric bearing shall be cleaned in accordance with Special Provision Job 080143 "Elastomeric Bearings". Other surfaces shall be blast cleaned in accordance with subsection 807.84(e) for unpainted Grade 50W steel.

Anchor Bolts, Washers and Nuts shall conform to subsection 807.07. 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 Beam Spans (M270, Gr. 50W)". External load plates, masonry plates and 1/8" bearing pads will not be measured or paid for separately but will be considered included in the unit bid price for "Elastomeric Bearings".

DETAILS OF ELASTOMERIC BEARINGS BIG BRANCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: SAT DATE: 4-19-01 FILENAME: B080143X2.E1

CHECKED BY: JAC DATE: 4-25-01 SCALE: NONE

DESIGNED BY: Std. DATE:

BRIDGE NO. 06914 DRAWING NO. 43654

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.		080143	20	120

(1) 06913 & 06914 - QUANTITIES - 43625

SCHEDULE OF BRIDGE QUANTITIES - JOB NO. 080143

BRIDGE NO. / CODE NO. / NAME PLATE TITLE	UNIT OF STRUCTURE / ITEM NO. / ITEM / UNIT	205 REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO.) LUMP SUM	603 **TEMPORARY BRIDGE STRUCTURE (24' ROADWAY WIDTH) LIN. FT.	801 UNCLASSIFIED EXCAVATION FOR STRUCTURES-BRIDGE CU. YD.	SS & 802 CLASS S CONCRETE-BRIDGE CU. YD.	SS & 802 CLASS S(AE) CONCRETE-BRIDGE CU. YD.	803 CLASS 1 PROTECTIVE SURFACE TREATMENT GAL.	804 REINFORCING STEEL-BRIDGE (GRADE 60) LB.	804 EPOXY COATED REINFORCING STEEL (GRADE 60) LB.	805 **STEEL PILING (HP 12X53) LIN. FT.	SS & 807 STRUCTURAL STEEL IN BEAM SPANS (M 270, GRADE 50W) LB.	SP & 808 ELASTOMERIC BEARINGS CU. IN.	812 BRIDGE NAME PLATE (TYPE D) EACH	SS & 816 FILTER BLANKET SQ. YD.	SS & 816 DUMPED RIPRAP CU. YD.	SP JOB 080143 SILICONE JOINT SEALANT LIN. FT.
06913 X071 CHOCTAW CREEK	BENT NO. 1			41	41.20		0.3	4400		216	1146	4060		656	350	
	BENT NO. 2			50	63.40			11260				6525			19	
	BENT NO. 3			102	63.40			11260				6525			19	
	BENT NO. 4			36	41.20		0.3	4400		120	1170	4060		557	298	
	208'-0'' CONT. COMP. W-BEAM UNIT					327.20	29.1		83960		278354		1			118
	SITE NO. 1 (BRIDGE NO. A1048)	1														
TOTALS FOR BRIDGE NO. 06913		1	170	229	209.20	327.20	29.7	31320	83960	336	280670	21170	1	1213	686	118
06914 X071 BIG BRANCH	BENT NO. 1			40	43.74		0.3	4830		200	1237	3393		279	156	
	BENT NO. 2			195	67.19			11888				4320			17	
	BENT NO. 3			146	63.62			11490				4320			17	
	BENT NO. 4			27	44.15		0.3	4852		160	1237	3393		267	152	
	130'-0'' CONT. COMP. W-BEAM UNIT					205.90	18.2		57180		119326		1			135
	SITE NO. 2 (BRIDGE NO. 03479)	1														
TOTALS FOR BRIDGE NO. 06914		1	110	408	218.70	205.90	18.8	33060	57180	360	121800	15426	1	546	342	135
TOTALS FOR JOB NO. 080143		2	280	637*	427.90	533.10	48.5	64380	141140	696	402470	36596	2	1759	1028	253

* Includes approx. 180 cu. yds. of rock excavation.

** Temporary Bridge Structure shall have a minimum live load capacity of H20.

** These steel piles are required to have special tips which will not be paid for directly, but will be considered subsidiary to the item ''Steel Piling (HP12x53)''.

CARL FUSELIER
DESIGN SECTION SUPERVISOR

STATE OF ARKANSAS
Edward T. Fain
REGISTERED PROFESSIONAL ENGINEER
No. 3915
3-25-02
EDWARD T. FAIN

BRIDGE ENGINEER

SCHEDULE OF BRIDGE QUANTITIES
BIG BRANCH & CHOCTAW CREEK
STRS. & APPRS. (S)
VAN BUREN COUNTY
ROUTE 65 SEC. 8
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 1-23-02 FILENAME: B080143.01
CHECKED BY: SWP DATE: 2-4-02 SCALE:
DESIGNED BY: DATE:

BRIDGE NO. 06913 & 06914 DRAWING NO. 43625