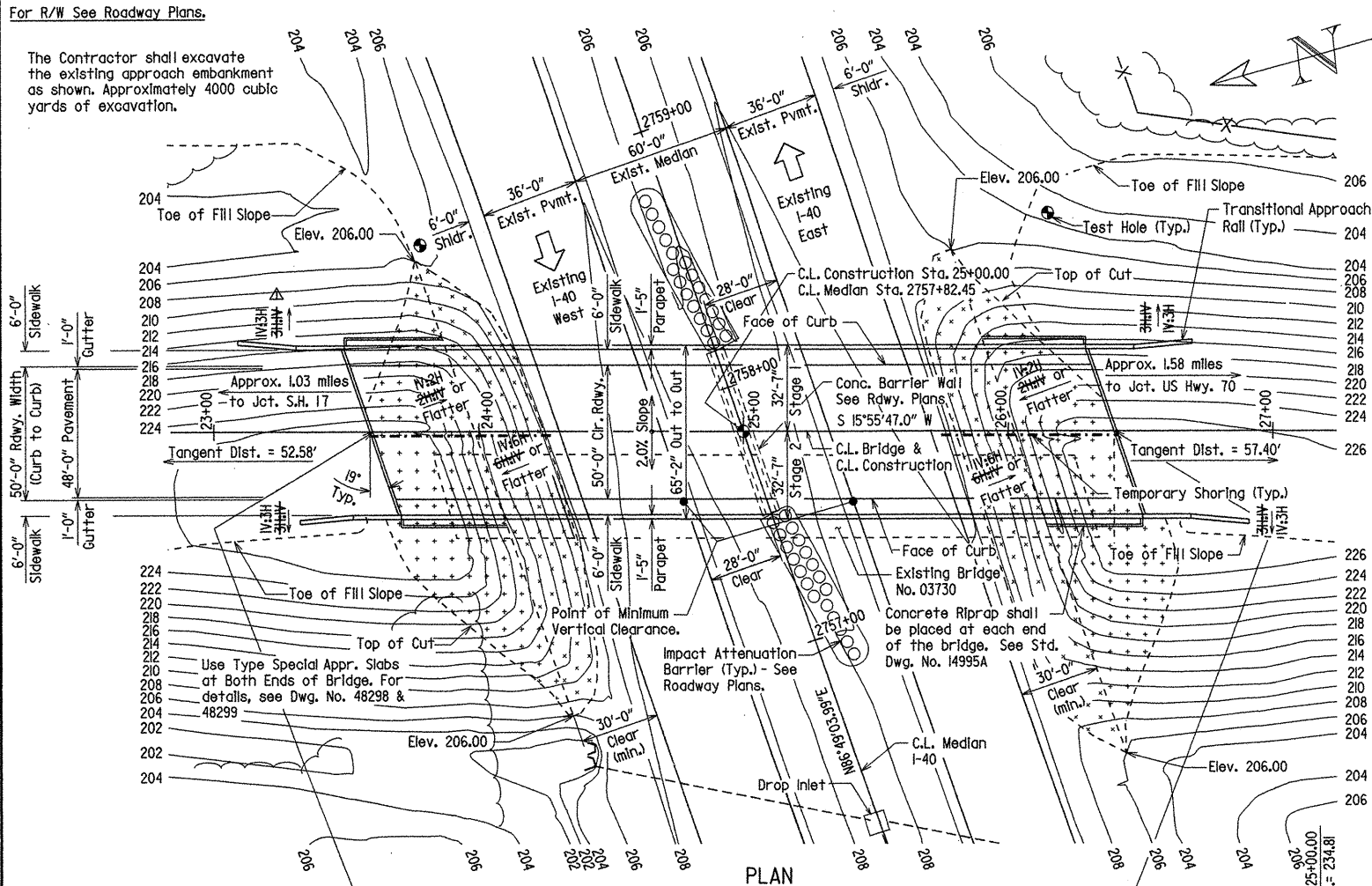
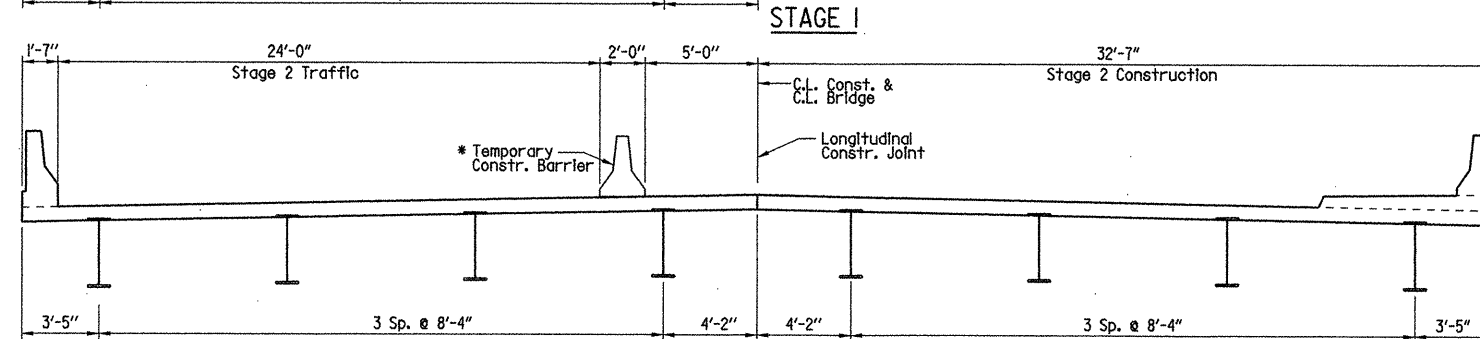
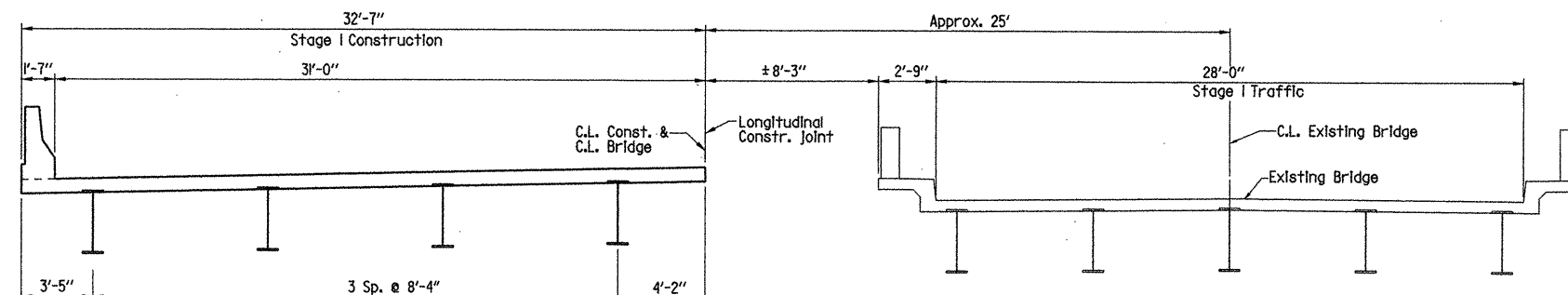


For R/W See Roadway Plans.

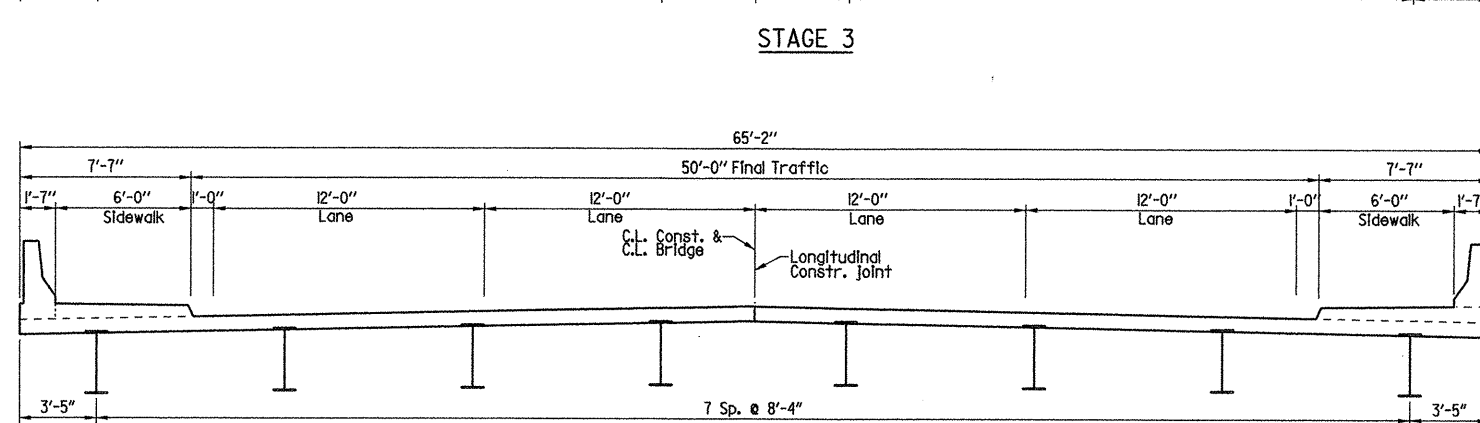
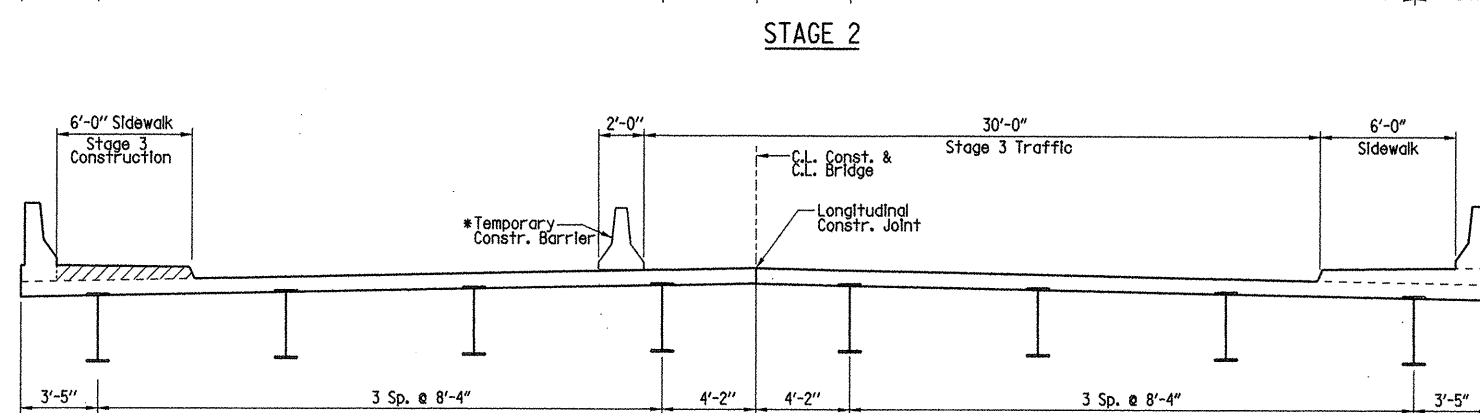
The Contractor shall excavate the existing approach embankment as shown. Approximately 4000 cubic yards of excavation.



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.		110131	61	133
				07069	STAGE CONSTRUCTION			48280



*Connect temporary barrier to new deck. See Std. Dwg. No. TC-4 and TC-5.



Notes:

Details which relate to Maintenance of Traffic are shown on bridge plans for information only. See Roadway plans for Maintenance of Traffic.

For Details of temporary barrier, see dwg. no. TC-4 and TC-5

Note: Sections showing Stage Construction are taken looking ahead.



BRIDGE ENGINEER

DETAILS OF STAGE CONSTRUCTION
U.S. HWY. 49 OVER I-40
I-40 OVERPASS (BRINKLEY) (F)
MONROE COUNTY

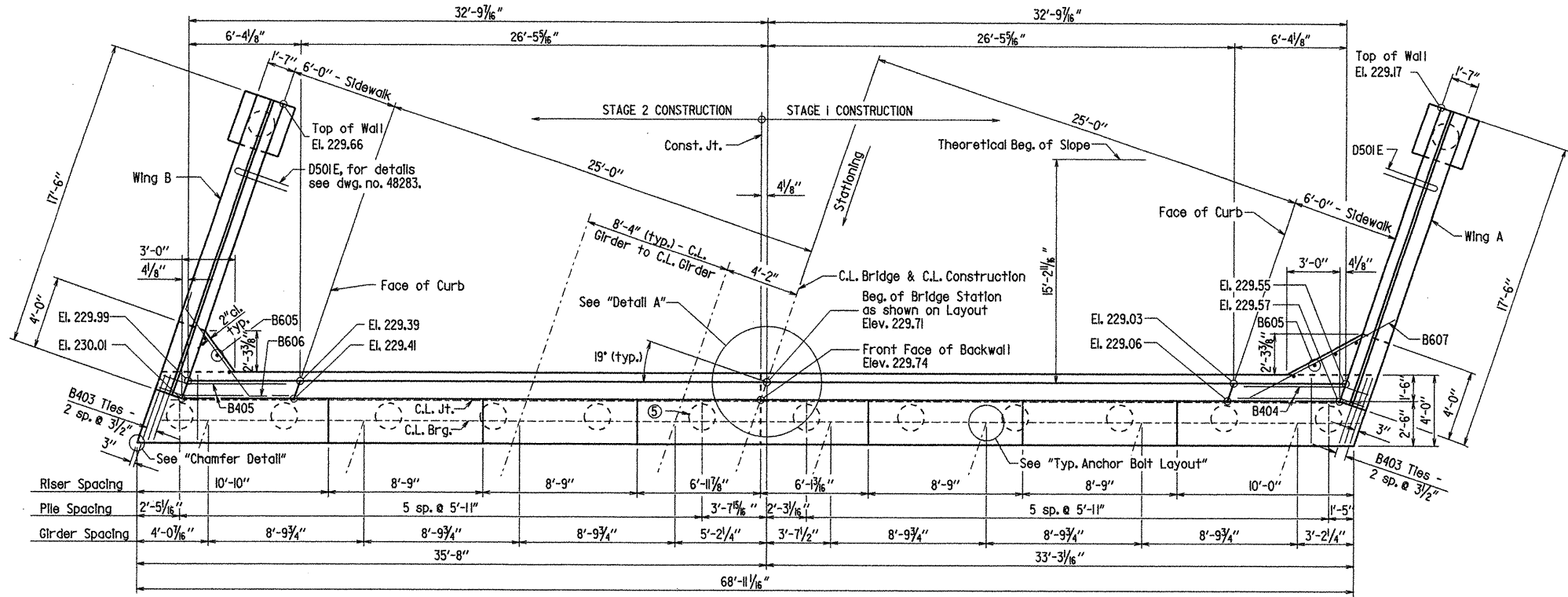
ROUTE 49 SEC. 08
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: JLB DATE: 06/17/05 FILENAME: b10131.sc.dgn
CHECKED BY: CSL DATE: Jan 31, 06 SCALE: 1/4" = 1'-0"
DESIGNED BY: CSL DATE: Jan 2005
BRIDGE NO. 07069 DRAWING NO. 48280

NOTE: For details of wing & rail, see dwg. no. 48283. For additional details and General Notes, see dwg. no. 48282.

NOTE: Class I Protective Surface Treatment shall be applied to the top of the backwall.

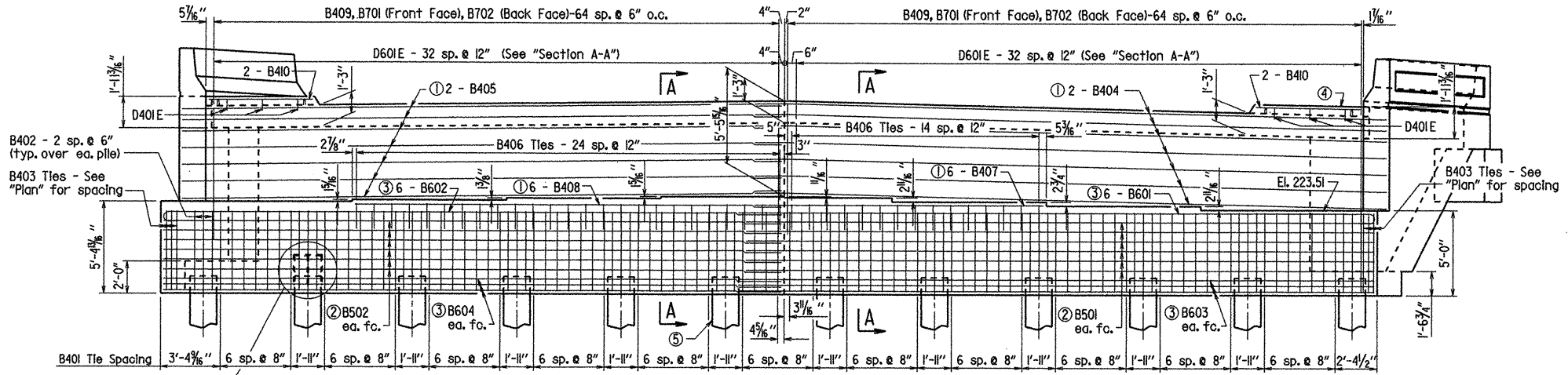
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110131	62	133
				07069	BENT 1			48281



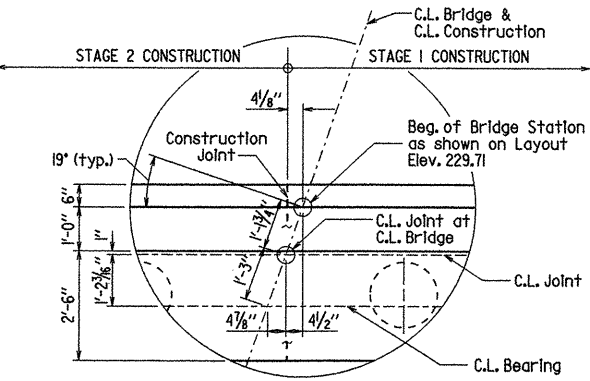
PLAN
Looking Back
Scale: 1/4" = 1'-0"

BAR LIST				Bending Diagram	
Mark	No.	Length	Pln Dia.	Dimensions are out to out of bars.	
B401	77	17'-0"	2"		
B402	36	12'-10"	2"		
B403	6	17'-6"	2"		
B404	14	36'-4"	2"		
B405	14	33'-10"	2"		
B406	40	6'-6"	2"		
B407	6	16'-7"	Str.		
B408	6	24'-3"	Str.		
B409	131	5'-0"	2"		
B410	4	5'-11"	Str.		
B501	12	37'-0"	Str.		
B502	12	33'-9"	Str.		
B601	6	38'-1"	4 1/2"		
B602	6	34'-5"	4 1/2"		
B603	6	37'-5"	Str.		
B604	6	33'-9"	Str.		
B605	7	7'-4"	Str.		
B606	4	7'-9"	4 1/2"		
B607	4	9'-2"	Str.		
B701	131	7'-6"	Str.		
B702	131	6'-3"	Str.		
D401E	6	8"	Str.		
D501E	26	6'-2"	3 3/4"		
D601E	66	5'-10"	4 1/2"		

NOTE: Bars designated with an "E" suffix shall be epoxy coated.

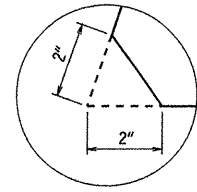


ELEVATION
Looking Back
Scale: 1/4" = 1'-0"

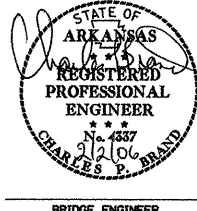


DETAIL A
1/2" = 1'-0"

- ① Lap #4 Bars 1'-9" (min.)
- ② Lap #5 Bars 2'-2" (min.)
- ③ Lap #6 Bars 2'-7" (min.)
- ④ This sidewalk to be constructed under Stage 3 Construction, see dwg. no. 48282.
- ⑤ This pile may need to be driven during Stage 1 Construction.

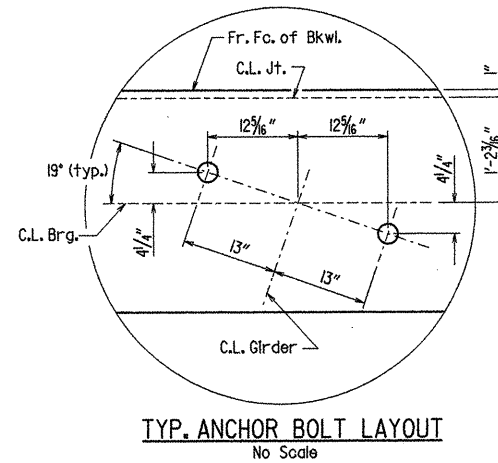


CHAMFER DETAIL
No Scale



DETAILS OF BENT NO. 1
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: JWD DATE: 11-28-05
CHECKED BY: CRE DATE: 12-8-05
DESIGNED BY: CRE DATE: 11-05
BRIDGE NO. 07069 DRAWING NO. 48281

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11/09/07				6	ARK.			
				JOB NO.		110131	63	133
				07069		BENTS 1 & 3		48282



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 $\frac{3}{4}"$ unless otherwise noted.

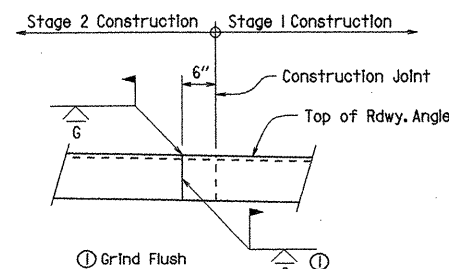
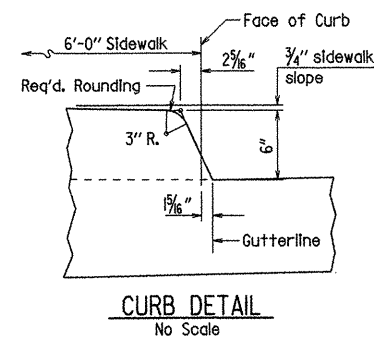
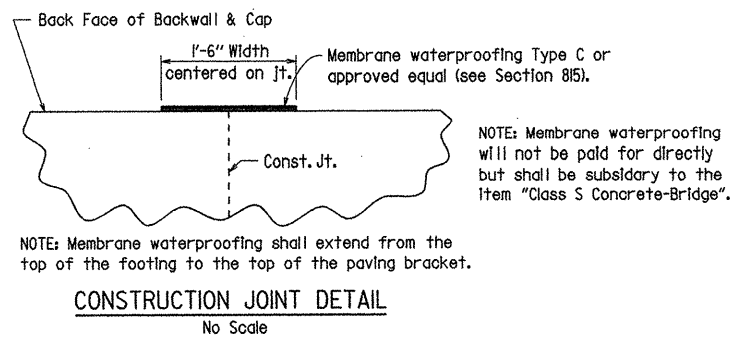
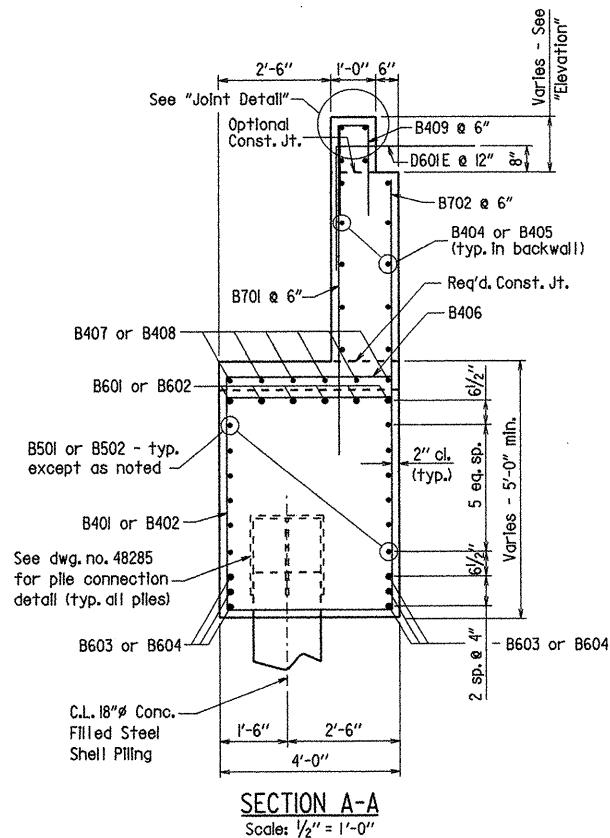
All reinforcing steel shall conform to AASHTO M31 or M53, Grade 60 (yield strength = 60,000 psi).

Gr. 36 Δ
Structural steel in end bents shall be M270, Gr. 50W and shall be paid for as "Structural Steel in Plate Girder Spans (M270, Gr. 50W)".
Gr. 50 Δ
Top reinforcing bars in cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

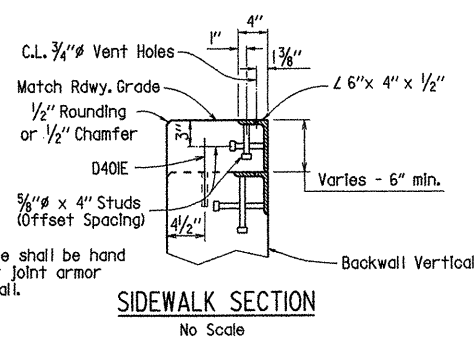
No portion of the backwall shall be poured before girders are in place. The portion of the backwall above the Optional Const. Joint shall not be placed until the adjacent deck pour has been made.

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

For additional information, see layout.

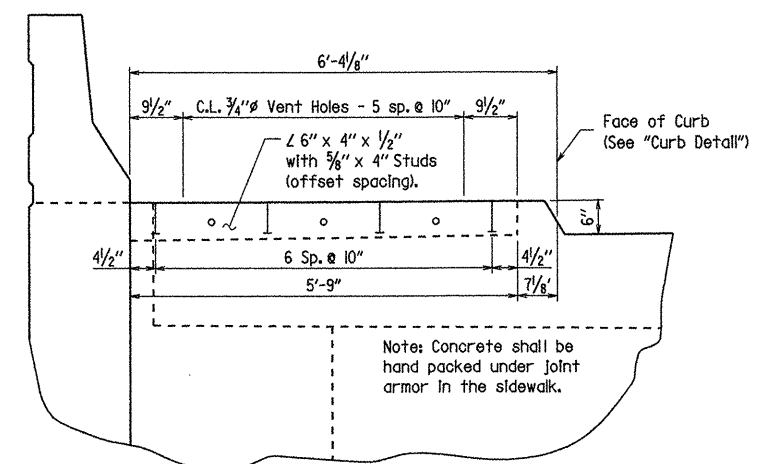
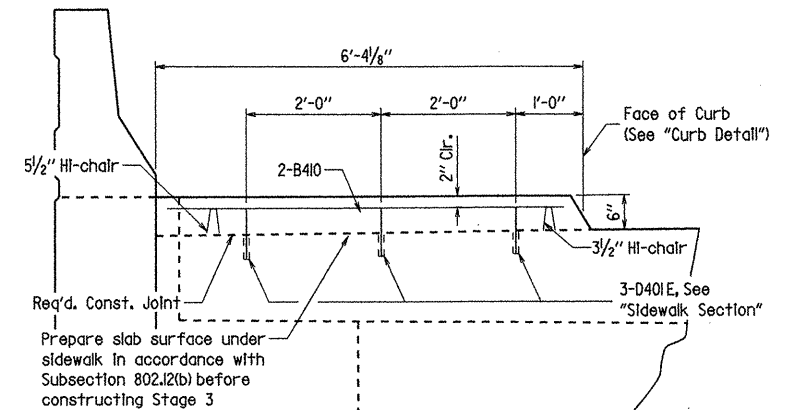
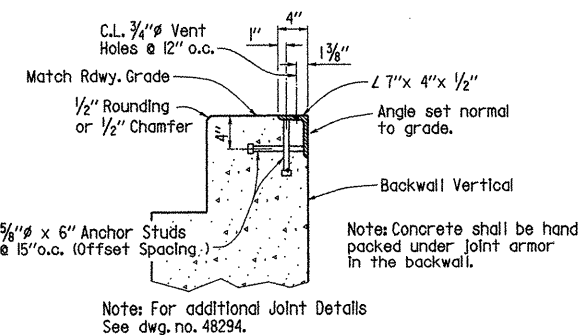


Dowel D401E bars 4" into backwall using a polyester/Epoxy Resin System listed on the OPL. The diameter of the drilled holes and the installation procedures shall be as recommended by the Epoxy Resin System manufacturer. Epoxy Resin System selected shall develop the yield strength of the dowel bar.

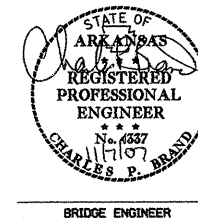


Note: Concrete shall be hand packed under joint armor in the backwall.

SIDEWALK SECTION
No Scale



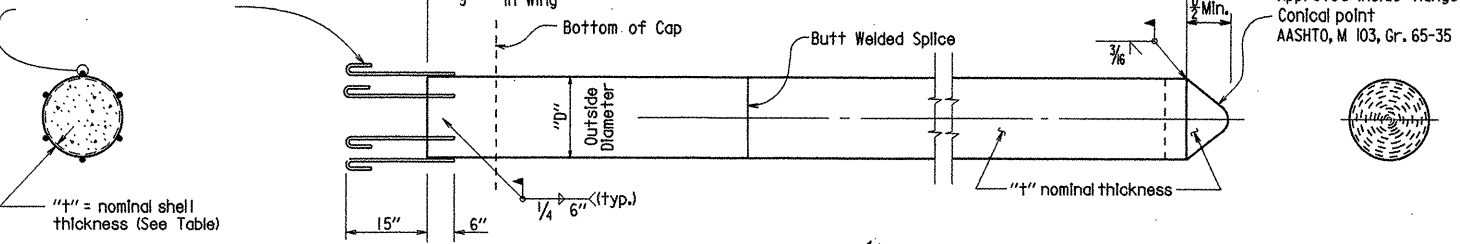
Δ Change Structural Steel Gr. 50W to Gr. 36 and change Structural Steel Gr. 50W to Gr. 50 as shown.
11/09/07 MRE Ckd. by: DHP



COMMON DETAILS OF BENTS 1 & 3
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: JWD DATE: 11-28-05 FILENAME: b110131.b12.dgn
CHECKED BY: CRE DATE: 12-08-05 SCALE: As Shown
DESIGNED BY: CRE DATE: 11-05
BRIDGE NO. 07069 DRAWING NO. 48282

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.		110131	66	133
① 07069 - PILE DETAILS - 48285								

* 6- #6 Reinforcing bars at equal spaces around 18"Ø piles. Reinforcing bars shall be ASTM A706, Grade 60.

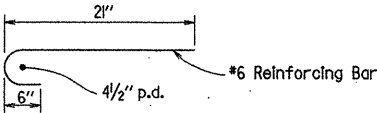


Note: Steel pile tip will not be paid for directly, but shall be subsidiary to the item "Steel Shell Piling"



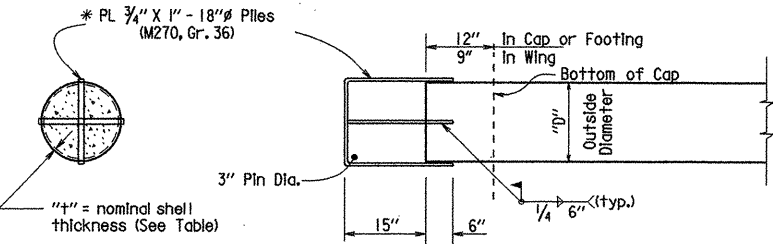
Approved inside flange
Conical point
AASHTO, M 103, Gr. 65-35

CONCRETE FILLED STEEL SHELL PILES

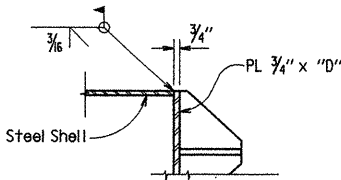


TYP. HOOKED BAR DETAIL

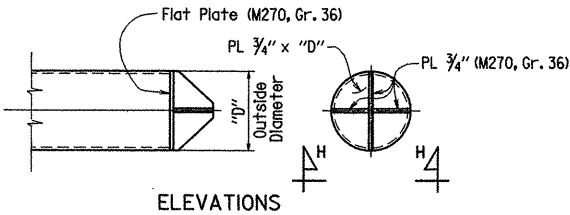
* Straps or reinforcing bars shall be placed to minimize interference with cap reinforcing



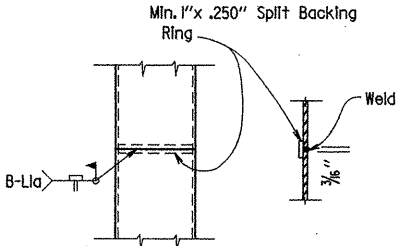
ALTERNATE CONNECTION DETAIL



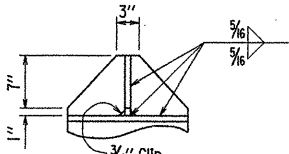
PART SECTION



ELEVATIONS



SPLICE DETAILS



SECTION H-H

GENERAL NOTES FOR CONCRETE FILLED STEEL SHELL PILES

Steel shells shall conform ASTM A252, Grade 3, (Fy = 45,000 psi.).

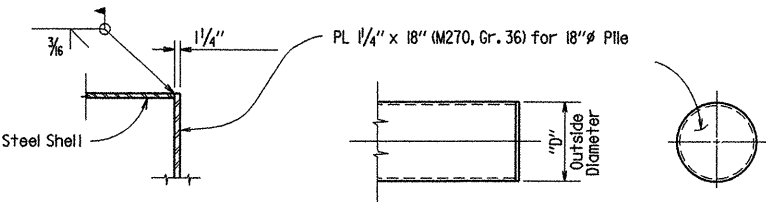
Concrete used for filling of steel shell shall be Class S with a minimum 28 day compressive strength, f'c = 3,500 psi. and shall be poured in the dry.

See bridge layout for size and length of shell piles and for additional driving information.

Concrete and structural steel or reinforcing steel, including welding, will not be paid for directly, but will be considered as part of the corresponding item "Steel Shell Piling (18" dia.)".

TABLE FOR SHELL PILES

OUTSIDE DIAMETER D	"t"-NOMINAL SHELL THICKNESS	
18"	0.50"	



PART SECTION

ELEVATIONS

ALTERNATE FLAT TIP DETAIL



BRIDGE ENGINEER

DETAILS OF CONCRETE FILLED STEEL SHELL PILES

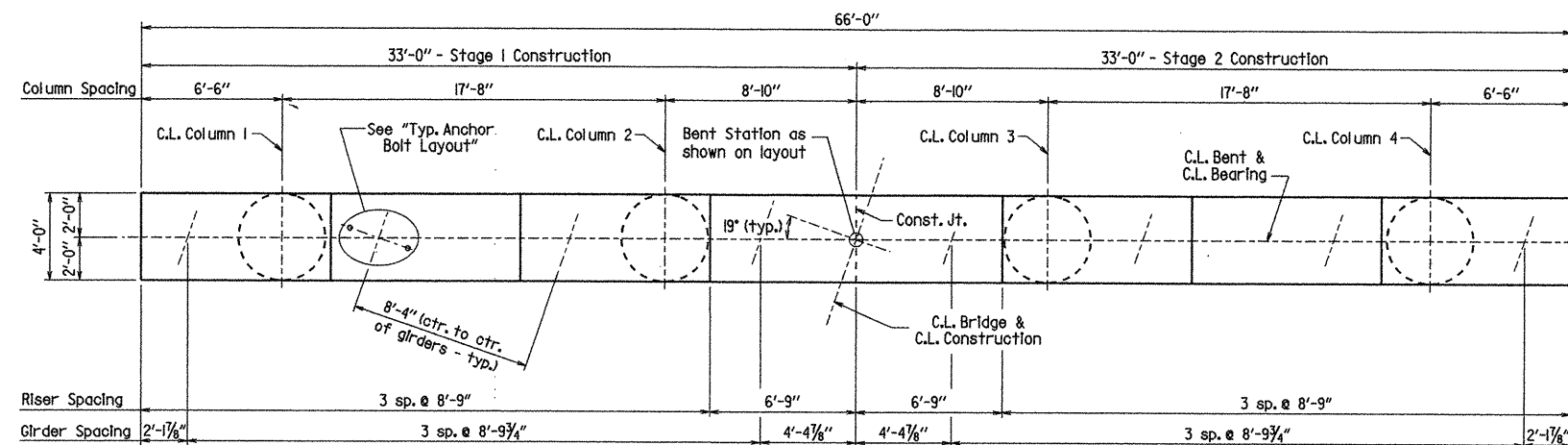
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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CHECKED BY: CRE DATE: 11-22-05 SCALE: NONE
DESIGNED BY: STD. DATE:
BRIDGE NO. 07069 DRAWING NO. 48285

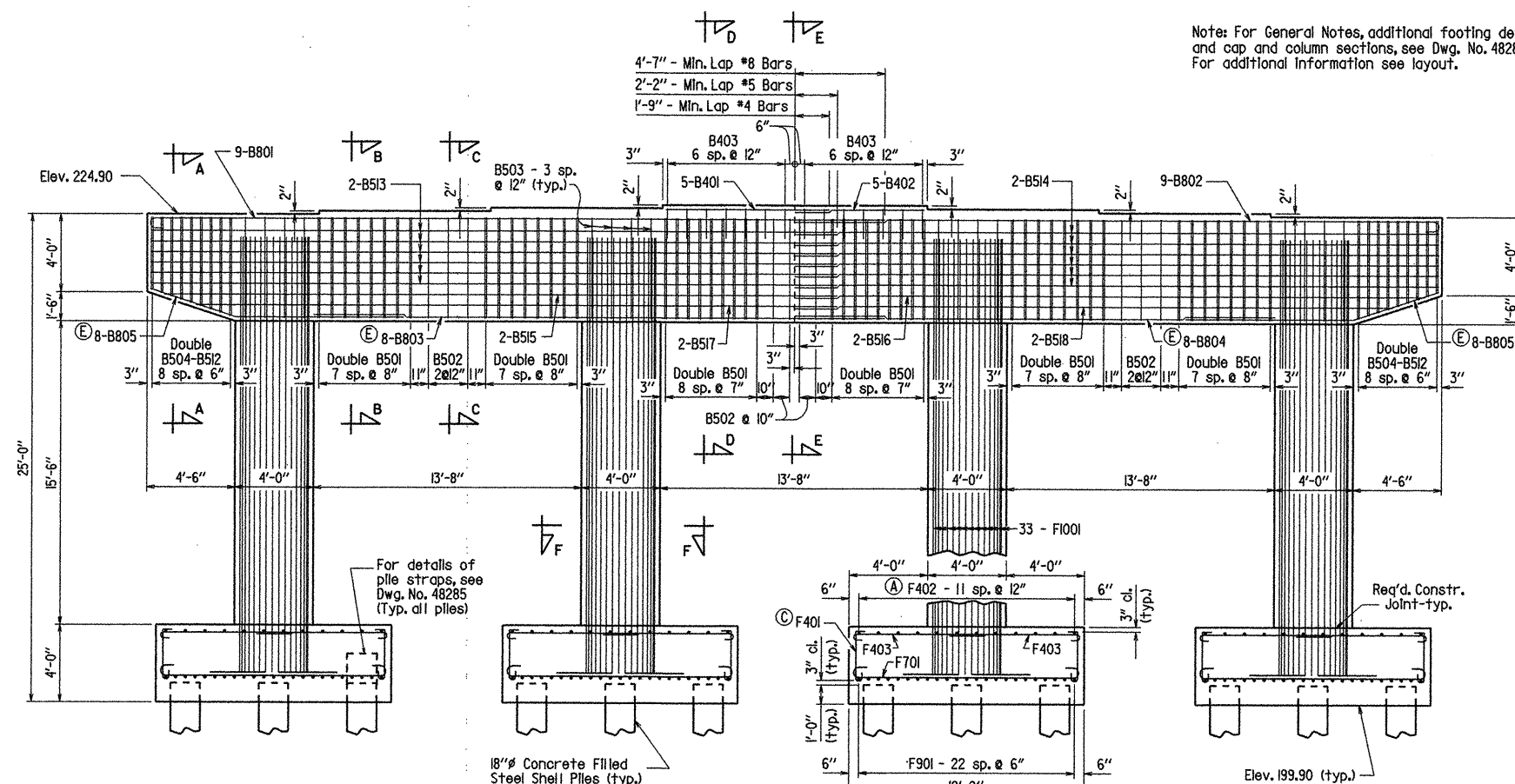
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD CONST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110131	67	133

BAR 1151

① 07069 - BENT 2 - 48286

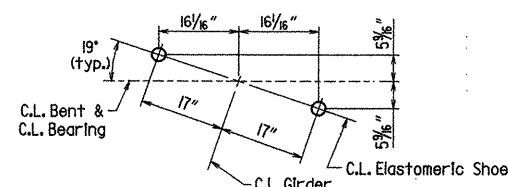


PLAN



ELEVATION

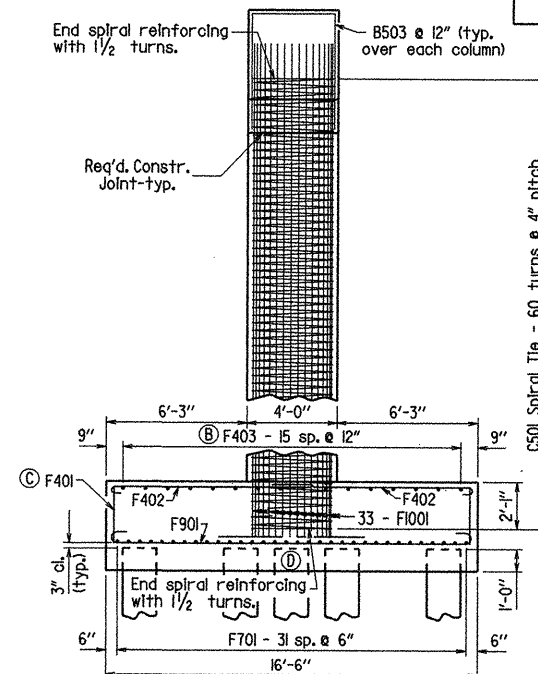
Looking Forward



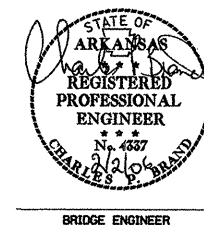
TYP. ANCHOR BOLT LAYOUT
No Scale

Note: Reinforcing shown is typical for each Footing and Column.

- (A) Lap 1'-9" with additional F402
- (B) Lap 1'-9" with additional F403
- (C) Place F401 Bars as shown at 24" max. spacing in both directions. F401 bars not required in area of spiral reinforcing. Alternate hook between top and bottom mat.
- (D) This pile in Footing at Column Nos. 2 & 3 only. See Dwg. No. 48287 for additional Footing Details.
- (E) Lap 4'-7" min. with additional #8 bars.

[illegible]

END VIEW

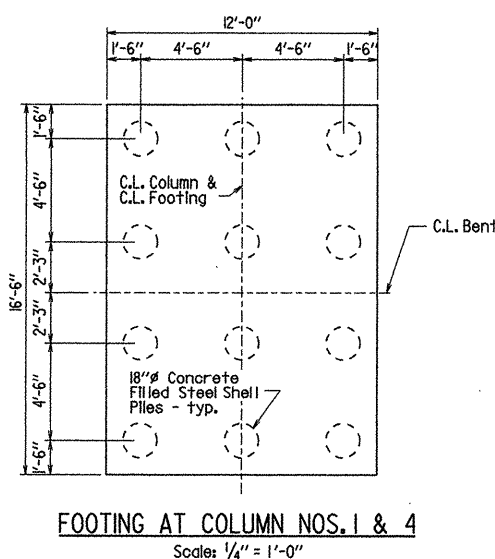
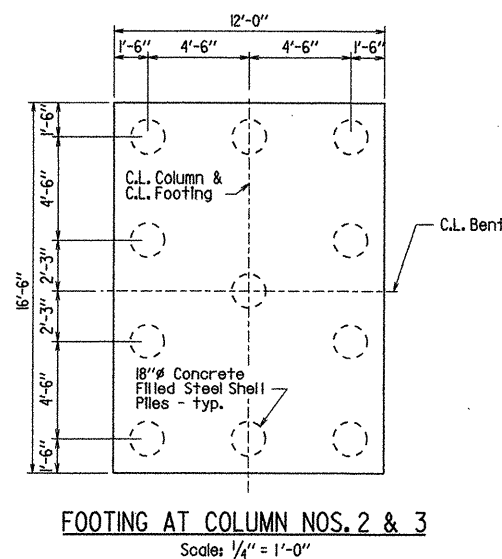
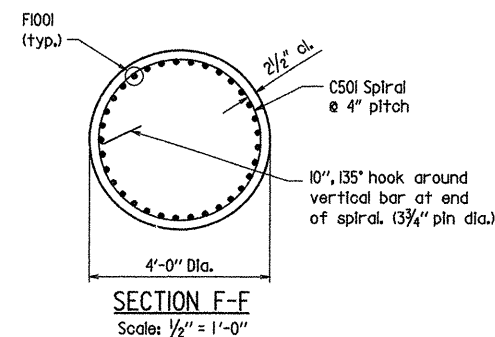
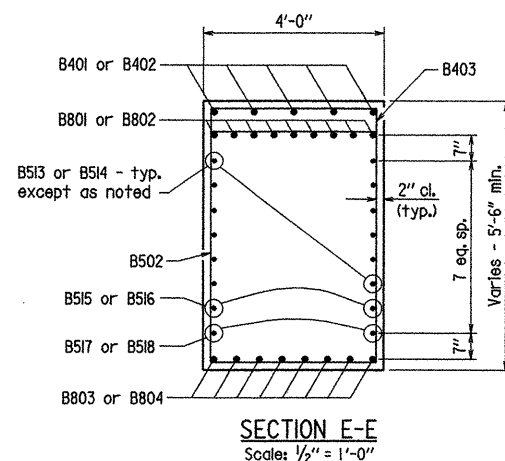
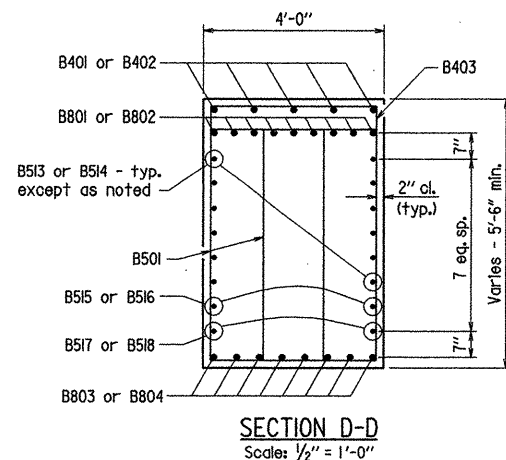
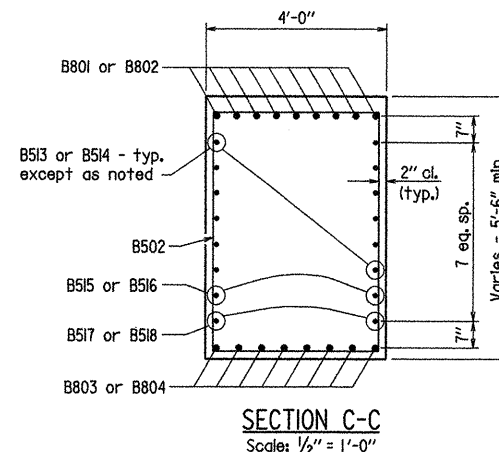
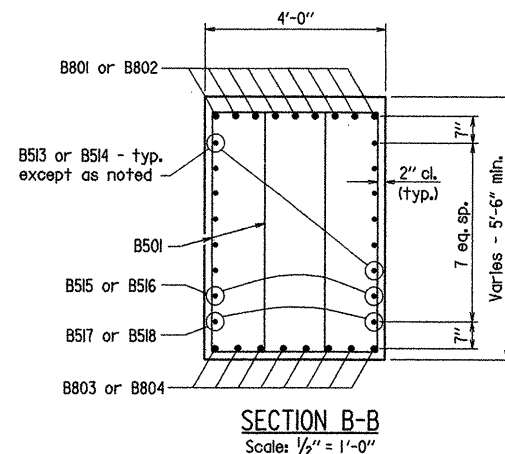
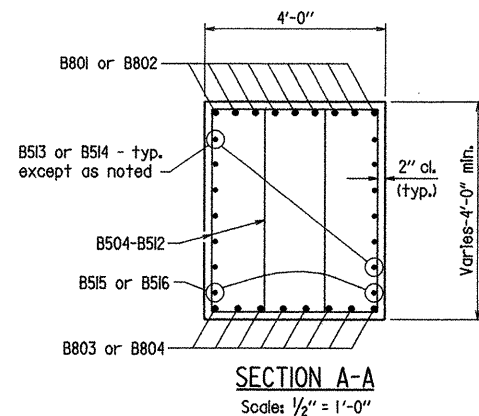


SHEET 1 OF 2
DETAILS OF BENT NO. 2

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

DRAWN BY: CRE DATE: 11/8/05 FILENAME: b10131_b21.dgn
CHECKED BY: DHP DATE: 12/8/05 SCALE: 1/4" = 1'-0"
DESIGNED BY: CRE DATE: 11/05 or As Noted
BRIDGE NO. 07069 DRAWING NO. 48286

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.		110131	68	133
						07069 - BENT 2 -	48287	



GENERAL NOTES

Concrete shall be Class 'S' with a minimum 28 day compressive strength of $f'_c = 3,500$ p.s.i. Concrete shall be poured in the dry. All exposed corners shall be chamfered $\frac{1}{4}$ " unless otherwise noted.

Reinforcing steel shall conform to AASHTO M 31 or M53, Grade 60 (yield strength = 60,000 p.s.i.)

If anchor bolts are drilled into cap, top main reinforcing bars shall be properly placed to avoid damage.

For Details of Elastomeric Bearings see Dwg. No. 48296.

For additional information see Layout.

NOTES FOR SPIRAL REINFORCING

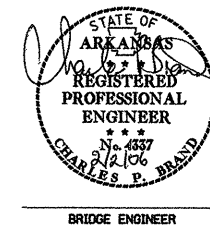
Spiral reinforcing shall be plain round or deformed steel bars meeting the requirements of AASHTO M31 or M53 (Grade 60) or shall be cold drawn wire meeting the requirements of AASHTO M32 or M225 (Grade 70) with a minimum diameter of 0.625".

Spiral reinforcement shall be paid for at the contract unit price bid per pound for "Reinforcing Steel-Bridge (Grade 60)". No additional payment shall be made for spacers, additional splices, or bracing needed for assembly, shipping, handling, or erecting.

Contractor may elect to use a different number of spiral lapped splices per column. (Maximum = 2). In no case shall a spiral be lapped within the top or bottom 1/4th of the column height.

Splices in spiral reinforcement shall be lapped a minimum of 48 bar diameters.

Spiral reinforcement at lapped splices shall be terminated by a 135° hook with a 10" tall around a vertical bar. Ends of spirals not lapped shall be terminated with 11/2 turns and a 135° hook with a 10" tall around a vertical bar.

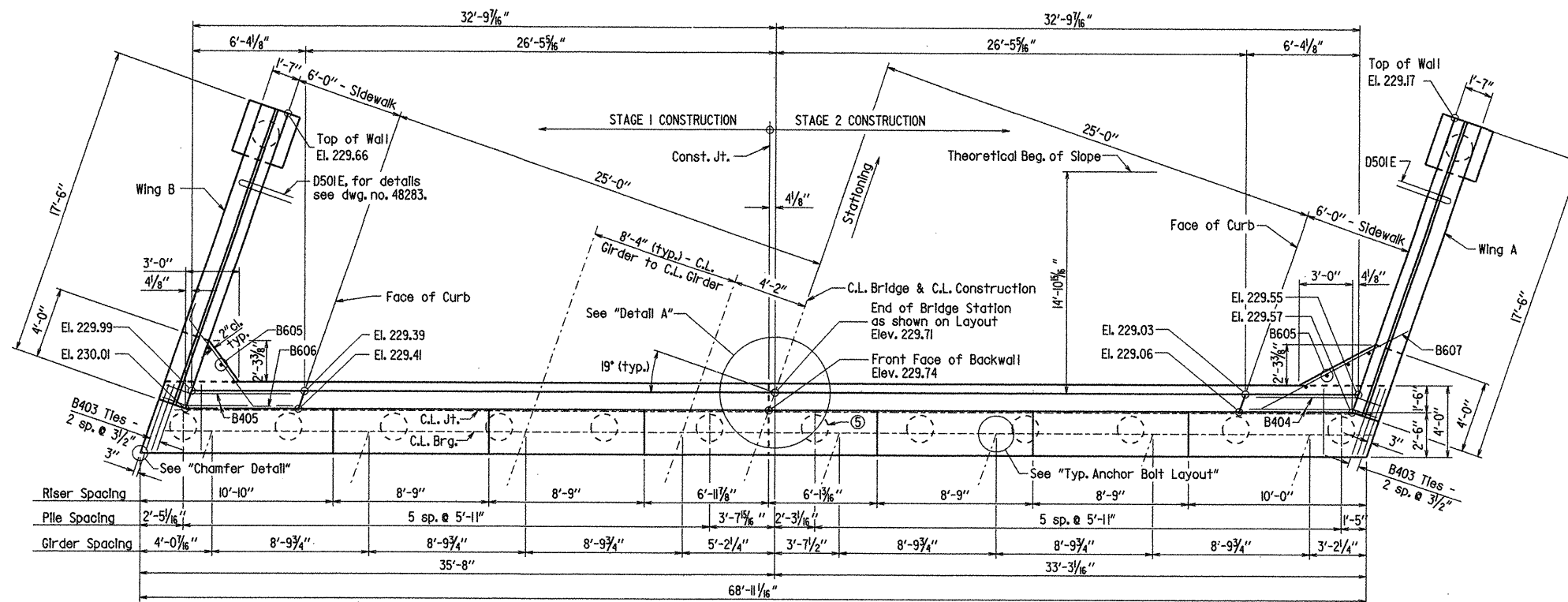


SHEET 2 OF 2
DETAILS OF BENT NO. 2
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: CRE DATE: 11/8/05 FILENAME: b10131.b22.dgn
CHECKED BY: DHP DATE: 12/8/05 SCALE: As Noted
DESIGNED BY: CRE DATE: 11/05
BRIDGE NO. 07069 DRAWING NO. 48287

NOTE: For details of wing & rail, see dwg. no. 48283. For additional details and General Notes, see dwg. no. 48282.

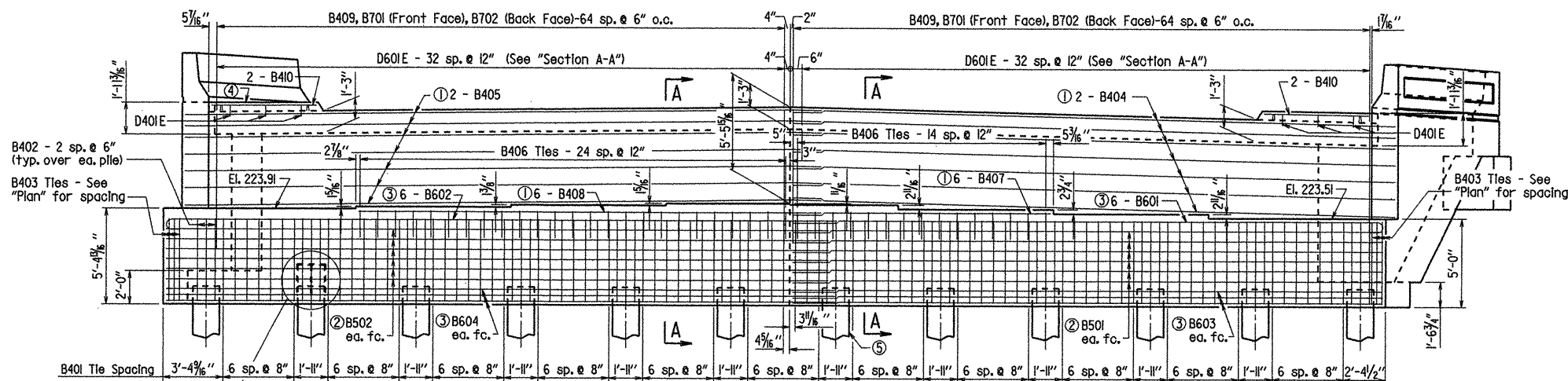
NOTE: Class I Protective Surface Treatment shall be applied to the top of the backwall.

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.		110131	69	133
				07069	BENT 3			48288



PLAN

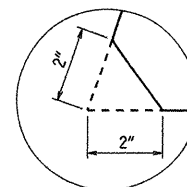
Looking Ahead
Scale: 1/4" = 1'-0"



ELEVATION

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

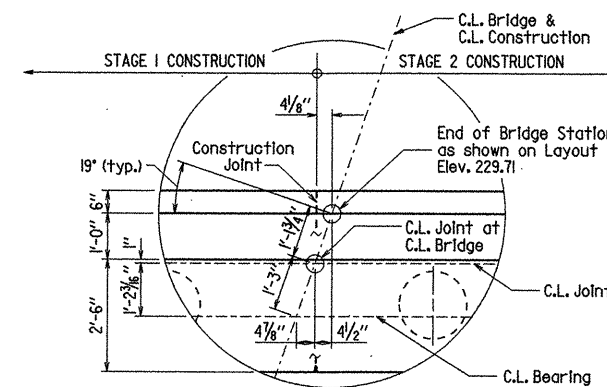
- ① Lap #4 Bars 1'-9" (min.)
- ② Lap #5 Bars 2'-2" (min.)
- ③ Lap #6 Bars 2'-7" (min.)
- ④ This sidewalk to be constructed under Stage 3 Construction, see dwg. no. 48282.
- ⑤ This pile may need to be driven during Stage 1 Construction.



BAR LIST

Mark	No. Req'd	Length	Pin Dia.	Bending Diagram
B401	77	17'-0"	2"	
B402	36	12'-10"	2"	
B403	6	17'-6"	2"	
B404	14	34'-2"	2"	
B405	14	36'-0"	2"	
B406	40	6'-6"	2"	
B407	6	14'-7"	Str.	
B408	6	26'-2"	Str.	
B409	131	5'-0"	2"	
B410	4	5'-11"	Str.	
B501	12	33'-5"	Str.	
B502	12	37'-4"	Str.	
B601	6	34'-1"	4 1/2"	
B602	6	38'-5"	4 1/2"	
B603	6	33'-5"	Str.	
B604	6	37'-9"	Str.	
B605	7	7'-4"	Str.	
B606	4	7'-9"	4 1/2"	
B607	4	9'-2"	Str.	
B701	131	7'-6"	Str.	
B702	131	6'-3"	Str.	
D401E	6	8"	Str.	
D501E	26	6'-2"	3 3/4"	
D601E	66	5'-10"	4 1/2"	

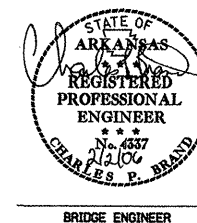
NOTE: Bars designated with an "E" suffix shall be epoxy coated.



DETAILS OF BENT NO. 3

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

DRAWN BY: JWD DATE: 12-05-05 FILENAME: b10131.b3.dgn
CHECKED BY: CAE DATE: 12-8-05 SCALE: As Shown
DESIGNED BY: CAE DATE: 11-05
BRIDGE NO. 07069 DRAWING NO. 48288

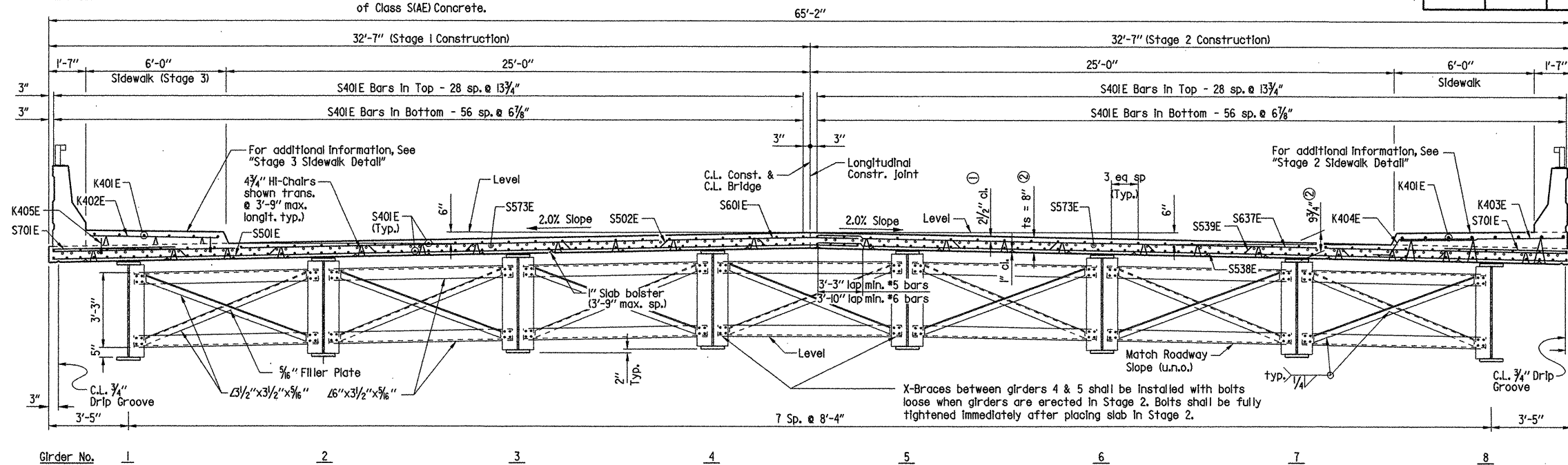



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110131	70	133
				07069		280' UNIT		48289

NOTE: Class I Protective Surface Treatment shall be applied to the Roadway and Sidewalk Surface.


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

Note: At the Contractor's option, two straight epoxy coated #5 bars may be substituted for bars S502E and S539E. Payment for reinforcing will be based on the weight of S502E and S539E bars.

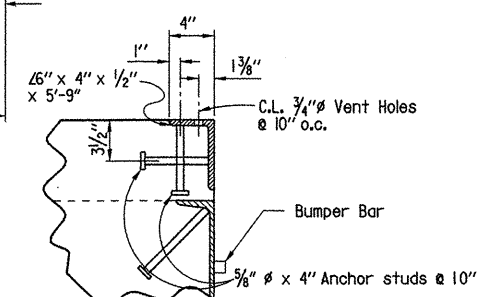


Stage 1 SLAB REINFORCING
Transverse:
S601E - Top; S501E-Bottom @ 15" o.c.  -Alternate
S502E @ 15" o.c.-Bent up over beams
S701E (Top of slab under parapet)

Longitudinal:
S40IE as shown
S573E as shown over
Int. Supports

Stage 2
Transverse:
S637E - Top; S538E-Bottom @ 15" o.c. -Alternate
S539E @ 15" o.c.-Bent up over beams
S701E (Top of slab under parapet)

Longitudinal:
S40IE as shown
S573E as shown over
Int. Supports



Note: Concrete shall be hand packed under the joint armor in the sidewalk.

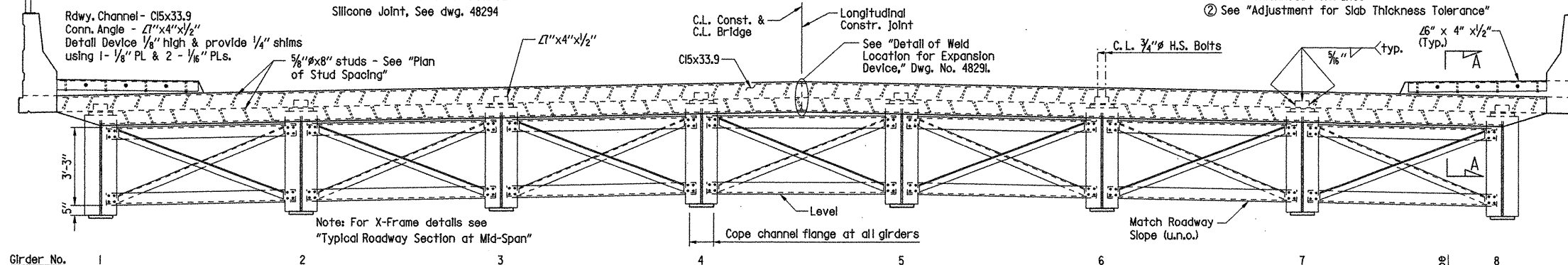
Note: For details of stud spacing and vent hole spacing see "Sidewalk Detail at Joint" on dwn. no. 48282.

SECTION A-A
No Scale



Rdwy. Channel - C15x33.9
Conn. Angle - $2\frac{1}{2}'' \times 4'' \times \frac{1}{2}''$
Detail Device $\frac{1}{8}''$ high & provide $\frac{1}{4}''$ shims
using 1 - $\frac{1}{8}''$ PL & 2 - $\frac{1}{16}''$ PLs. — 5/2

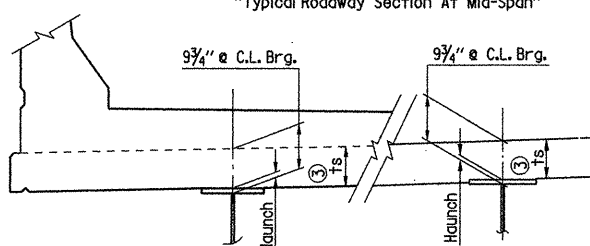
Note: For Details of 2" Poured
Silicone Joint, See dwg. 48294



Note: For X-Frame details see
"Typical Roadway Section at Mid-Span"

③ Tolerance when removable deck forming is used is $+ \frac{1}{2}''$ & $- \frac{1}{4}''$. Haunch forming is required and shall be adjusted to maintain slab thickness tolerance.

Note: t_s = slab thickness as shown in "Typical Roadway Section At Mid-Span"



(Girder 1 or Girder 8)

(Girders 2-7)

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.

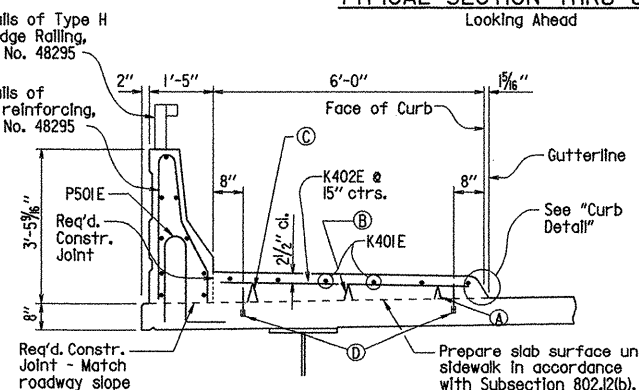
Haunch dimension may vary within the following limits to maintain the grade and slab thickness tolerance : Minimum - occurs when top flange contacts bottom reinforcing steel; Maximum - top flange thickness plus 1/4". No increase in concrete and structural steel quantities will be made to maintain tolerances.

ADJUSTMENT FOR SLAB THICKNESS TOLERANCE

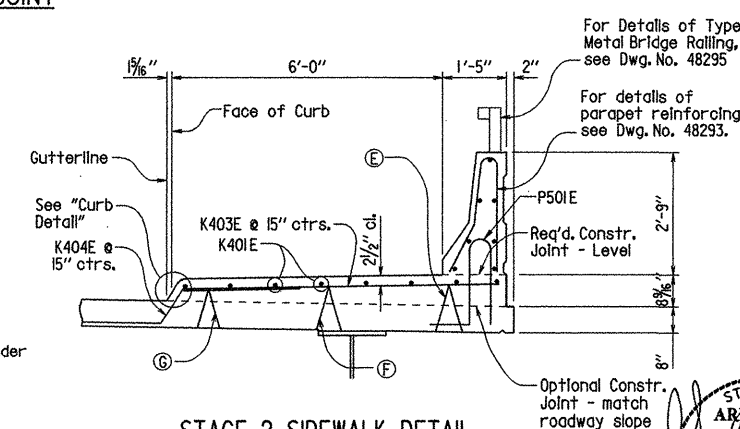
NTS

STAGE 3 SIDEWALK DETAIL

Scale: $\frac{1}{2}'' = 1'-0''$



① Dowel K405E bars 4" into slab at 2'-6" max. long, spacing using a polyester/epoxy resin system listed on the UPL. The diameter of the holes and the installation procedures shall be as recommended by the epoxy resin system manufacturer. The epoxy resin system selected shall develop the yield strength of the dowel bar. The contractors option the K404E bar may be deleted in stage 2 sidewalk and K405E bars doweled in as shown in stage 3 sidewalk detail. Payment will be based on K404E bar.



① 3 1/4" HI-chairs at 3'-9" ctrs. long.

Scale: $\frac{1}{2}'' = 1'-0''$

0" (E) 13 1/4" HI-chairs at 3'-9" ctrs. long.

⑦ 12 1/4" Hi-chairs at 3'-9" ctrs. long.

⑥ 11 1/4" Hi-chairs at 3'-9" ctrs. long.

CURB DETAIL
No. Scale

SHEET 1 OF 6
DETAILS OF CONTINUOUS COMPOSITE
280' PLATE GIRDER UNIT

ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION

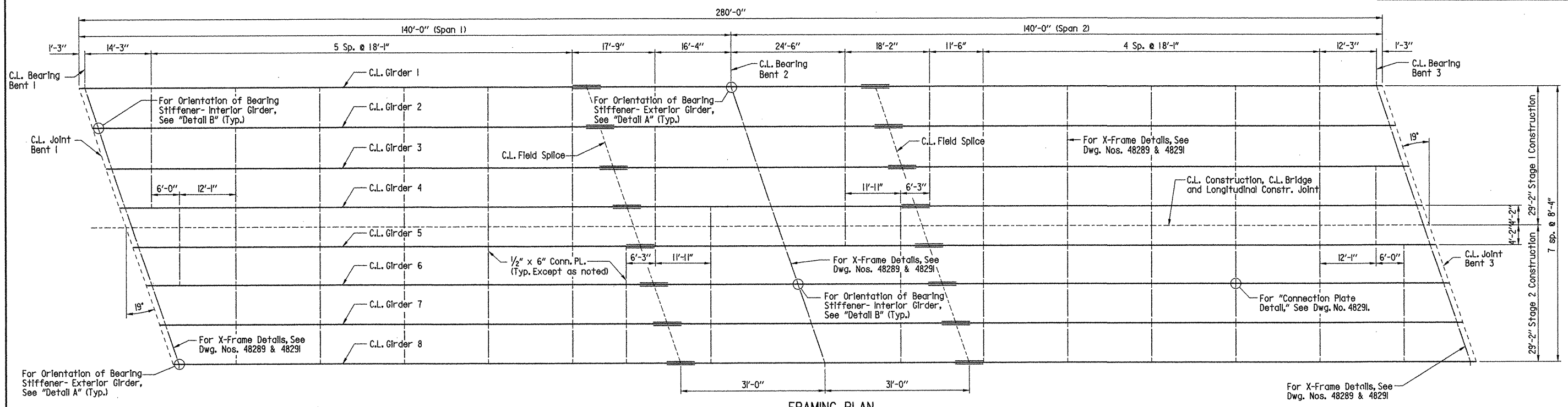
LITTLE ROCK, ARK.

DRAWN BY: JLB DATE: 09/08/05 FILENAME: b10131.sl.dgn
 CHECKED BY: DHP DATE: 12-12-05 SCALE: 3/8" = 1'-0" or
 DESIGNED BY: CRE DATE: 9-05 as noted
 BRIDGE NO. 07069 DRAWING NO. 48289

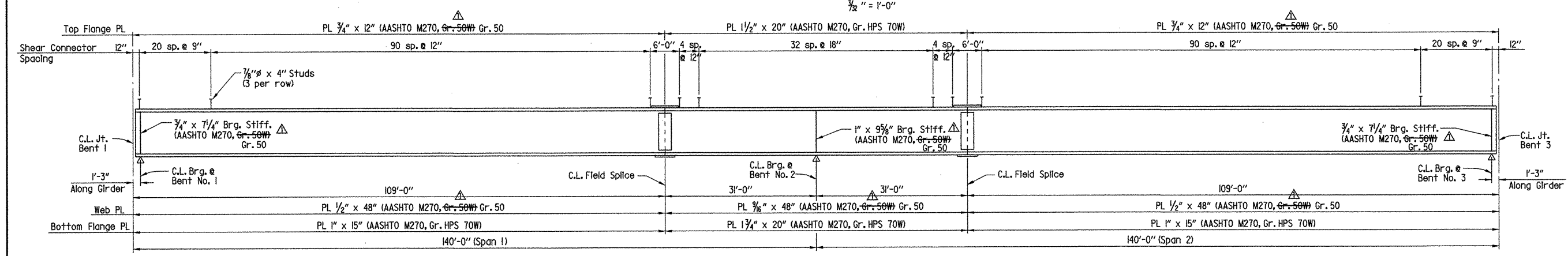
STATE OF
ARKANSAS
REGISTERED
PROFESSIONAL
ENGINEER
No. 4337
CHARLES P. BRAND

BRIDGE ENGINEER

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11/09/07				6	ARK.			
				JOB NO.		110131	71	133
				07069		280' UNIT		48290

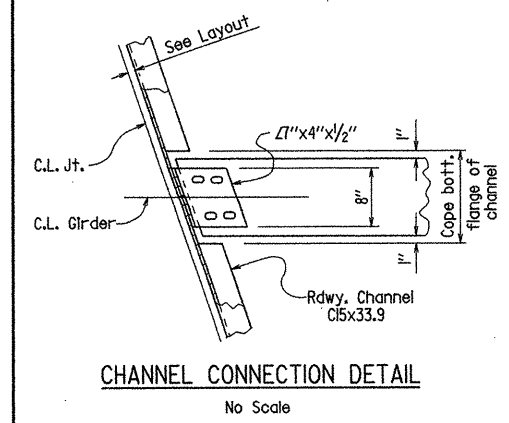


FRAMING PLAN

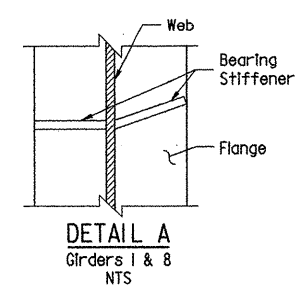


GIRDER ELEVATION
NTS

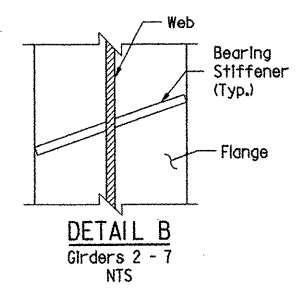
Note: Bolted Field Splices shown may be eliminated or shop welded splices may be substituted with approval of the Bridge Engineer. Payment will be made on the basis of the Plan Quantities.



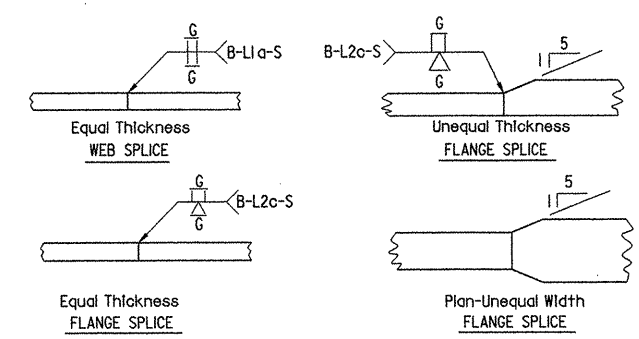
CHANNEL CONNECTION DETAIL



DETAIL A
Girders 1 & 8
NTS

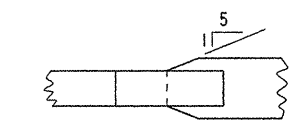


DETAIL B
Girders 2 - 7
NTS



DETAILS OF WELDED SPICES
NTS

FIELD SPICE AT UNEQUAL FLANGE WIDTHS



Change Structural Steel Gr. 50W to Gr. 50
11/09/07 MRE Ckd. by: DHP

SHEET 2 OF 6
DETAILS OF CONTINUOUS COMPOSITE
280' PLATE GIRDER UNIT

ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.
DRAWN BY: JLB DATE: 10/6/05
CHECKED BY: DHP DATE: 12/12/05
DESIGNED BY: CRE DATE: 9-05
BRIDGE NO. 07069 DRAWING NO. 48290



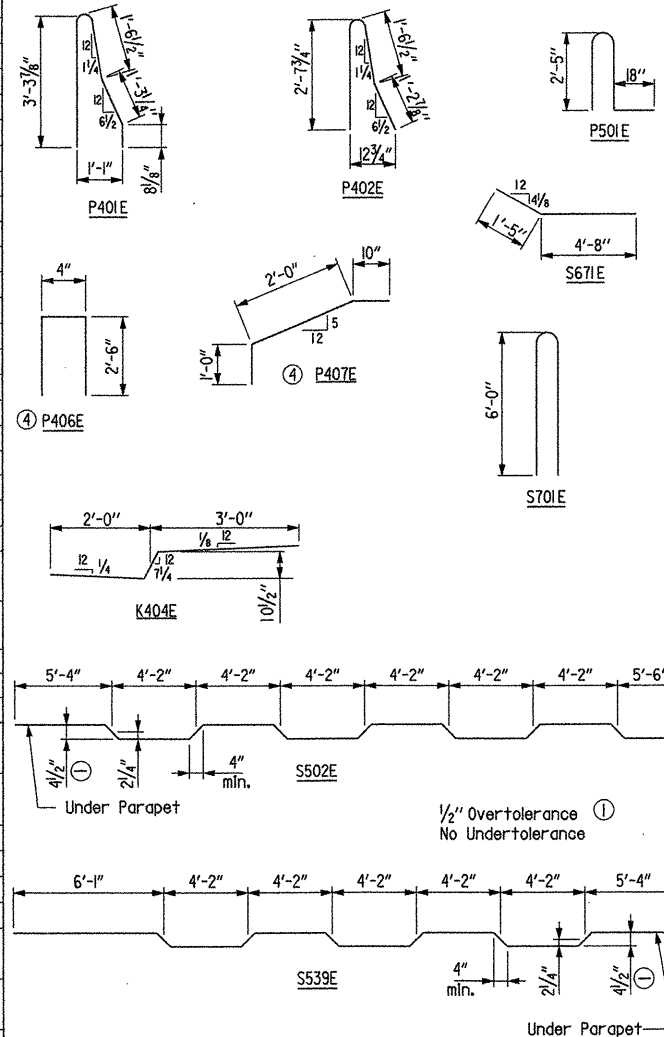
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11/09/07				6	ARK.		72	133
				JOB NO.		110131	72	133
						280' UNIT	48291	

BAR LIST

MARK	NO. REQ'D.	LENGTH	P.D.
K401E	112	37'-3"	Str.
K402E	222	5'-8"	Str.
K403E	222	7'-1"	Str.
K404E	222	5'-6"	2"
K405E	224	8"	Str.
K406E	4	5'-11"	Str.
K407E	4	7'-6"	Str.
P401E	480	6'-11"	3"
P402E	480	5'-6"	3"
P403E	48	37'-2"	Str.
P404E	136	13'-6"	Str.
P405E	24	38'-11"	Str.
P406E	12	5'-2"	2"
P407E	8	3'-10"	2"
P501E	960	6'-5"	3 3/4"
S401E	1376	37'-3"	Str.
S501E	206	35'-10"	Str.
S502E	207	36'-7"	3"
S503E	16	35'-10"	Str.
S504E-S520E	1 each	33'-5" to 4'-5"	Str.
S521E-S537E	1 each	33'-6" to 4'-5"	Str.
S538E	206	32'-3"	Str.
S539E	207	32'-11"	3"
S540E	17	32'-3"	Str.
S541E-S556E	1 each	29'-11" to 2'-8"	Str.
S557E-S572E	1 each	31'-7" to 4'-5"	Str.
S573E	224	53'-8"	Str.
S601E	206	36'-4"	Str.
S602E	16	36'-4"	Str.
S603E-S619E	1 each	33'-4" to 4'-4"	Str.
S620E-S636E	1 each	34'-1" to 5'-0"	Str.
S637E	206	32'-2"	Str.
S638E	17	32'-2"	Str.
S639E-S654E	1 each	29'-11" to 2'-8"	Str.
S655E-S670E	1 each	31'-6" to 4'-4"	Str.
S671E	6	6'-1"	4 1/2"
S701E	444	12'-5"	6 1/2"

BENDING DIAGRAMS

Dimensions are out to out of bars.



At the contractor's option, two straight #5 bars may be substituted for the bars S502E & S539E with the top and bottom bars epoxy coated. Payment for reinforcing will be based on the weight of S502E & S539E.

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

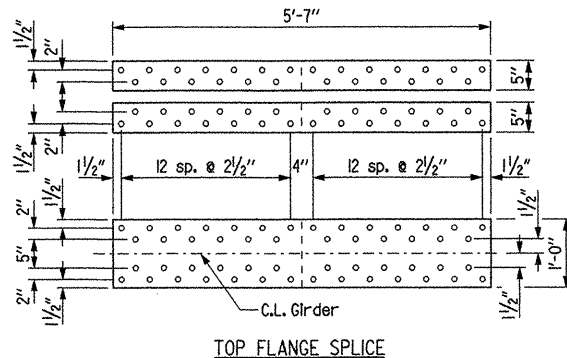
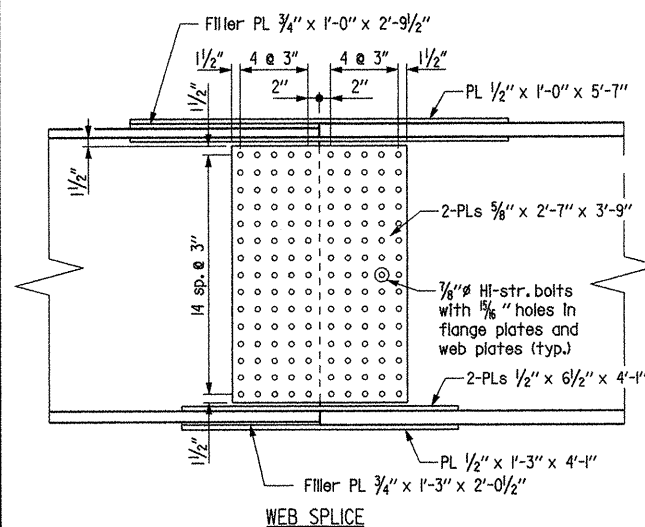
Change Structural Steel Gr. 50W to Gr. 50
11/09/07 MRE Ckd. by: DHP

SHEET 3 OF 6 DETAILS OF CONTINUOUS COMPOSITE 280' PLATE GIRDER UNIT

ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: JLB DATE: 09/08/05 FILENAME: b110131.s3.dgn
CHECKED BY: DHP DATE: 12/12/05 SCALE: 3/4" = 1'-0" or
DESIGNED BY: CRE DATE: 9-05 as noted
BRIDGE NO. 07069 DRAWING NO. 48291



DETAILS OF FIELD SPLICE

NOTE: All splice plates shall be AASHTO M270 Gr. 50W steel.

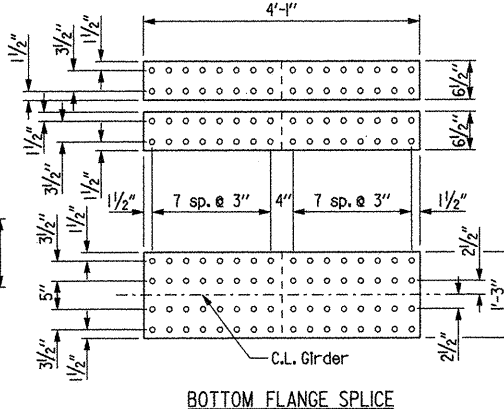
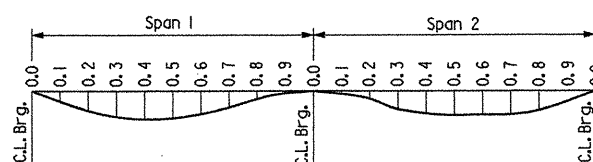


TABLE OF DEAD LOAD DEFLECTIONS-INCHES

Span	Point of Deflection	Structural Steel	Structural Steel+Slab	Str. Steel +Slab+Parapet
1	0	0	0	0
	0.1	0.379	1.959	2.226
	0.2	0.701	3.576	4.065
	0.3	0.919	4.613	5.248
	0.4	1.008	4.954	5.642
	0.5	0.965	4.607	5.254
	0.6	0.808	3.702	4.230
	0.7	0.579	2.493	2.854
	0.8	0.335	1.327	1.518
	0.9	0.125	0.413	0.469
2	0	0	0	0
	0.1	0.125	0.413	0.469
	0.2	0.335	1.327	1.518
	0.3	0.579	2.493	2.854
	0.4	0.808	3.702	4.230
	0.5	0.965	4.607	5.254
	0.6	1.008	4.954	5.642
	0.7	0.919	4.613	5.248
	0.8	0.701	3.576	4.065
	0.9	0.379	1.959	2.226
3	0	0	0	0
	0.1	0.379	1.959	2.226
	0.2	0.701	3.576	4.065
	0.3	0.919	4.613	5.248
	0.4	1.008	4.954	5.642
	0.5	0.965	4.607	5.254
	0.6	0.808	3.702	4.230
	0.7	0.579	2.493	2.854
	0.8	0.335	1.327	1.518
	0.9	0.125	0.413	0.469



DEAD LOAD DEFLECTION DIAGRAM

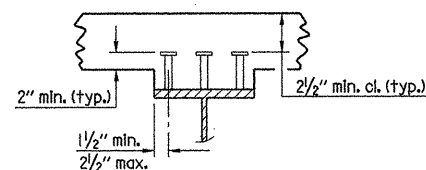
No Scale

Note: Camber for Dead Load Deflection plus Vertical curve $\pm 1/4$ " tolerance. Deflections shown are along C.L. Girder from a chord from C.L. Bearing to C.L. Bearing. Vertical curve corrections not included.

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"	

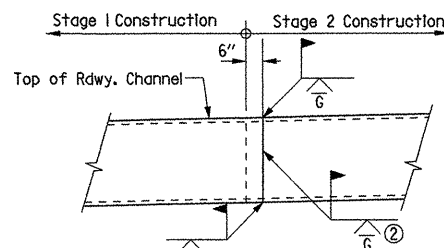
NOTE: When a fillet weld size, as shown on the plans, is larger than the minimum, the first pass shall be that specified for minimum size of fillet weld.



Stud Shear Connectors shown shall be 7/8" 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" studs may be used in place of the 7/8" studs shown, at the ratio of 1.361-3/4" studs in place of one 7/8" stud. 7/8" studs will be used as basis for measurement of structural steel in shear connectors. Maximum stud spacing = 24".

SHEAR CONNECTOR DETAIL

NTS

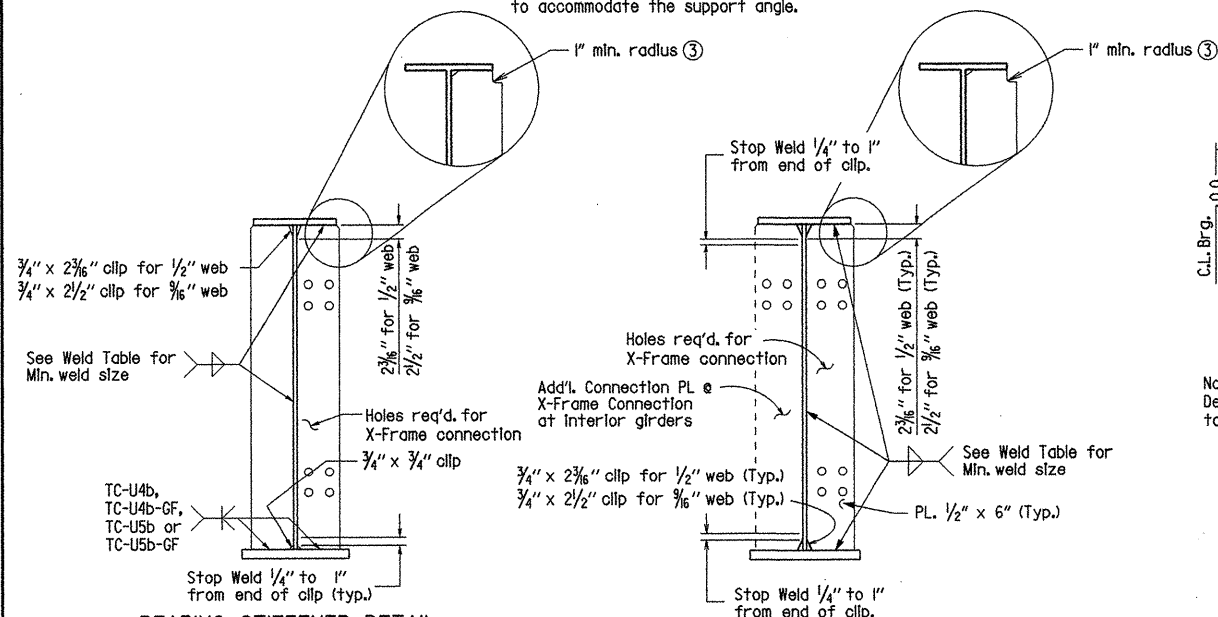


② Grind flush 3" from top of Rdwy. Channel.

DETAIL OF WELD LOCATION FOR EXPANSION DEVICE

Looking Ahead
No Scale

③ If permanent deck forms are used, the fabricator shall clip the plate as necessary to accommodate the support angle.



BEARING STIFFENER DETAIL

NTS

Note: Bearing stiffeners to be fabricated so as to be vertical in their final position.

Note: Bolts in X-Frame connections shall be properly installed and tightened in accordance with subsection 807.71 except as noted.

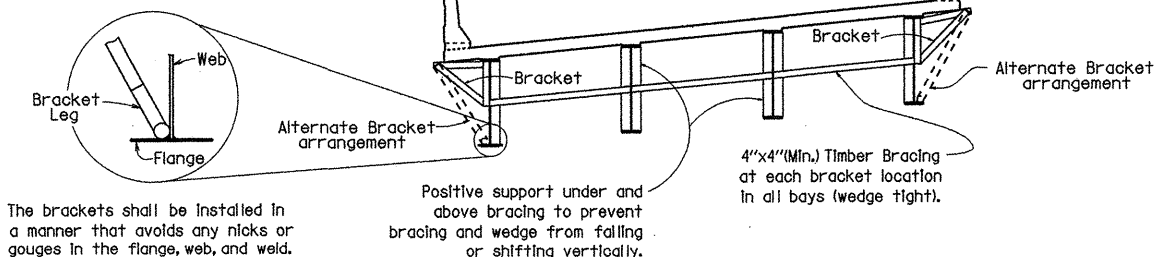
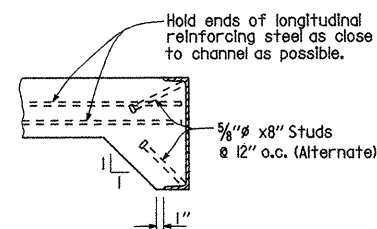
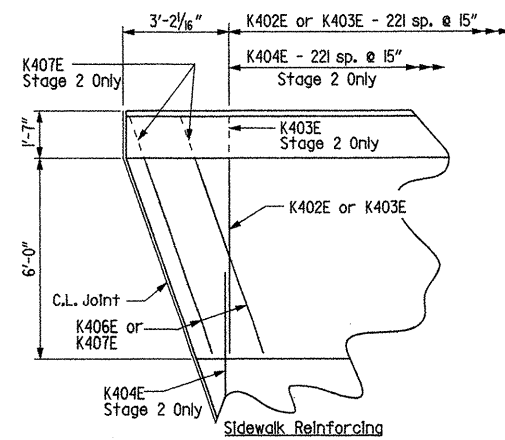
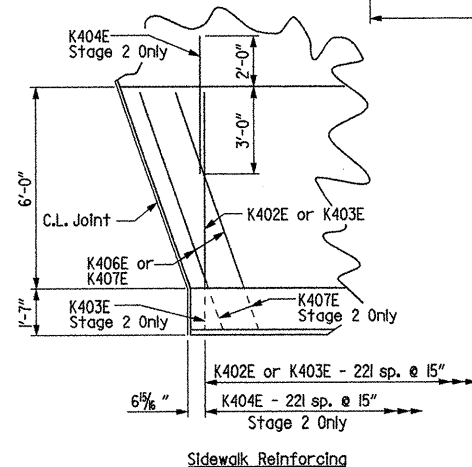
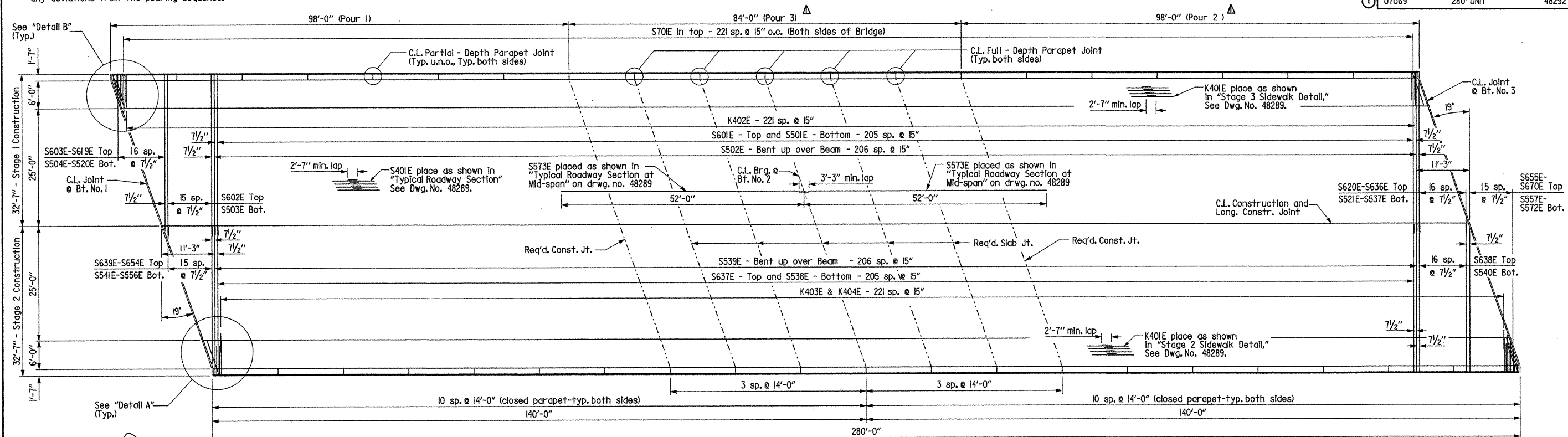
CONNECTION PLATE DETAIL

NTS

▲ Note: Pour (1) must be placed before Pour (2) can be placed. 48 hours shall elapse between the end of pour (1) and the start of pour (2) and Pour (1) shall achieve a minimum compressive strength of 2750 psi. 72 hours shall elapse between the end of a pour (2) and the start of pour (3). Any railing pours made before the entire slab unit has been placed must be approved by the Engineer. The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence.

Note: For "Slab Joint Detail" and "Longitudinal Construction Joint Detail," See Dwg. No. 48294.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11/09/07				6	ARK.			
				JOB NO.		110131	73	133
				07069		280' UNIT		48292



Note: The rail for the transverse screed shall be supported directly over the exterior girders, or as an alternate, the rail may be supported by the overhang brackets if the above strutting system is used. The strutting system may be omitted if 1/2" x 6" web stiffeners are welded to the insides of the exterior girders at the location of each bracket or if the alternate bracket arrangement shown above is used. The stiffener shall conform to the details for intermediate connection plates shown on Drawing No. 48291. No direct payment will be made for brackets, timber bracing, supports, or welded stiffeners. Payment shall be subsidiary to "Structural Steel in Plate Girder Spans (M270, Gr. 50)." ▲

SCREED RAIL SUPPORT

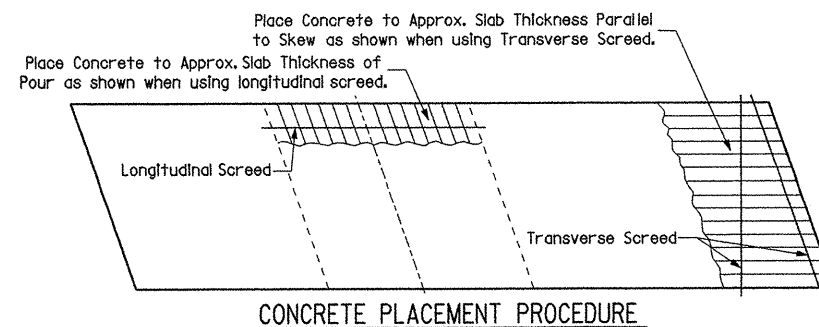
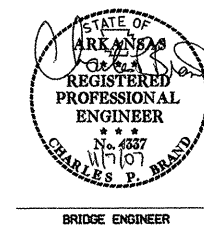
No Scale

▲ Changed structural steel grade Gr. 50W to Gr. 50. Replaced pour note and changed pour numbers 11/09/07 CSL Ckd. By DHP

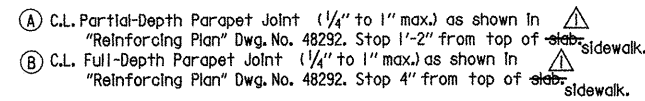
SHEET 4 OF 6 DETAILS OF CONTINUOUS COMPOSITE 280' PLATE GIRDER UNIT

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

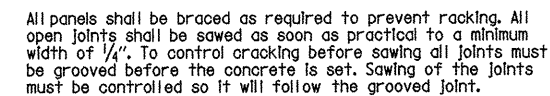
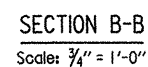
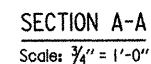
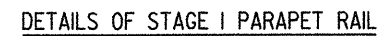
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CHECKED BY: DHP DATE: 12/12/05 SCALE: 3/8" = 1'-0" or
DESIGNED BY: CRE DATE: 9-05 as noted
BRIDGE NO. 07069 DRAWING NO. 48292



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

[illegible]

© Details not shown are similar to details of 14'-0" Rail shown.



No Scale

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.

△ Change "slab" to "sidewalk" 11/09/07 MRE Ckd. by: DHP

ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: DDD DATE: 11-22-05 FILENAME: bl10131.s5.dgn
CHECKED BY: DHP DATE: 12/12/05 SCALE: As Shown
DESIGNED BY: CRE DATE: 9-05

BRIDGE NO. 07069 DRAWING NO. 48293

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, (2003 edition), with applicable supplemental specifications and special provisions.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications (2004 edition with 2005 Interims).

LIVE LOADING: HL-93

MATERIALS AND STRENGTHS:

Concrete: All concrete shall be Class S(AE) with a minimum 28 day strength $f'_c = 4000$ psi.

Reinforcing Steel: Reinforcing steel shall conform to AASHTO M31 or M53, Grade 60 (Yield Strength = 60,000 psi.)

Structural Steel: Structural steel shall conform to AASHTO M270, Gr. 50W (Fy = 50,000 psi.), AASHTO M270, Gr. HPS 70W (Fy = 70,000 psi.), or AASHTO M270 Gr. 36 (Fy = 36,000 psi.)

STRUCTURAL STEEL: Gr. 50
Flange plates noted on Girder Elevation as AASHTO M270, Gr. HPS 70W shall be paid for as "Structural Steel In Plate Girder Spans (M270, Gr. HPS 70W)." All other structural steel shall be AASHTO M270, Gr. 50W, unless otherwise noted and shall be paid for as "Structural Steel In Plate Girder Spans (M270, Gr. 50W)." Structural Steel completely embedded in concrete may be AASHTO M270, Gr. 36. All exposed surfaces shall be cleaned in accordance with subsection 807.04(e) unless noted otherwise. Gr. 50

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

Longitudinal girders and all field splice plates are considered main load carrying members and shall meet the Longitudinal Charpy V-Notch Test Specified in subsection 807.05. This work and material will not be paid for directly but will be considered subsidiary to the item "Structural Steel In Plate Girder Spans (M270, Gr. 50W)" or "Structural Steel In Plate Girder Spans (M270, Gr. HPS 70W)." Gr. 50

Steel 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.

Drawings show general features of design only. Shop drawings shall be made in accordance with subsection 807.04, submitted and approval secured before fabrication is begun. 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. Material specifications and location of shop-welded splices, if any, shall be shown on the shop drawings. No additional payment for welds for these splices will be made.

All girders shall be blocked in their true position in the shop in groups of a minimum of three sections. Girders shall be blocked with the webs horizontal and in accordance to subsection 807.54(b)(2). The camber, length of sections, distance between bearings and openings of joints shall be measured with the girder in their true position. This information shall become 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 $\frac{1}{4}$ " +/- is allowed for camber.

Field connections shall be bolted with high-strength bolts. Bolts shall be $\frac{3}{4}$ " diameter, except as noted, and open holes shall be $\frac{1}{8}$ ", unless noted otherwise. Holes for $\frac{3}{4}$ " diameter bolts may be $\frac{1}{8}$ " diameter if a washer is supplied for use under both the nut and head of the bolt. Bolt spacing shall be $2\frac{1}{2}$ " for $\frac{3}{4}$ " diameter bolts unless otherwise noted. For field splices, bolts shall be $\frac{1}{2}$ " diameter bolts unless otherwise noted. Open holes shall be $\frac{1}{8}$ ", unless noted otherwise. Bolt spacing shall be 3" for $\frac{1}{2}$ " diameter bolts unless otherwise noted. Bolts shall be placed with heads on the outside face of the exterior girder web and on the bottom of the girder flanges.

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 Engineer for approval. All welding shall conform to subsection 807.26 and Special Provision Job 110131 "Steel Structures."

Groove welds in main plate girder members shall be Quality Control (Q.C.) tested by nondestructive testing, as required by the Standard Specifications. Fillet welds 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.

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 subsection 807.66. This work and material will not be paid for directly but will be considered subsidiary to the item "Structural Steel In Plate Girder Spans (M270, Gr. 50W)." Gr. 50

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, except as noted, prior to pouring of the concrete deck.

REINFORCING STEEL:

All reinforcing steel shall conform to AASHTO M31 or M53, Grade 60. The reinforcing steel shall 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 "Epoxy Coated Reinforcing Steel (Grade 60)".

CONCRETE:

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 $\frac{3}{4}$ " 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.

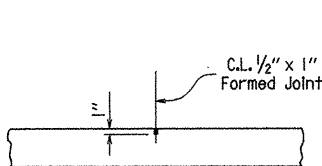
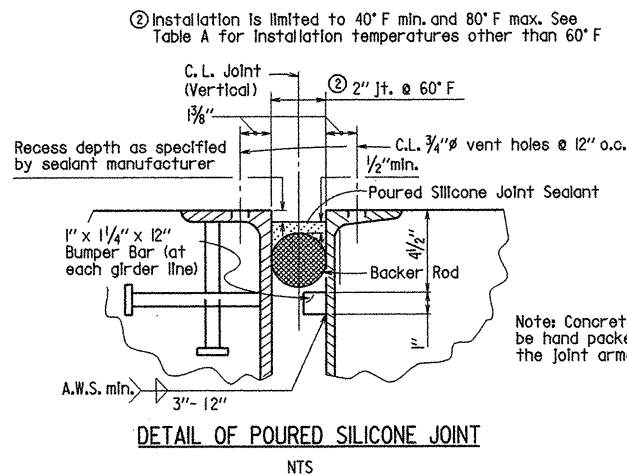
The concrete deck shall be given a Tine Finish in accordance with subsection 802.19 for Class 5, Tined Bridge Roadway Surface Finish. The sidewalk shall receive a Broomed Finish as specified for final finishing in subsection 802.19 for Class 6, Broomed Finish. Movement of the finishing machine across 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 due to the sidewalk and parapet railing.

For Stage 1 Construction, a minimum of 72 hours shall elapse between completion of the bridge deck slab and the pouring of the parapet railing. For Stage 2 Construction, a minimum of 72 hours shall elapse between completion of the bridge deck slab and the pouring of the sidewalk and a minimum of 72 hours shall elapse between completion of the sidewalk 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 Engineer.

LOAD DISTRIBUTION: DEAD LOAD

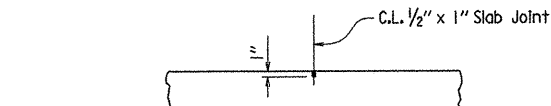
	INTERIOR BEAM	EXTERIOR BEAM
To Beam:	833 plf + wt. of beam + wt. of diaphragm	758 plf + wt. of beam + wt. of diaphragm
To Composite Beam:	① 424 plf	① 424 plf

① Includes 150 plf future wearing surface and 175 plf sidewalk load.



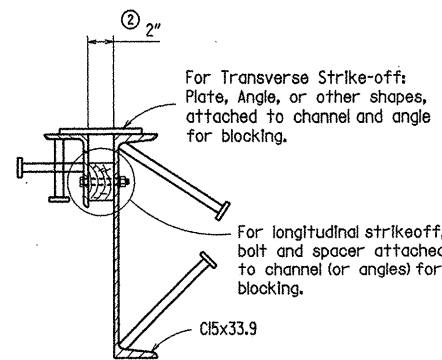
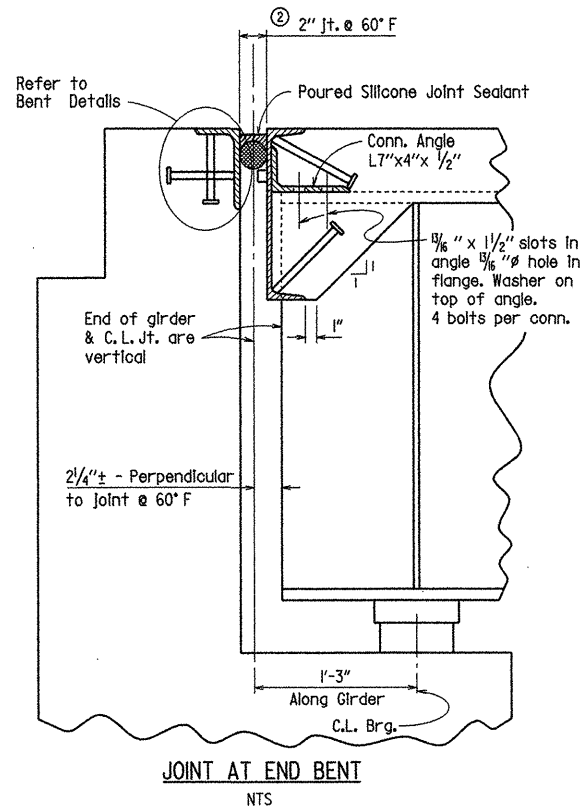
LONGITUDINAL CONSTRUCTION JOINT DETAIL

No Scale



SLAB JOINT DETAIL

No Scale



Note: Each expansion joint device shall be blocked in the Shop by the Fabricator to 2", 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 NTS

TABLE A

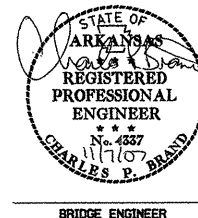
② Width perpendicular to joint at 24 hour average temperature of:		
40° F	60° F	80° F
2 3/8"	2"	1 9/16"

EXPANSION DEVICE INSTALLATION

The Contractor may elect to install the expansion device using one of the following two alternatives:

- The concrete span pour adjacent to joint shall be placed before the end bent backwall is placed. After the end bent backwall forms are in place and the girders erected, the blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior to placing the deck concrete adjacent to the bent. Immediately prior to pouring the backwall concrete, the blocking shall be removed, the opening adjusted for temperature, and the backwall constructed.
- The backwall shall be poured to the optional construction joint after girders are erected. The blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior to placing the deck concrete adjacent to the bent. Immediately prior to pouring the remainder of the backwall concrete, the blocking shall be removed and the opening adjusted for temperature.

△ Change Structural Steel Gr. 50W to Gr. 50 and change subsection 807.84(e) to 807.84 11/09/07 MRE Ckd. by: DHP

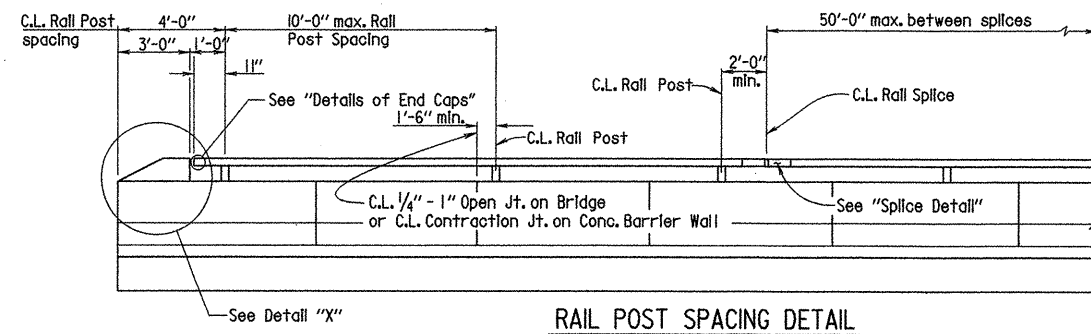


SHEET 6 OF 6 DETAILS OF CONTINUOUS COMPOSITE 280' PLATE GIRDER UNIT

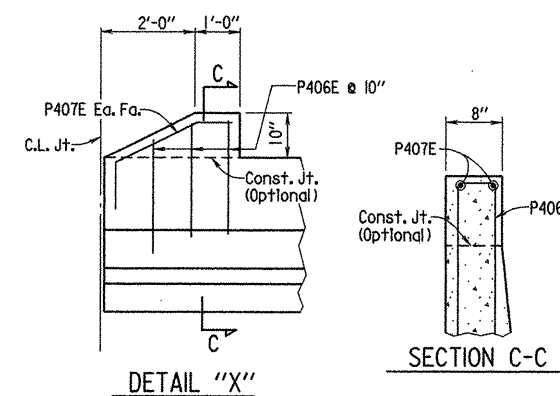
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CRE DATE: 11-22-05 FILENAME: b10131.s6.dgn
CHECKED BY: DHP DATE: 12/12/05 SCALE: No Scale
DESIGNED BY: CRE DATE: 7-05
BRIDGE NO. 07069 DRAWING NO. 48294

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.		110131	76	133
① 07069 - SUPERSTRUCTURE DETAILS - 48295								



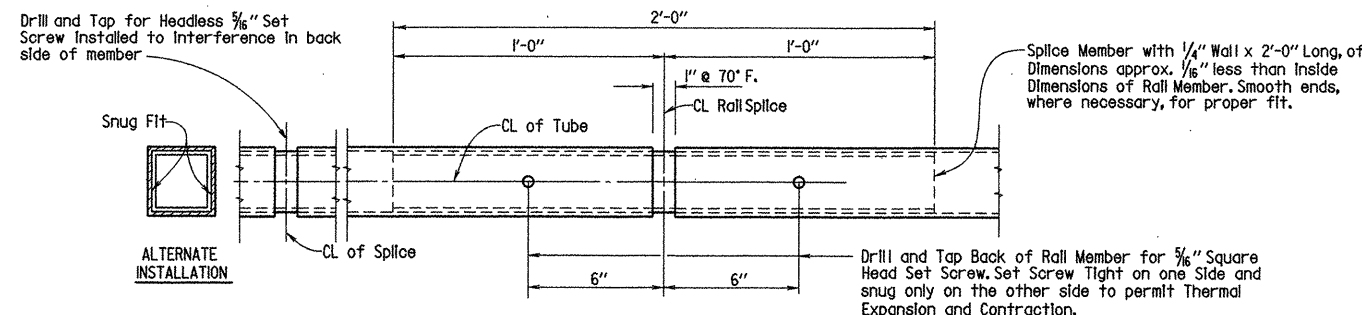
RAIL POST SPACING DETAIL



DETAIL "X"

SECTION C-C

Note: For reinforcing and rail details see Dwg. Nos. 48291 and 48293.



SPLICE DETAIL

NOTES FOR BRIDGE RAILING:

Rail layout shall conform to vertical and horizontal alignment of bridge.

Maximum post spacing = 10'-0"

Minimum distance from centerline post to centerline open or contraction joints in parapet = 1'-6".

Rail splices shall be at 50' maximum spacing. Centerline splices shall be located at a maximum of 2 feet from centerline of post. Rail sections shall be fabricated to attach to at least three posts.

Base plates shall not be placed upon areas that are improperly finished, deformed or irregular.

Bridge railing, including posts, fasteners, template plates, and neoprene pad shall be paid for at the contract unit price bid per linear foot for "Metal Bridge Railing (Type H)".

Shop drawings showing details of railing shall be submitted and approval secured before fabrication is begun.

MATERIALS:

Tubing, Posts, and Accessories: AASHTO M270, Gr. 36 or ASTM A500-Grade B.

Railing End Caps: AASHTO M270, Grade 36, galvanized.

Steel Rail Members shall be galvanized in accordance with AASHTO M 111 after fabrication.

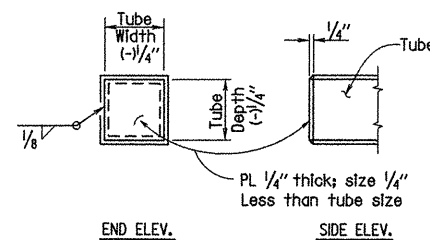
Cast in place anchor bolts shall be of stainless steel or high strength steel. Stainless steel anchor bolts shall conform to ASTM A193 or A320-Grade B8 with a minimum yield strength of 80,000 psi. High strength steel anchor bolts shall conform to AASHTO M164 or A354-Grade BC galvanized in accordance with AASHTO M232 or M298, Class 40 or 50.

Splice Set Screws: Stainless steel, ASTM Specifications A193 or A320-Grade B8, or AASHTO M270, Grade 36, galvanized.

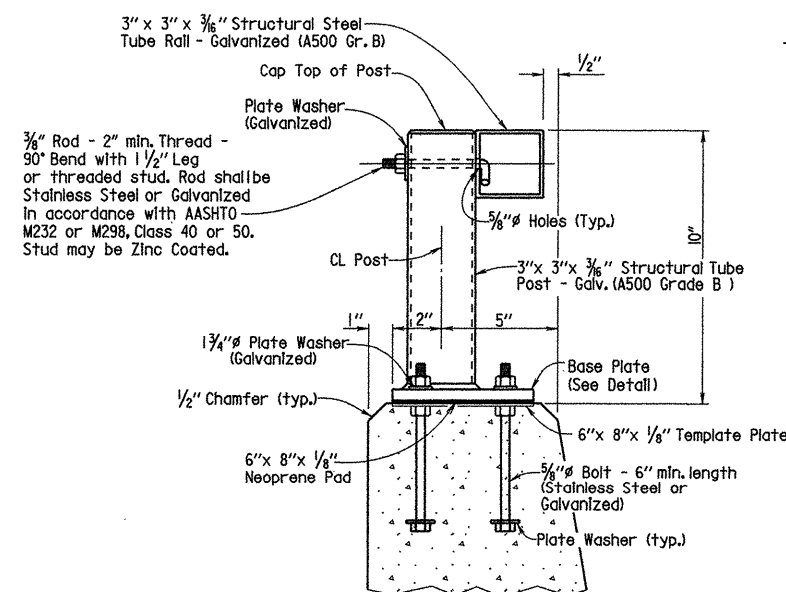
Nuts: Nuts shall conform to AASHTO M292, Gr. 8 (Stainless steel) or galvanized in accordance with AASHTO M232 or M298, Class 40 or 50.

Threads: Threads on bolts, screws, and nuts shall conform to American Standard Coarse Series, Class 2 FIT, ASA Specification B11.

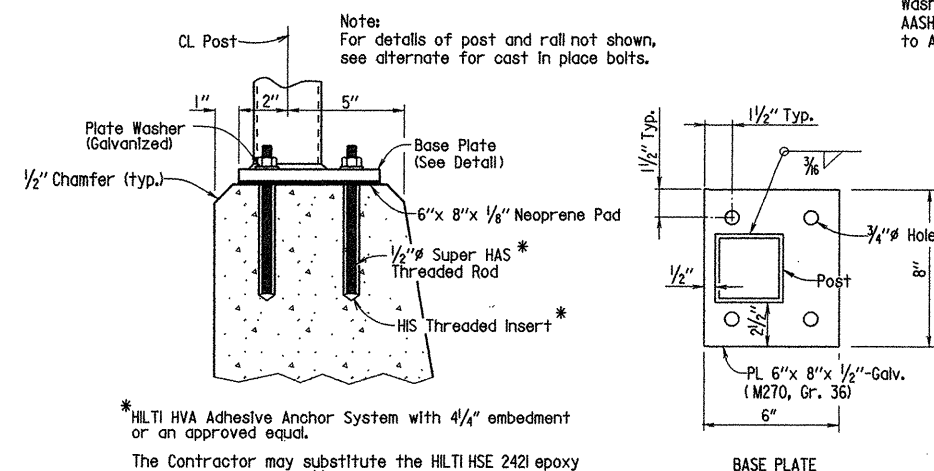
Washers shall conform to AASHTO M293, galvanized in accordance with AASHTO M232 or M298, Class 40 or 50, or of stainless steel conforming to ASTM A276 or A167-Type 302.



DETAILS OF END CAPS



DETAILS OF TYPE H RAIL
(CAST IN PLACE BOLTS)



DETAILS OF TYPE H RAIL
(ALTERNATE POST ANCHOR SYSTEM)



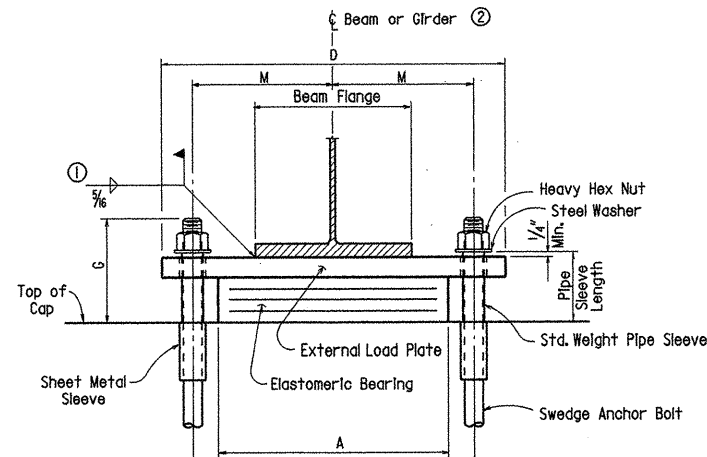
BRIDGE ENGINEER

DETAILS OF TYPE H RAIL

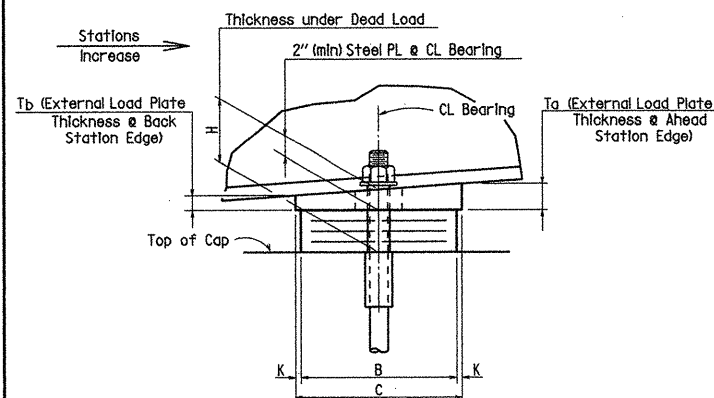
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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CHECKED BY: DHP DATE: 12/12/05 SCALE: No Scale
DESIGNED BY: STD DATE:
BRIDGE NO. 07069 DRAWING NO. 48295

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11/09/07				6	ARK.			
				JOB NO.		110131	77	133
						07069 ELASTO. BRGS.	48296	



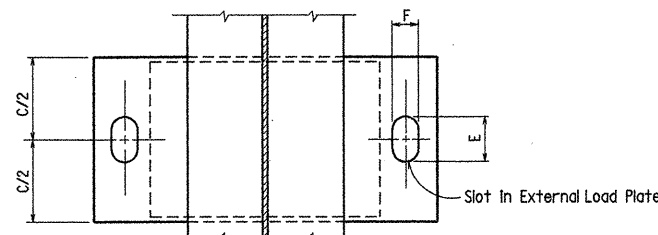
FRONT VIEW - AT BENT NOS. 1 & 3



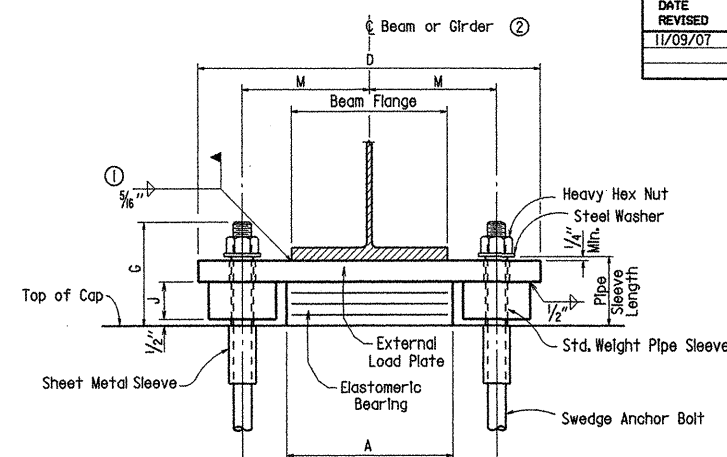
SIDE VIEW - AT BENT NOS. 1 & 3

- 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.
- ② Centerline Beam or Girder shall align with centerline bearing.

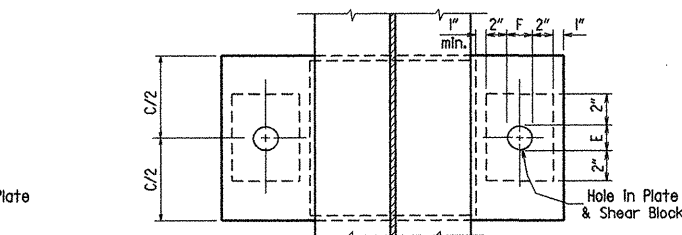
Unless otherwise approved by the Engineer, welding of the external load plate at expansion bearings to the girder will be allowed only when: 1) the approximate average air temperature during the 24 hour period immediately preceding welding is between 40° F and 80° F; and 2) the slots in the external 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.



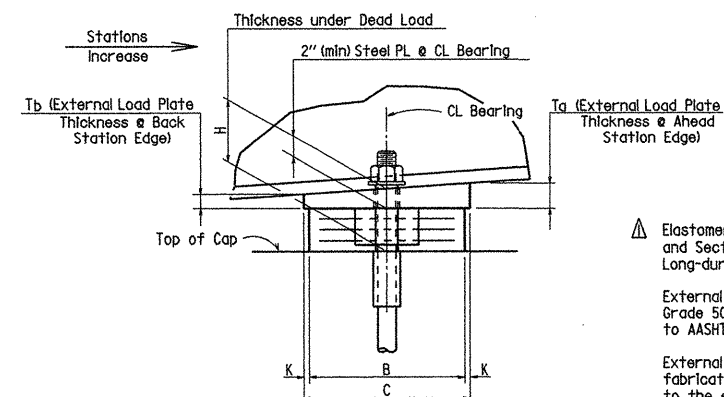
PLAN VIEW - AT BENT NOS. 1 & 3



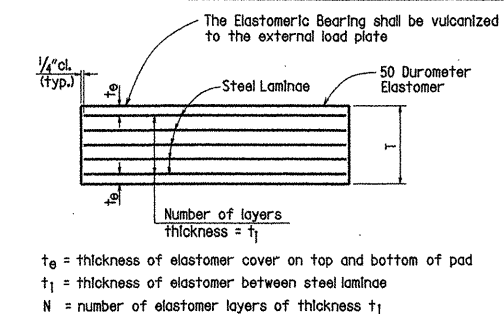
FRONT VIEW - AT BENT NO. 2



PLAN VIEW - AT BENT NO. 2

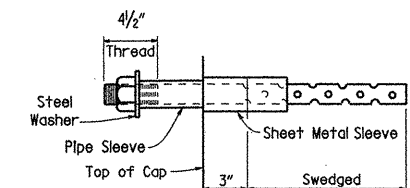


SIDE VIEW - AT BENT NO. 2



t_e = thickness of elastomer cover on top and bottom of pad
 t_1 = thickness of elastomer between steel laminae
 N = number of elastomer layers of thickness t_1

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 QPL 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. 50).".

GENERAL NOTES

▲ Elastomeric Bearings shall conform to Special Provision Job 110131 "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 shear blocks shall conform to AASHTO M 270, Grade 50. 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 external load plates with shear blocks 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 subsection 808.03. Other surfaces shall be blast cleaned in accordance with subsection 807.84(b) and painted according to subsection 807.75. Painting will not be paid for directly but will be considered subsidiary to "Elastomeric Bearings".

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 Plate Girder Spans (M270, Gr. 50)". External load plates and shear blocks will not be measured or paid for separately but will be considered included in the unit bid price for "Elastomeric Bearings".

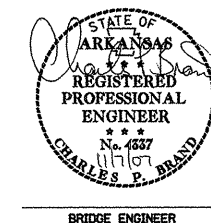
▲ Replaced General Notes for Painted Structural Steel
11/09/07 JWD Ckd. By DHP

Tabular Data by : CRE Date: 10/20/05
Checked by : DHP Date: 12/12/05
Designed by : CRE Date: 10/05

TABLE OF FABRICATOR VARIABLES

BRIDGE NO.		LOCATION			BEARING TYPE	NO. of BEARINGS EACH BENT	*MAXIMUM DESIGN LOAD (KIPS)	G	H	ELASTOMERIC PAD							EXTERNAL LOAD PLATE										ANCHOR BOLT				
		BENT NO(S)	UNIT	GIRD. NO.						A	B	N	t ₁	t _e	NO. & THICKNESS OF STEEL LAMINAE	T	C	D	E	F	J	K	M	T _a	T _b	ANCHOR BOLT		PIPE SLEEVE SIZE (ø x L)	SHEET METAL SLEEVE SIZE (ø x L)	STEEL WASHER SIZE (ø)	
																										(ø x L)	GRADE				
07069	1	280'	All	Exp.	8	170	11"	6 3/4"	20"	12"	7	1/2"	1/4"	8 @ 12 Ga.	4 9/16"	13"	33"	3 3/4"	6"	--	1/2"	13"	2.13"	1.87"	2 3/4"ø x 41"	55	3"ø x 7"	5"ø x 8"	5"		
	2	280'	All	Fix.	8	482	12 1/4"	8 1/2"	24"	18.5"	10	1/2"	1/4"	11 @ 12 Ga.	6 5/8"	19 1/2"	44"	3 3/4"	3 3/4"	6"	1/2"	17"	2.00"	2.00"	2 1/2"ø x 40"	55	3"ø x 8 3/4"	4"ø x 8"	4 1/2"		
	3	280'	All	Exp.	8	170	11"	6 3/4"	20"	12"	7	1/2"	1/4"	8 @ 12 Ga.	4 9/16"	13"	33"	3 3/4"	6"	--	1/2"	13"	1.87"	2.13"	2 3/4"ø x 41"	55	3"ø x 7"	5"ø x 8"	5"		

* Maximum Design Load = Service I Limit State

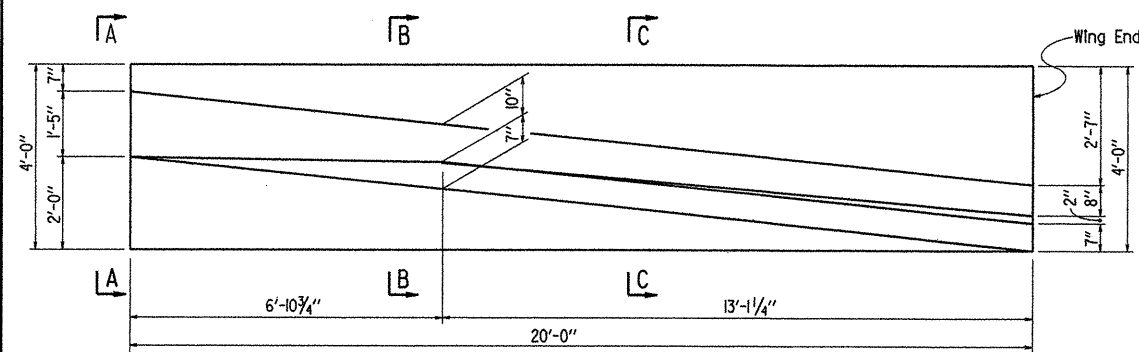


DETAILS OF ELASTOMERIC BEARINGS

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

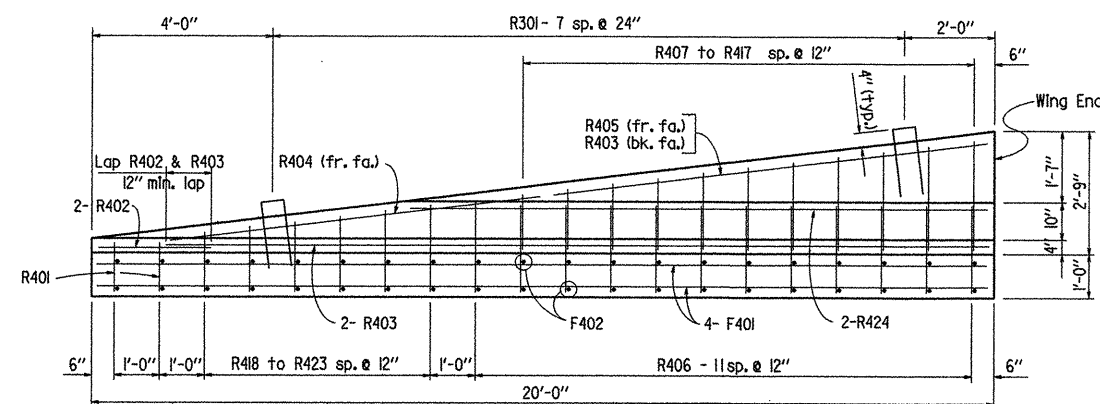
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CHECKED BY: CSL DATE: 2-11-05 SCALE: No Scale
DESIGNED BY: Std. DATE: BRIDGE NO. 07069 DRAWING NO. 48296

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		110131	78	123
				07069	TRANS. RAIL		48297	

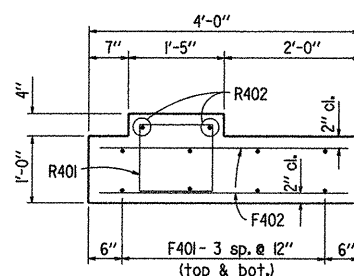


PLAN OF TRANSITIONAL APPROACH RAILING

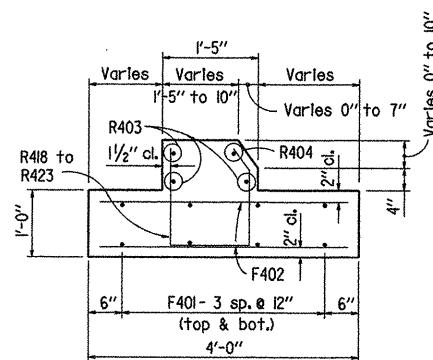
NOTE: RAILINGS ON EACH SIDE OF ROADWAY ARE OPPOSITE HAND TO EACH OTHER.



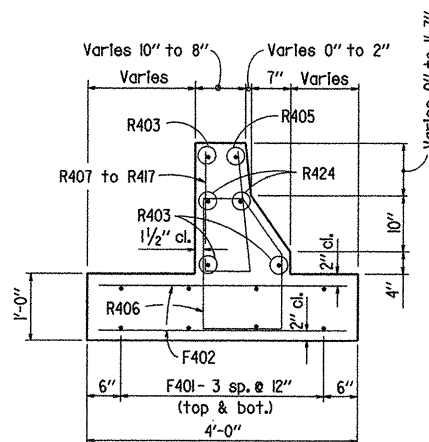
ELEVATION OF TRANSITIONAL APPROACH RAILING



VIEW A - A
3/4\" = 1'-0"



SECTION B - B
3/4\" = 1'-0"



SECTION C - C
3/4\" = 1'-0"

General Notes

Transitional Approach Railing shall be placed at ends of turnback wings at locations shown on the layout.

All Concrete shall be Class "S" and be poured in the dry. All exposed corners to be chamfered 3/4" unless otherwise noted.

All Reinforcing Steel shall conform to AASHTO M31 or M53, Grade 60. Reinforcing steel designated as galvanized shall be galvanized in accordance with ASTM A767. Use coating Class I with galvanization after fabrication.

Class 3 Textured Coating Finish shall be applied to the inside, and outside Face, and top of Rail. This work and material will not be paid for directly, but shall be considered subsidiary to the item for "Transitional Approach Railing".

Transitional Approach Railing shall be paid for at the contract unit price bid per each for "Transitional Approach Railing." See SP Job No. 110131 "Transitional Approach Railing."

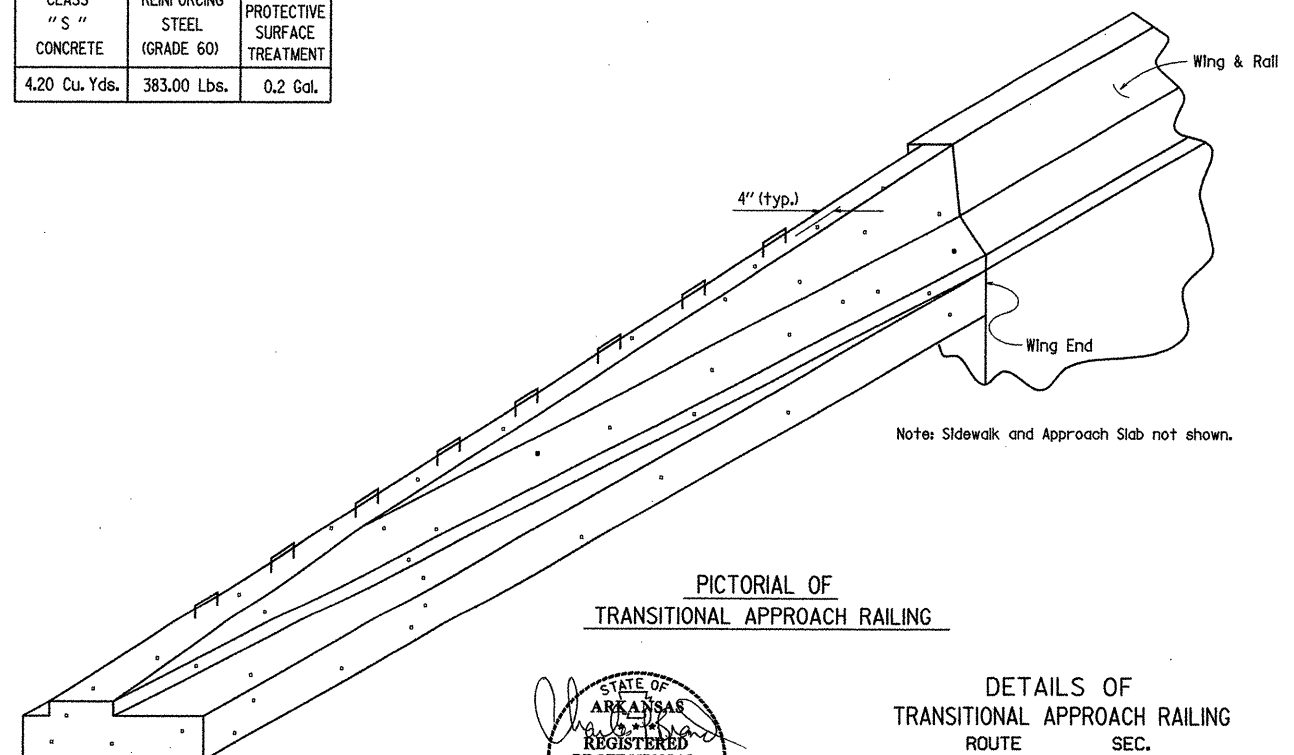
FOR INFORMATION ONLY
SCHEDULE OF QUANTITIES PER RAIL UNIT

CLASS "S" CONCRETE	REINFORCING STEEL (GRADE 60)	CLASS I PROTECTIVE SURFACE TREATMENT
4.20 Cu. Yds.	383.00 Lbs.	0.2 Gd.

BAR LIST - ONE TRANSITIONAL RAIL

Mark	No. Req'd.	Length	A	B	Pin Dia.	Bending Diagram
F401	8	19'-8"			str.	
F402	40	3'-8"			str.	
* R301	8	3'-5"	6"	1'-6"	1 1/2"	
R401	2	4'-10"	1'-2"	1'-1"	2"	
R402	2	3'-0"			str.	
R403	3	17'-9"			str.	
R404	1	5'-0"			str.	
R405	1	12'-9"			str.	
R406	12	6'-3"			2"	
R407 to R417	1 ea.	3'-0" to 5'-5"	1'-3" to 2'-5 1/2"	1'-3" to 2'-5 1/2"	2"	
R418 to R423	1 ea.	3'-9" to 5'-1"	1'-4" to 1'-11 1/4"	1'-1 1/2"	2"	
R424	2	10'-9"			str.	

* R301 reinforcing steel shall be galvanized.



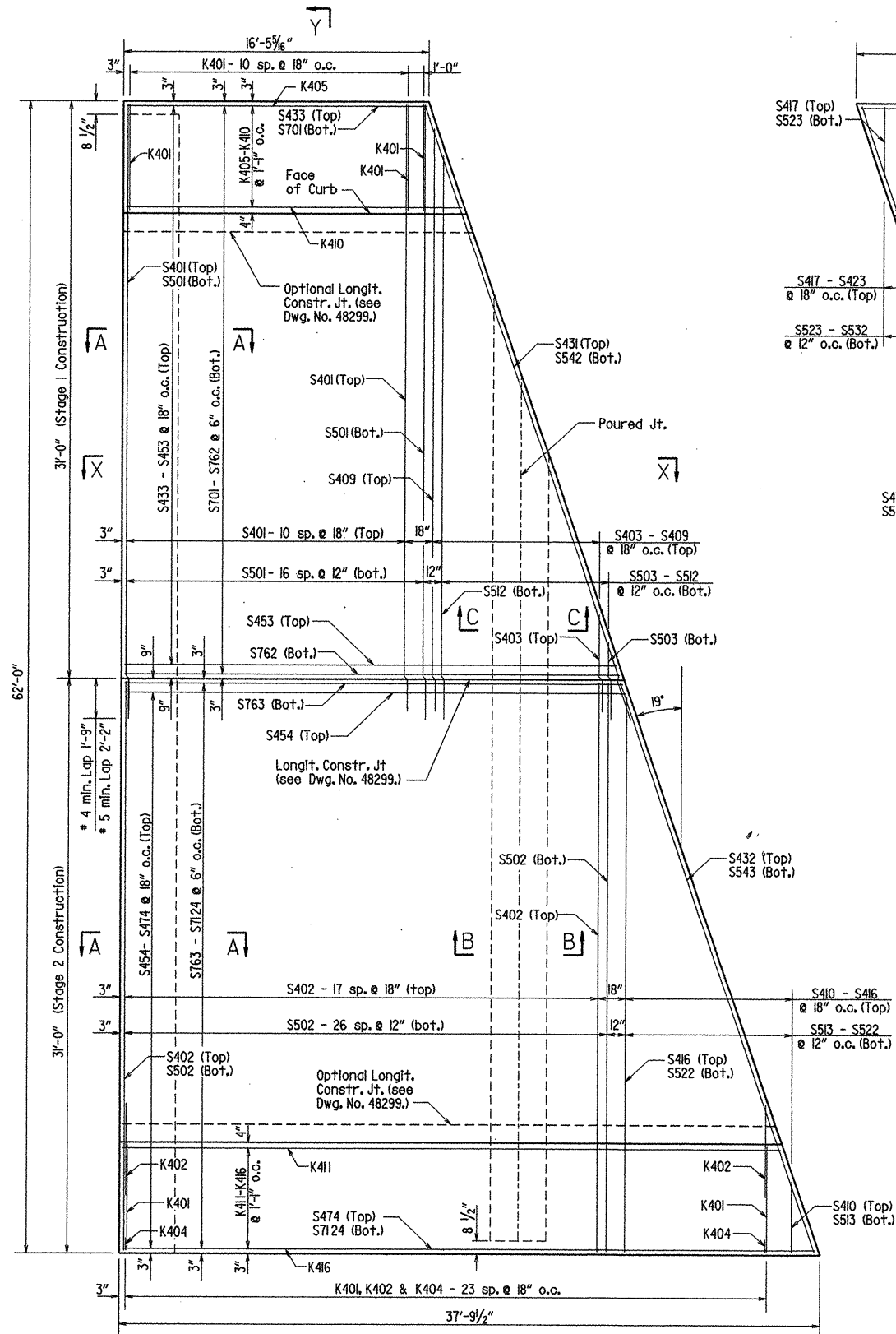
PICTORIAL OF
TRANSITIONAL APPROACH RAILING

DETAILS OF
TRANSITIONAL APPROACH RAILING
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CSL DATE: 11/21/2005 FILENAME: b110131.tr.dgn
CHECKED BY: DHP DATE: 12/12/05 SCALE: 1/2" = 1'-0" or as noted
DESIGNED BY: Std. DATE:
BRIDGE NO. 07069 DRAWING NO. 48297

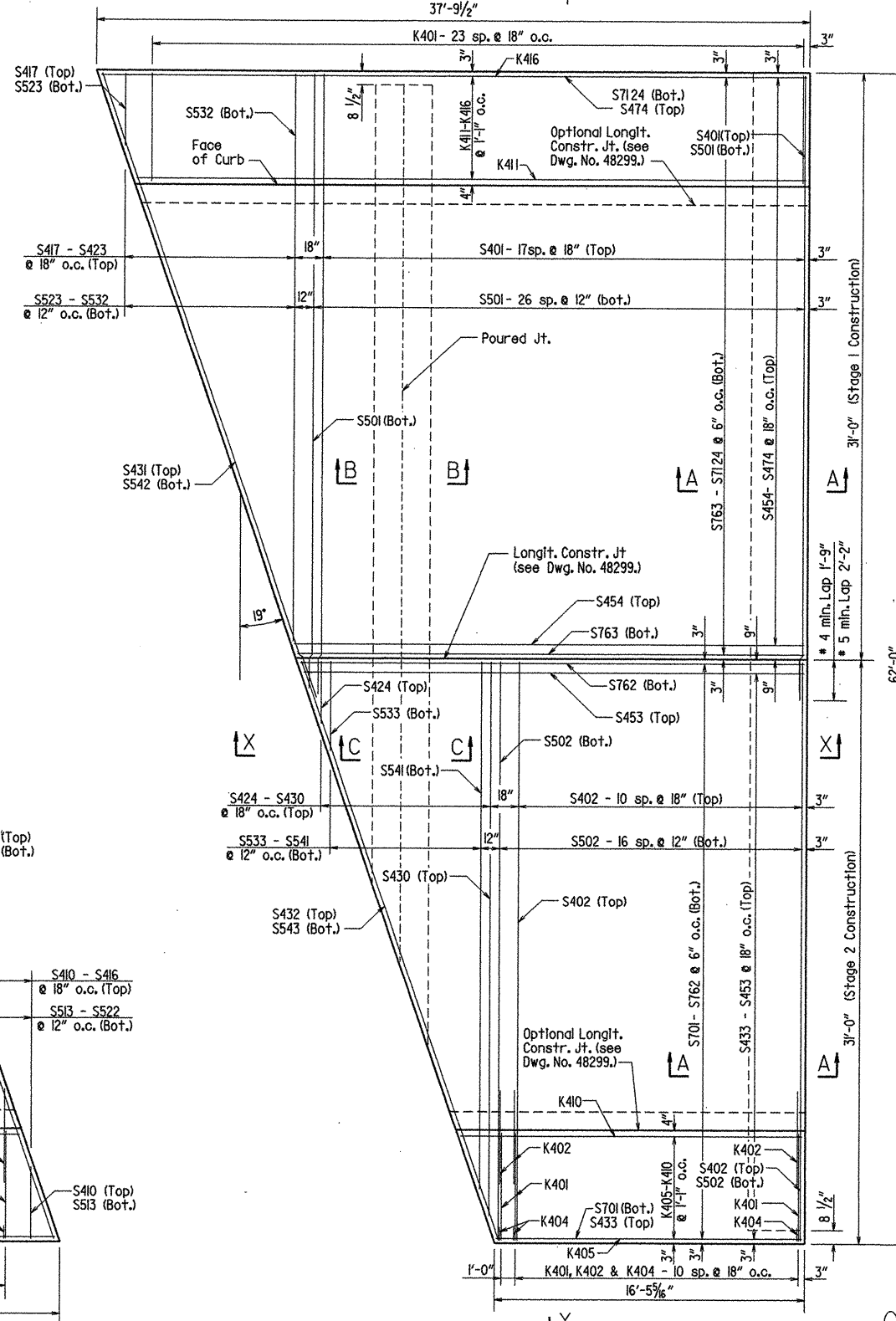


DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		110131	79	133
						07069 Approach Slab	48298	

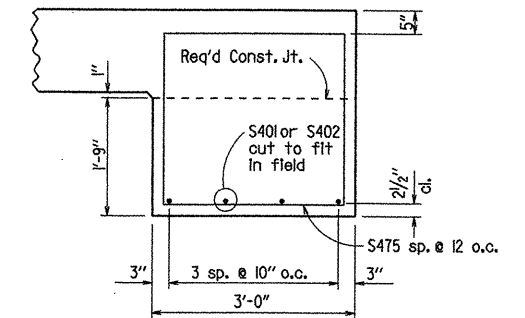


PLAN - (BEG. BR.)
Scale: 1/4" = 1'-0"

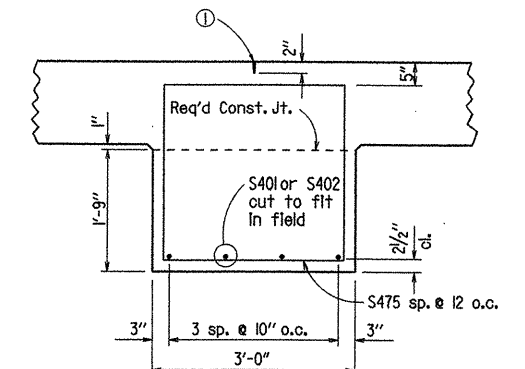
For Additional Details see Dwg. No. 48299.



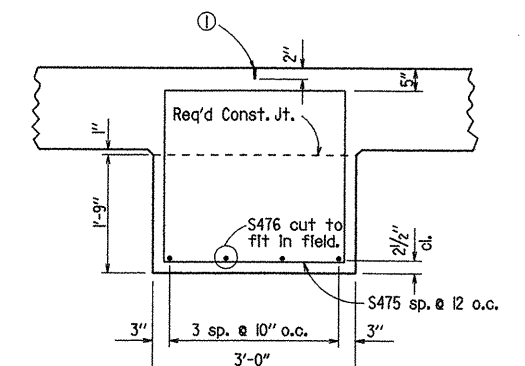
PLAN - (END BR.)
Scale: 1/4" = 1'-0"



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

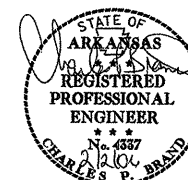


SECTION B-B
Scale: 3/4" = 1'-0"



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

① 1/4" x 2" Poured Jt. Sealer (Type 3, 4 or 6) as per subsection 501.02 (h) (2) and 501.05 (J). Backer rod filler will not be required.

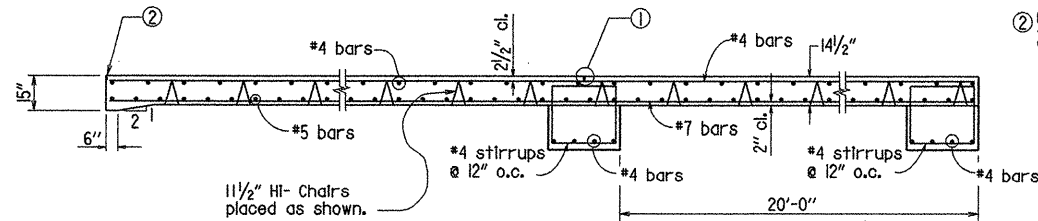


BRIDGE ENGINEER

SHEET 1 OF 2
DETAILS OF TYPE SPECIAL
APPROACH SLAB
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

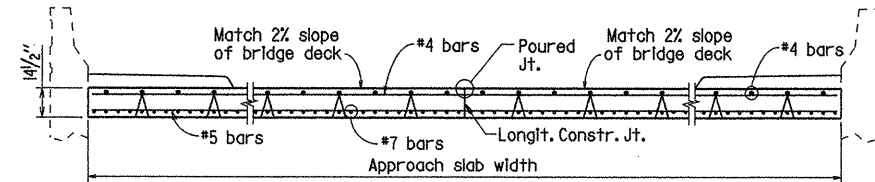
DRAWN BY: DDD DATE: 11-30-05 FILENAME: b10131.asl.dgn
CHECKED BY: DHP DATE: 12/13/05 SCALE: 1/4" = 1'-0"
DESIGNED BY: Std. DATE: BRIDGE NO. 07069 DRAWING NO. 48298

Note: Top of approach slab shall be given a fine finish as specified for final finishing in subsection 802.19 for class 5 Tined Bridge Roadway Surface Finish.



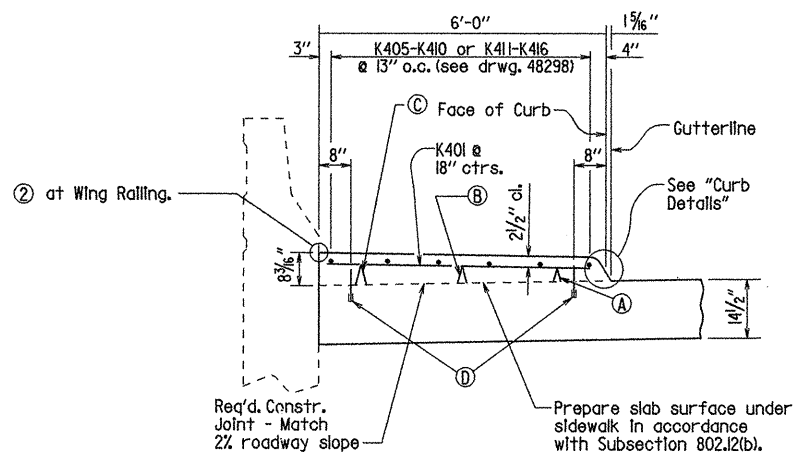
SECTION X-X

No Scale



SECTION Y-Y

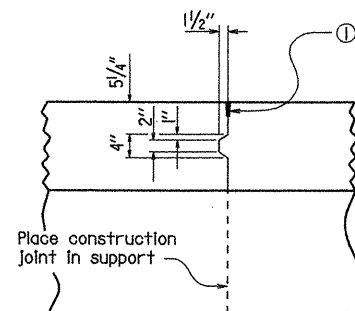
No Scale



STAGE 3 SIDEWALK DETAIL

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

- ① 3/4" HI-chairs at 3'-9" ctrs. long.
- ② 4/4" HI-chairs at 3'-9" ctrs. long.
- ③ 5/4" HI-chairs at 3'-9" ctrs. long.



DETAILS OF LONGITUDINAL CONSTRUCTION JOINT

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

① 1/4" x 2" Poured Jt. Sealer (Type 3, 4 or 6) as per subsection 501.02 (h) (2) and 501.05 (j). Backer rod filler will not be required.

② 1/2" x 2" Poured Jt. Sealer (Type 3, 4 or 6) as per subsection 501.02 (h) (2) and 501.05 (j). Backer rod filler will not be required.

GENERAL NOTES

Concrete shall be Class S (AE) (fc' = 4,000 psi).

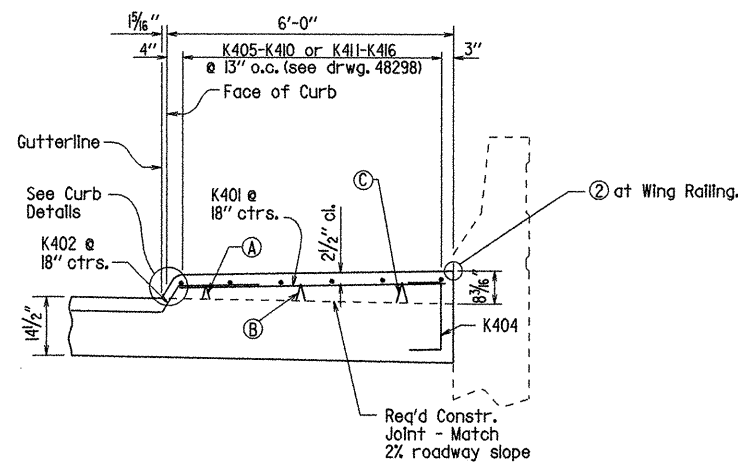
Reinforcement Steel shall conform to AASHTO M31 or M53, Grade 60 (fy = 60,000 psi).

Approach Slabs will be measured and paid for in accordance with Section 504.

Joint sealer Included in the pay item "Approach Slab".

For Approach Slab location see Layout.

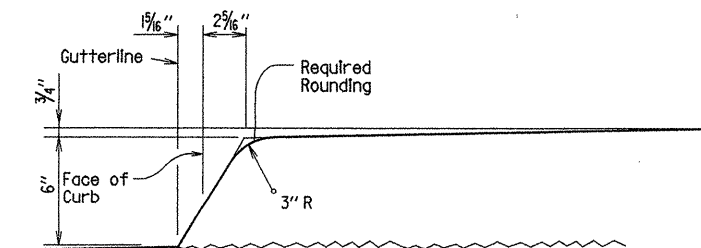
For additional details see Dwg. No. 48298.



STAGE 2 SIDEWALK DETAIL

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

- ① Dowel K403 bars 4" into slab at 2'-6" max. long. spacing using a polyester/epoxy resin system listed on the OPL. The diameter of the holes and the installation procedures shall be as recommended by the epoxy resin system manufacturer. The epoxy resin system selected shall develop the yield strength of the dowel bar. At the contractor's option K402 & K404 bars may be deleted in stage 2 sidewalk and K403 bars doweled in as shown in stage 3 sidewalk detail. Payment will be based on K402 & K404 bars.



CURB DETAIL

No Scale

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.		110131	80	133

07069 Approach Slab 48299

BAR LIST

Mark	No. Req'd.		Length	BENDING DIAGRAMS	
	Beg. Br.	End Br.			
S401	15	26	32'-9"		K402
S402	26	15	30'-8"		
S403 - S409	1 EACH	----	5'-4" to 3'-6"		
S410 - S416	1 EACH	----	3'-9" to 29'-11"		
S417 - S423	----	1 EACH	3'-9" to 29'-11"		S475
S424 - S430	----	1 EACH	3'-3" to 29'-5"		
S431	1	1	34'-6"		
S432	1	1	32'-5"		
S433 - S453	1 EACH	1 EACH	16'-2" to 26'-6"		K404
S454 - S474	1 EACH	1 EACH	27'-0" to 37'-4"		
S475	103	103	10'-4"		
S476	4	4	21'-3"		
S501	17	27	33'-2"		
S502	27	17	30'-8"		
S503 - S512	1 EACH	----	4'-4" to 30'-5"		
S513 - S522	1 EACH	----	3'-9" to 29'-11"		
S523 - S532	----	1 EACH	3'-9" to 29'-11"		
S533 - S541	----	1 EACH	4'-9" to 27'-11"		
S542	1	1	34'-11"		
S543	1	1	32'-5"		
S701 - S762	1 EACH	1 EACH	16'-2" to 26'-8"		
S763 - S7124	1 EACH	1 EACH	26'-10" to 37'-4"		
K401	35	35	5'-8"		
K402	24	11	5'-4"		
K403	16	32	8"		
K404	24	11	2'-6"		
K405 - K410	1 EACH	1 EACH	16'-2" to 18'-1"		
K411 - K416	1 EACH	1 EACH	35'-5" to 37'-4"		

Dimensions are out to out of bar.

TABLE OF QUANTITIES FOR ONE APPROACH SLAB

Slab Width	Reinforcing Steel	Concrete (Cu. Yds.)
62 ft.	11730 lbs.	91.20

SHEET 2 OF 2
DETAILS OF TYPE SPECIAL
APPROACH SLAB

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

DRAWN BY: DDD DATE: 11-30-05 FILENAME: bl10131.os2.dgn
CHECKED BY: DHP DATE: 12/13/05 SCALE: 1/4" = 1'-0"
DESIGNED BY: STD. DATE:
BRIDGE NO. 07069 DRAWING NO. 48299

