

"N" VALUES

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.		020112	42	139
				00832	LAYOUT		38035	

GENERAL NOTES

BENCH MARK: *19'' Ref. in C.P. H.P.T. 64.40' Lt. Sta. 697+95.27; Elev. 228.70.

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, 1996 edition, with applicable supplemental specifications and special provisions.

DESIGN SPECIFICATIONS: AASHTO Standard Specifications for Highway Bridges, 1996 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 (M31 or M53, GR. 60) $f_y = 60,000$ psi
 Structural Steel (M270, Gr. 50W) $F_y = 50,000$ psi
 Structural Steel (M270, Gr. 36) $F_y = 36,000$ psi

PRECAST CONCRETE PILES:

Piling in end bents shall be 16'' octagonal or 14'' square precast concrete. Piling in int. bents shall be 16'' octagonal. All piles shall be driven with an approved air, steam or diesel hammer to a minimum safe bearing capacity of 44 tons per pile. Piling shapes shall not be mixed. Drive all piles to a minimum penetration of 20' below natural ground. Lengths of piling shown are assumed for estimating quantities only. Actual lengths to be determined in the field. Drive one 55' test pile in Bents 1 & 3. Piles in end bents to be driven after embankment to bottom of cap is in place.

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

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

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

DETAIL DRAWINGS:**DRAWING NO.**

End Bents 38038 - 38040
 Intermediate Bents 38041 & 38042
 30' Comp. W-Beam Spans 38043 - 38045

EXISTING BRIDGES: The existing bridge No. 00832 (log mile 0.86) is 28' wide and 92' long and consists of a concrete deck & steel beam superstructure supported by concrete cap & pile substructure.

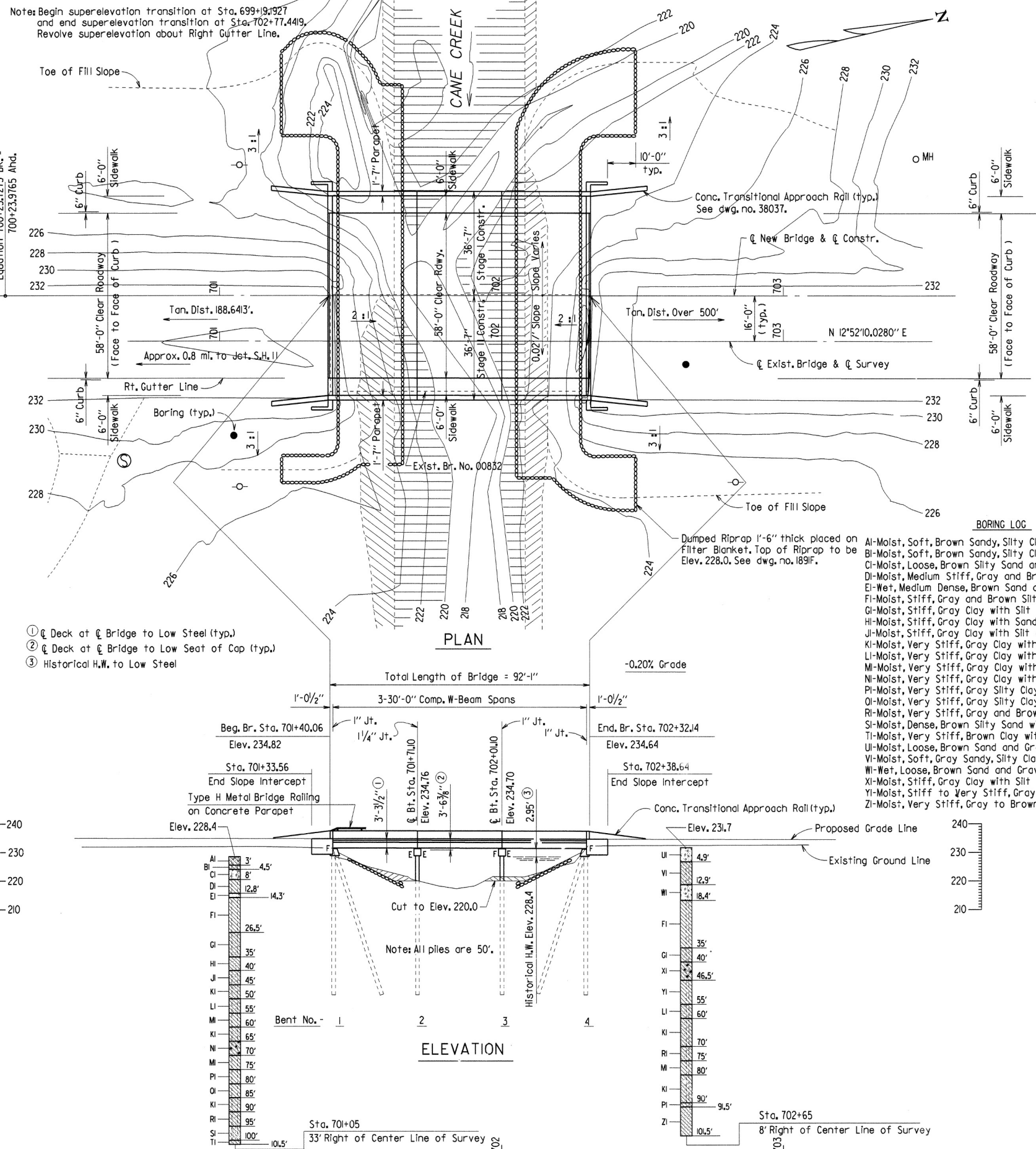
The proposed work consists of removal of existing superstructure, removal of end bents, widening remaining substructure, and constructing a new superstructure.

The work of adjusting the new work to the existing structure shall be considered subsidiary to the item "Modification of Existing Bridge Structure". The Contractor shall be responsible for making check measurements of existing bridge and making necessary adjustments to the new work.

SHEET 1 OF 2

LAYOUT OF BRIDGE OVER
 CANE CREEK
 CANE CR. & BAYOU BARTHOLOMEW
 STRS. & APPRS. (F)
 LINCOLN COUNTY
 ROUTE 425 SEC. 6
 ARKANSAS STATE HIGHWAY COMMISSION
 LITTLE ROCK, ARK.

DRAWN BY: WMAJ DATE: 1/6/96
 CHECKED BY: GYA DATE: 6-3-96
 DESIGNED BY: ARW DATE: Dec 95
 BRIDGE NO. 00832 DRAWING NO. 38035



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.		020112	43	139
				00832		LAYOUT		38036

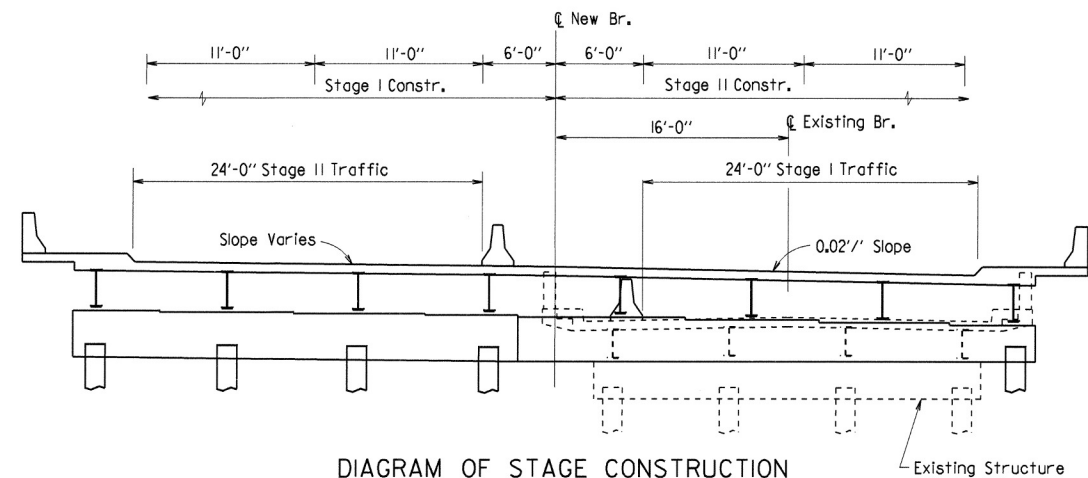
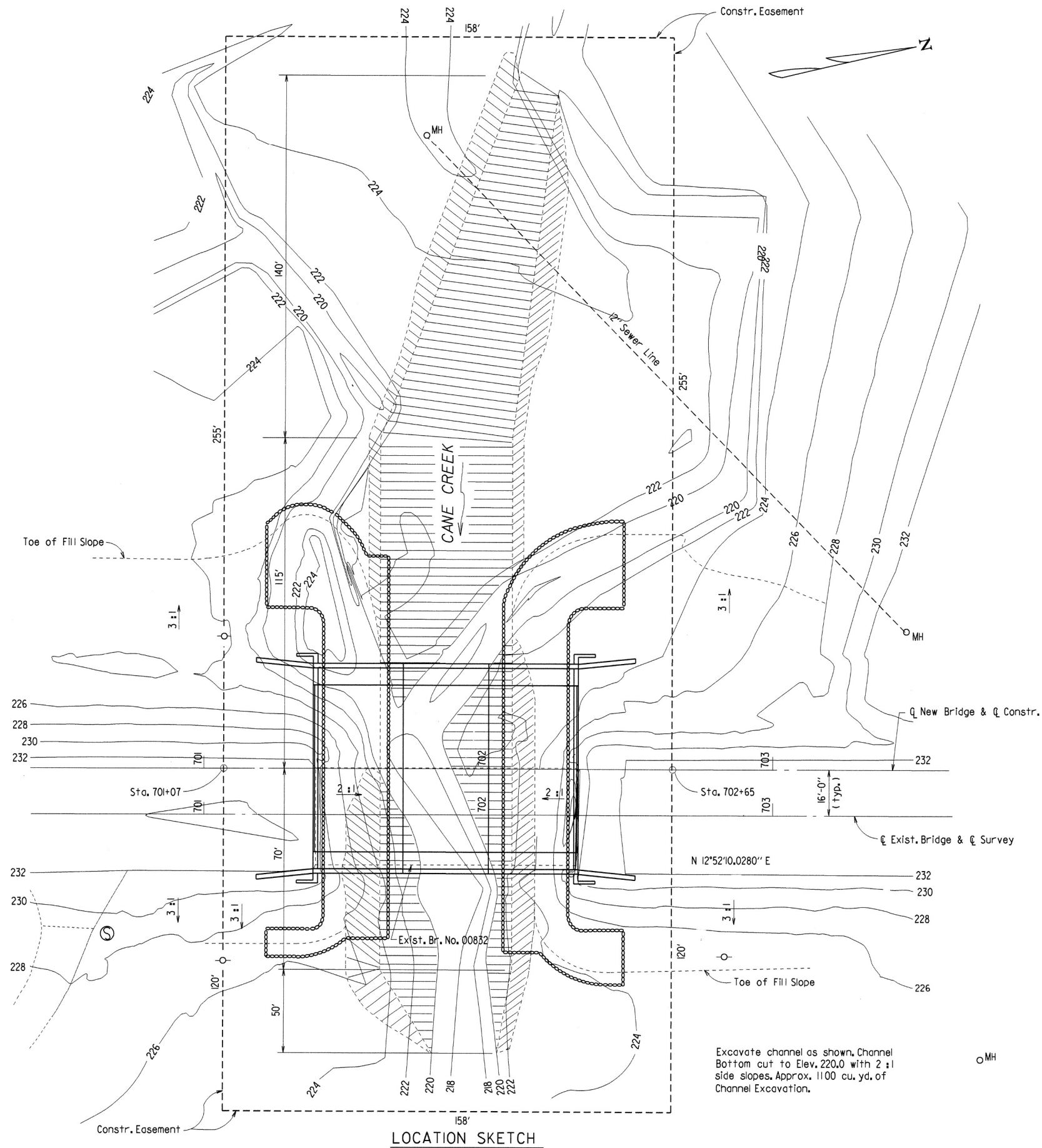


DIAGRAM OF STAGE CONSTRUCTION
N.T.S.
Note: Remove existing railing as required for Stage I construction.

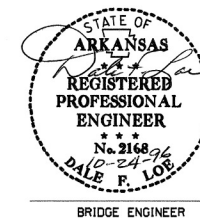
HYDRAULIC DATA

FLOOD DESCRIPTION	FREQUENCY YEARS	DISCHARGE CFS	* NORMAL WATER SURFACE ELEVATION FEET	WATER SURFACE ELEVATION W/BACKWATER FEET
DESIGN FLOOD	50	3410	228.2	228.8
BASE	100	4180	228.8	229.7
EXTREME	500	6250	230.0	232.2
OVERTOPPING > 500				

* Unconstricted water surface without structures and roadway approaches.
Drainage Area = 4.9 sq. mi.
Historical H.W. Elev. 228.4

SHEET 2 OF 2
LAYOUT OF BRIDGE OVER
CANE CREEK
CANE CR. & BAYOU BARTHOLOMEW
STRS. & APPRS. (F)
LINCOLN COUNTY
ROUTE 425 SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: W.M.A. DATE: 1-16-96
CHECKED BY: G.V.A. DATE: 6-3-96 SCALE: 1" = 20'
DESIGNED BY: R.W. DATE: Dec-95
BRIDGE NO. 00832 DRAWING NO. 38036



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.		020112	44	139
				00832	RAIL			38037

BAR LIST PER RAILING

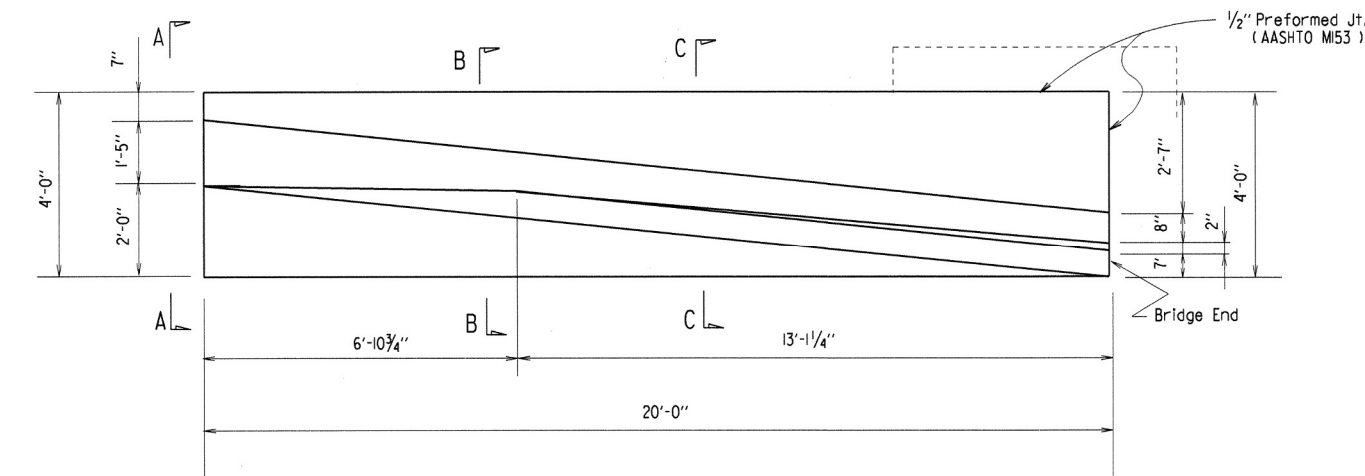
MARK	NO. REQ'D.	LENGTH	'A'	'B'	P.D.	BENDING DIAGRAMS
F401	8	19'-8"			Str.	
F402	40	3'-8"			Str.	
R401	2	4'-10"	1'-2"	1'-1"	2"	
R402	2	2'-0"			Str.	
R403	3	17'-9"			Str.	
R404	1	5'-0"			Str.	
R405	1	12'-9"			Str.	
R406	12	6'-3"			2"	
R407 to R417	1ea.	3'-0" to 5'-5"	1'-3" to 2'-5 1/2"	1'-3" to 2'-5 1/2"	2"	
R418 to R423	1ea.	3'-9" to 5'-1"	1'-4" to 1'-11 1/4"	1'-1 1/2"	2"	
R424	2	10'-9"			Str.	

Dimensions are out to out of bars.

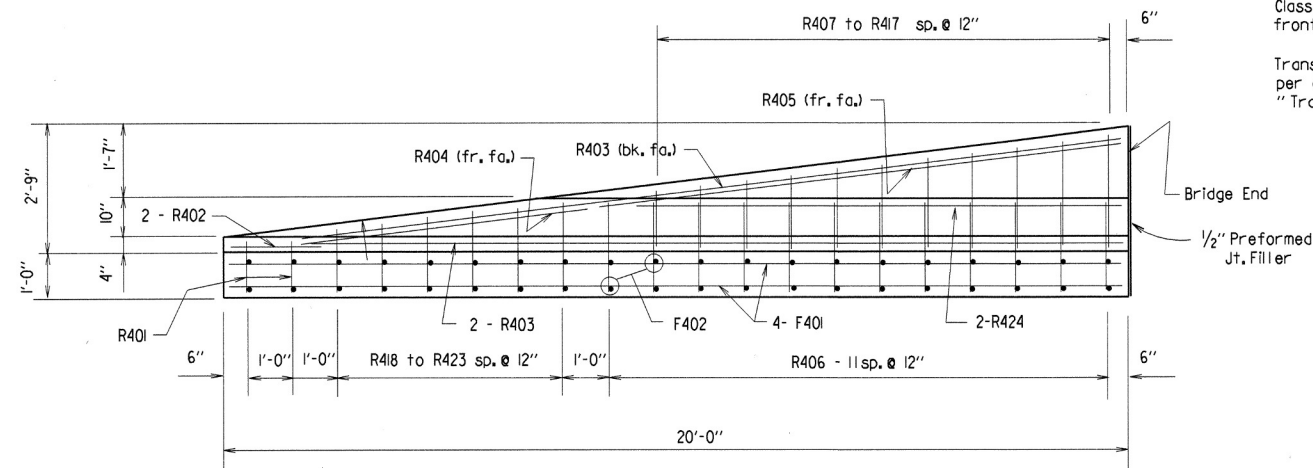
- Notes :
- Transitional Approach Railing shall be placed at each side of Beg. and End of Bridge.
- Adjacent Railing is opposite hand to Railing shown.
- All Concrete shall be Class "S" and be poured in the dry. All exposed corners to be chamfered 3/4" unless otherwise noted.
- All Reinforcing Steel shall conform to AASHTO M31 or M53, Grade 60.
- Class I Protective Surface Treatment shall be applied to the roadway surface, front face and top of the 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. 020112 "Transitional Approach Railing."

FOR INFORMATION ONLY SCHEDULE OF QUANTITIES PER RAIL UNIT

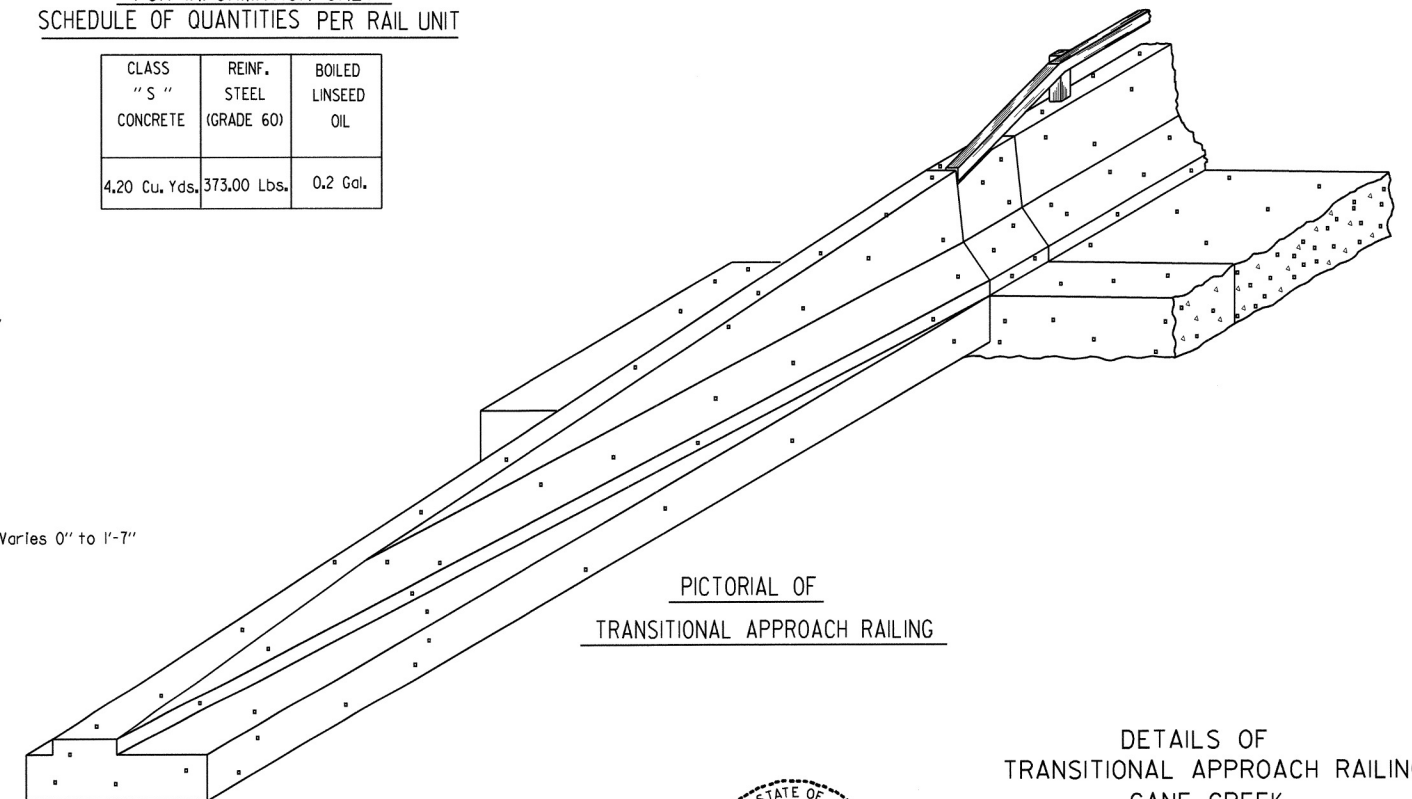
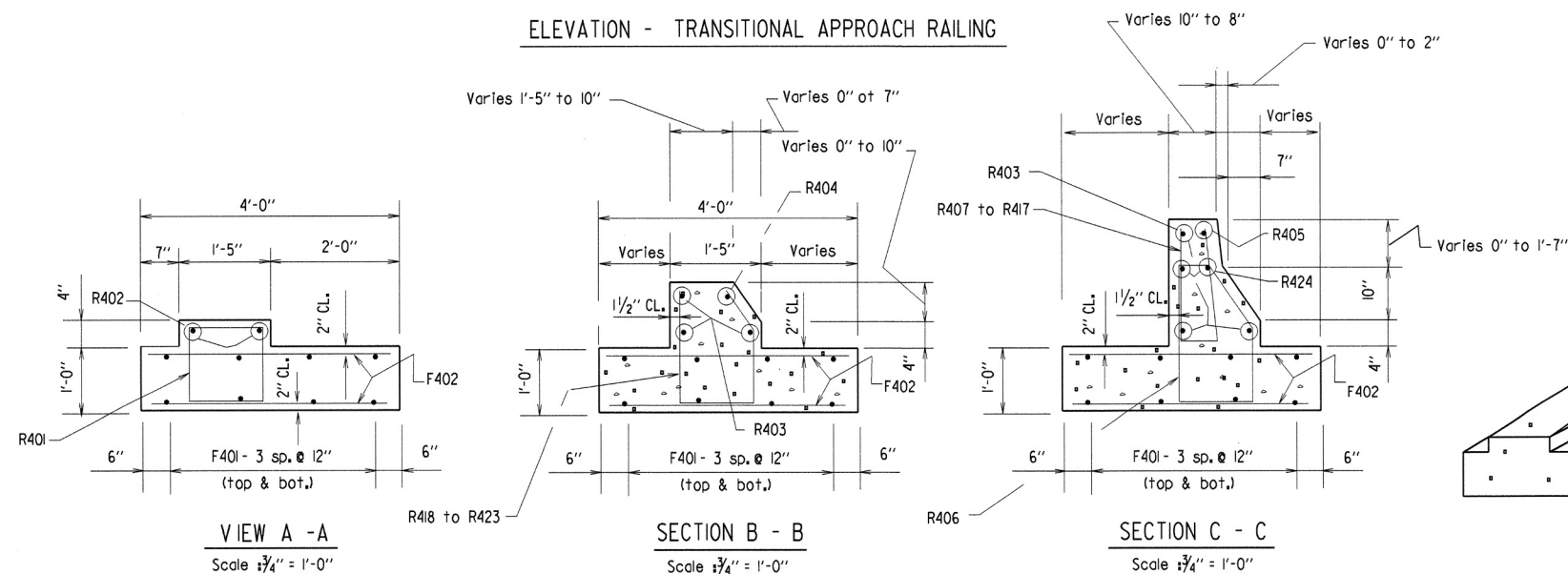
CLASS "S"	REINF. STEEL (GRADE 60)	BOILED LINSEED OIL
CONCRETE		
4.20 Cu. Yds.	373.00 Lbs.	0.2 Gal.



PLAN -TRANSITIONAL APPROACH RAILING



ELEVATION - TRANSITIONAL APPROACH RAILING



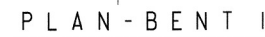
PICTORIAL OF
TRANSITIONAL APPROACH RAILING

DETAILS OF
TRANSITIONAL APPROACH RAILING
CANE CREEK
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: J.P.S. DATE: 11-8-91
CHECKED BY: ARW DATE: 10-11-91
DESIGNED BY: STD. DATE: or as noted
BRIDGE NO. 00832 DRAWING NO. 38037



Diagram illustrating the installation of a 6" PVC Waterstop at a construction joint (Constr. Jt.) in a bridge deck. The waterstop is shown as a vertical bar with a T-shaped cross-section, positioned between two concrete slabs. The top surface is labeled "Bridge".

PLAN OF CONSTR. JT. AT C BRIDGE
N.T.S.



STATE OF
ARKANSAS
REGISTERED
PROFESSIONAL
ENGINEER
No. 2168
10-27-96
DALE F. LOE

BRIDGE ENGINEER

I, 550, 300I, 20I | 2, RWME548, B20I | 2XI.B0I

MICROFILMED
MAY 13 1997

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.		020112	46	139
				00832		BENT		38039

BAR LIST (ONE END BT.)

Mark	No. Req'd.	Length	A	B	Pin Dia.	Bending Diagrams (Dimensions are out to out of bars.)
B400	27	6'-6"	2'-2"	2'-11"	2"	
B401	88	9'-11"	2'-2"	2'-11"	2"	
B402	2	35'-7"			Str.	
B403	2	37'-9"			Str.	
B404	116	4'-9"			Str.	
B405	8	31'-3"			Str.	
B406	8	33'-6"			Str.	
B407	52	5'-2"			Str.	
B408	20	5'-3"	2'-1"	2'-6"	2"	
B409	24	7'-9"	7'-2"	8"	2"	
B410	58	3'-11"	1'-2"	4 1/2"	2"	
B411	16	11'-2"	10'-7"	8"	2"	
B412	8	6'-1"	5'-6"	8"	2"	
B601	6	36'-3"	35'-7"	6"	4 1/2"	
B602	6	39'-9"	39'-1"	6"	4 1/2"	
B603	6	35'-7"			Str.	
B604	6	39'-1"			Str.	
P401	12	1'-2"			Str.	
P601	6	4'-1"			Str.	
P602	6	3'-9"			Str.	
P603	6	3'-7"	1'-10"	1'-9"	4 1/2"	

Notes:

All concrete shall be Class "S" and shall 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.

Backwall shall not be poured before beams are in place.

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

For additional information see Layout.



(SHEET 2 OF 3)

DETAILS OF BENT 1 & 4

CANE CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: WMAJ. DATE: 3-8-96

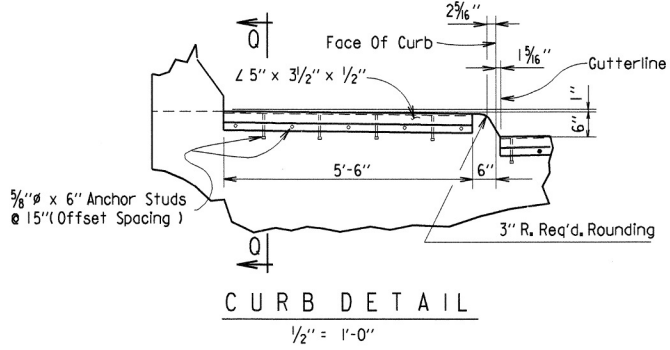
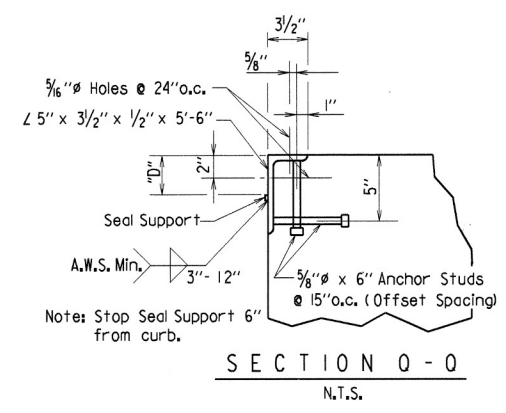
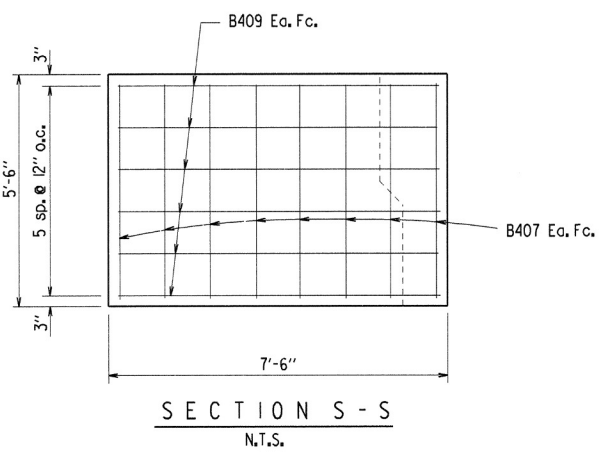
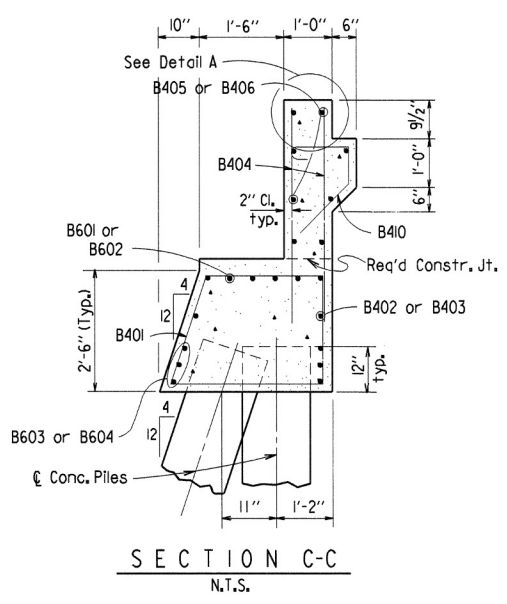
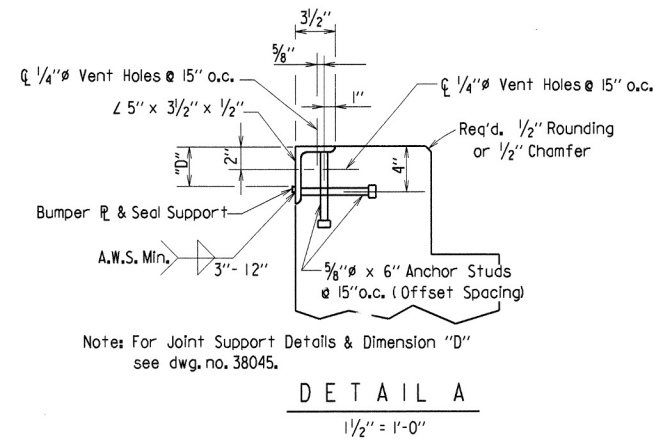
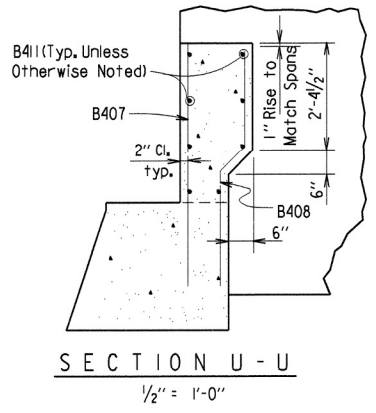
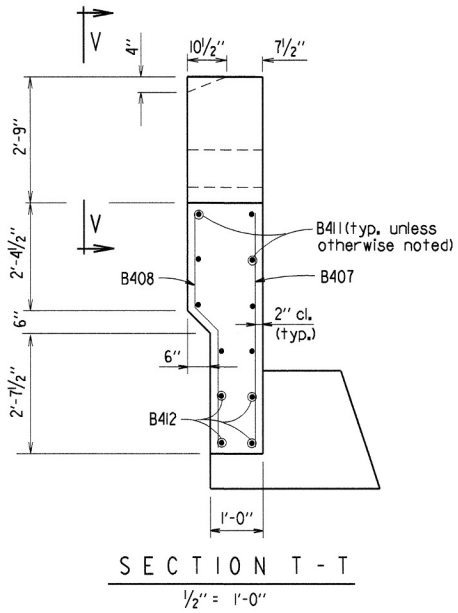
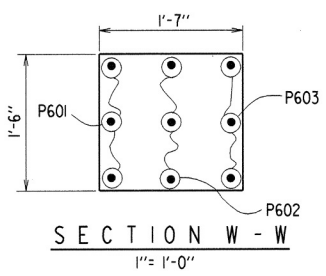
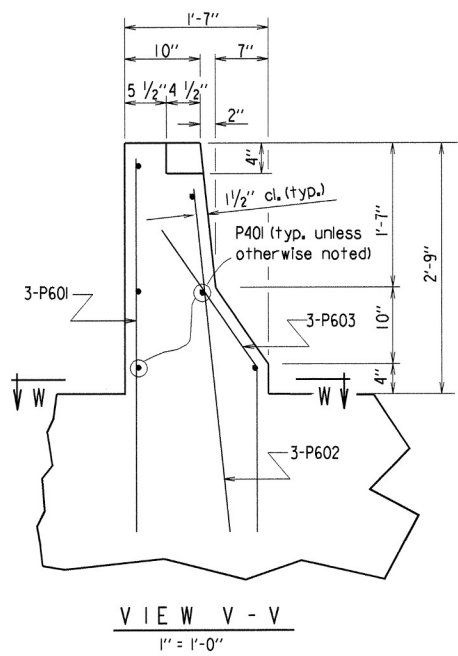
CHECKED BY: ARW. DATE: 10-11-96

DESIGNED BY: ARW. DATE: 3-29-96

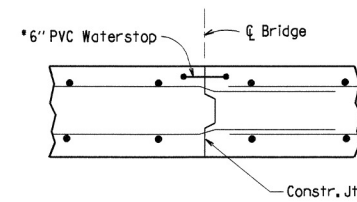
BRIDGE NO. 00832

DRAWING NO. 38039

SCALE: 3/8" = 1'-0" Or As Shown

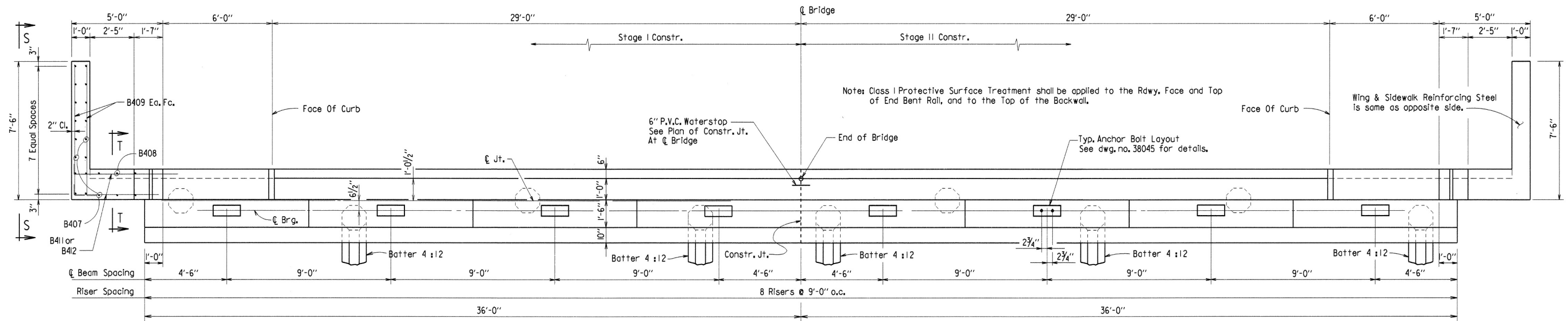


DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		02012	47	139
				① 00832		BENT		38040

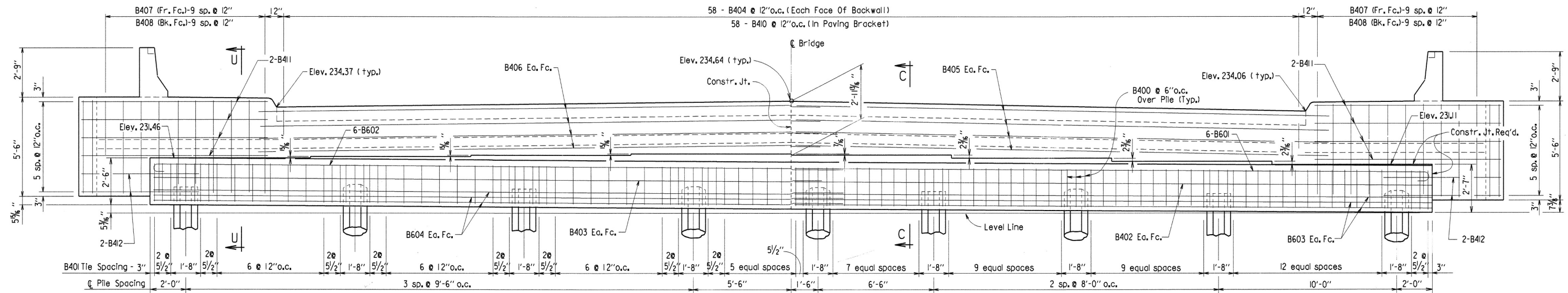


*Use 6" wide x $\frac{3}{16}$ " thick Dumbbell PVC Waterstop. No direct payment.
PVC Waterstop considered subsidiary to Class S Concrete-Bridge.

PLAN OF CONSTR. JT. AT C BRIDGE
N.T.S.



PLAN - BENT 4



ELEVATION - BENT 4
(Looking Forward)



BRIDGE ENGINEER

(SHEET 3 OF 3)
DETAILS OF BENT 1 & 4
CANE CREEK

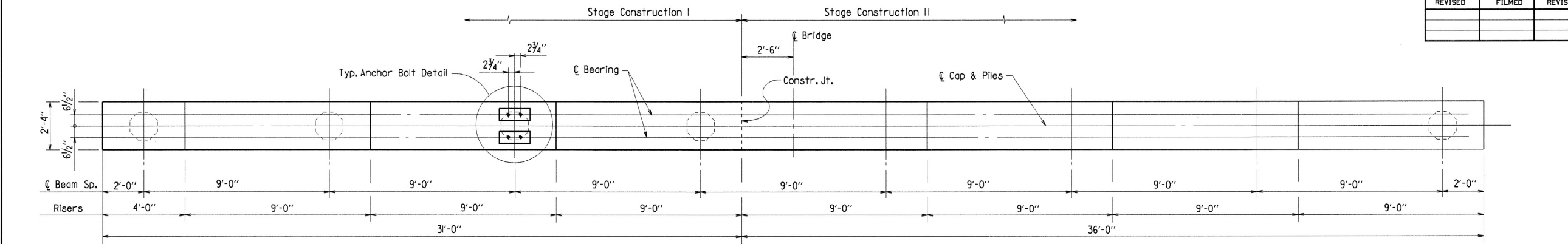
ROUTE SEC.
 ARKANSAS STATE HIGHWAY COMMISSION
 LITTLE ROCK, ARK.

DRAWN BY: WMAI DATE: 3-8-96
CHECKED BY: ARW DATE: 10-11-96 SCALE: $\frac{3}{8}" = 1'-0"$ Or As Shown
DESIGNED BY: ARW DATE: Jan-96
BRIDGE NO. 00832 DRAWING NO. 38040

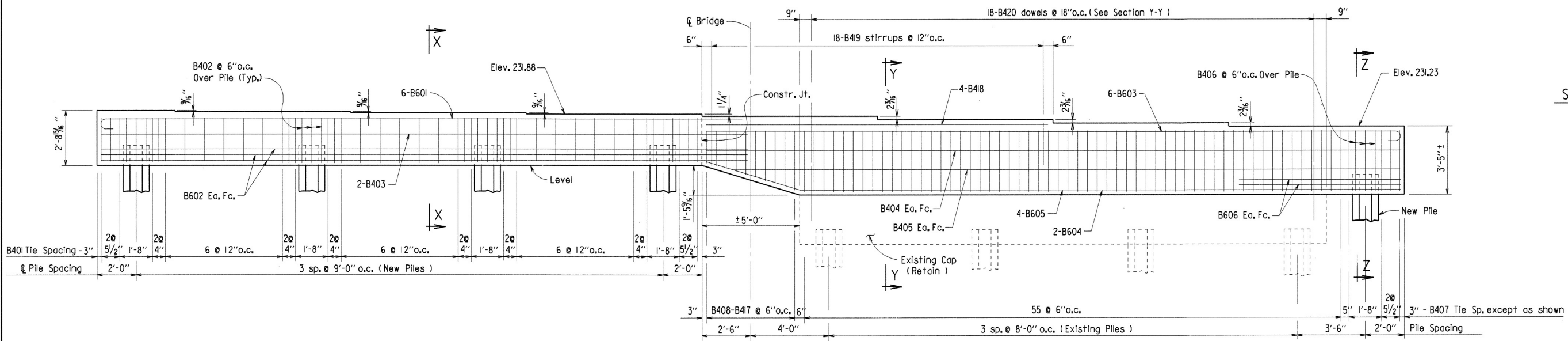
1, 550, 3001, 20112, RWME548, B20112XI.B04

MICROFILMED
MAY 13 1997

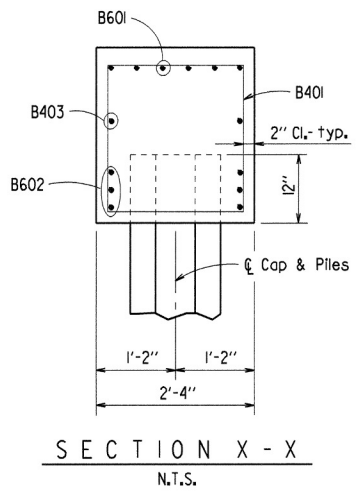
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020112	48	139
				00832	BENT		38041	



PLAN



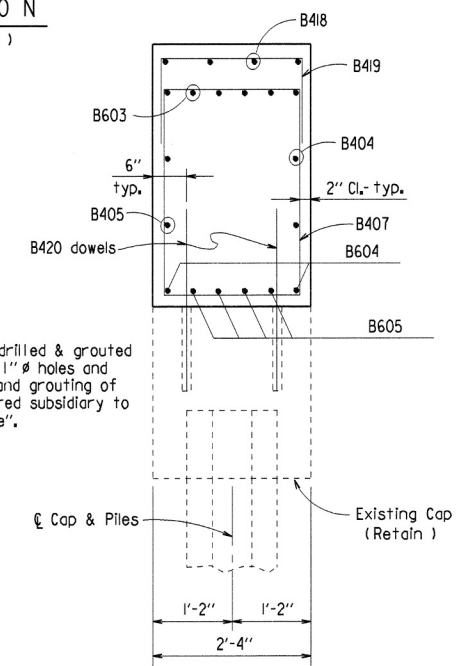
ELEVATION
(Looking Forward)



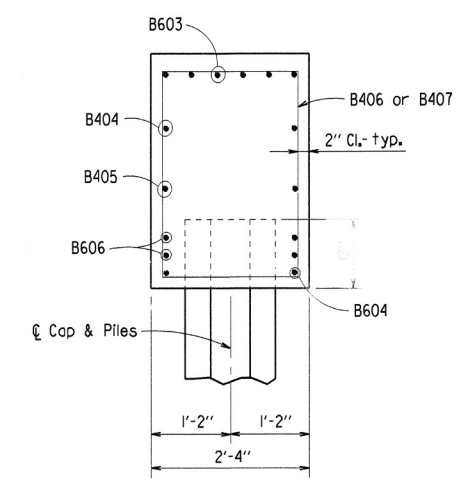
BAR LIST

MK	No. Req'd.	Length	A	B	Pin Dia.	Bending Diagram (Dimens. are out to out of bars)
B601	6	34'-0"	33'-4"	6"	4 1/2"	
B602	6	33'-4"			Str.	
B603	6	36'-4"	35'-8"	6"	4 1/2"	
B604	2	35'-9"	30'-9"	5'-0"	4 1/2"	
B605	4	32'-11"	27'-11"	5'-0"	4 1/2"	
B606	4	8'-0"			Str.	
B401	39	8'-8"	2'-0"	2'-2"	2"	
B402	12	6'-2"	2'-0"	2'-2"	2"	
B403	2	33'-4"			Str.	
B404	2	35'-8"			Str.	
B405	2	34'-2"			Str.	
B406	3	8'-0"	2'-0"	3'-1"	2"	
B407	60	10'-6"	2'-0"	3'-1"	2"	
B408-B417	1 Ea.	7'-8" to 10'-4"	2'-0"	1'-8" to 3'-0"	2"	
B418	4	17'-6"			Str.	
B419	18	5'-2"	2'-0"	1'-8"	2"	
B420	36	2'-6"			Str.	

Notes: B420 dowels shall be drilled & grouted 15" into existing cap using 1" holes and non-shrink grout. Drilling and grouting of B420 dowels to be considered subsidiary to the item "Class S Concrete".

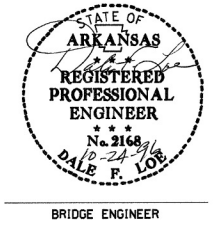


SECTION Y - Y
N.T.S.



SECTION Z - Z
N.T.S.

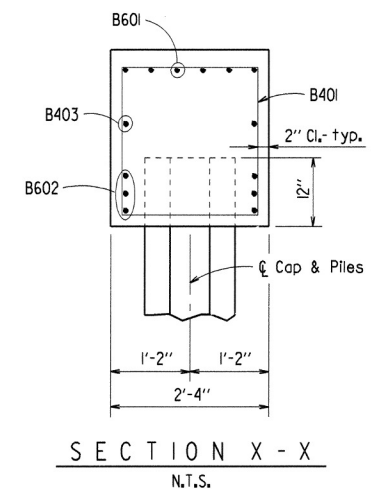
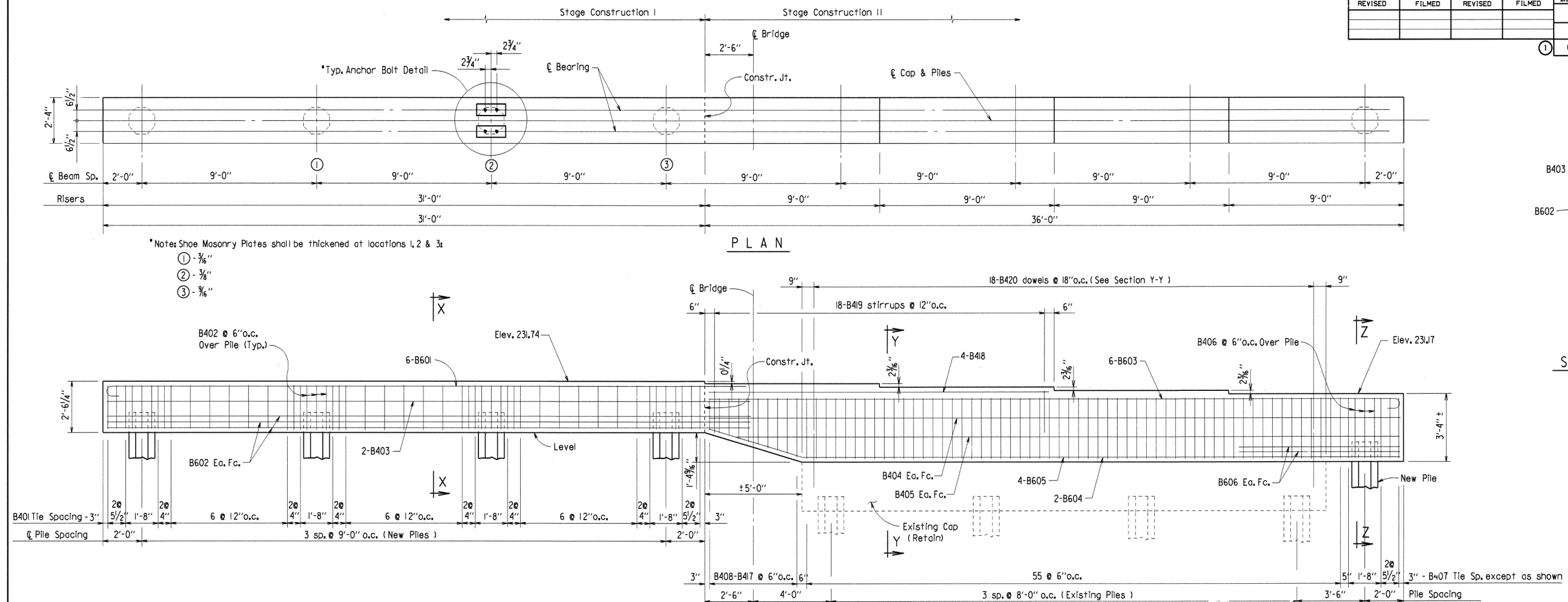
Notes:
All concrete shall be Class "S". All exposed corners to be chamfered 3/4" unless otherwise noted. All concrete shall be poured in the dry.
All reinforcing steel shall conform to AASHTO M31 or M53, Grade 60.
If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.
For additional information, see Layout.



DETAILS OF BENT 2
CANE CREEK
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: WMAJ. DATE: 3-12-96
CHECKED BY: ARW. DATE: 10-11-96
DESIGNED BY: ARW. DATE: Jan-96
BRIDGE NO. 00832
DRAWING NO. 38041
SCALE: 3/8" = 1'-0" Or As Shown

MICROFILMED
MAY 13 1997

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.		020112	49	139
				①	00832	BENT		38042



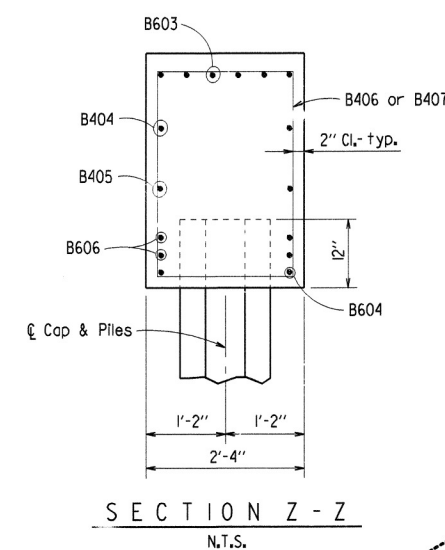
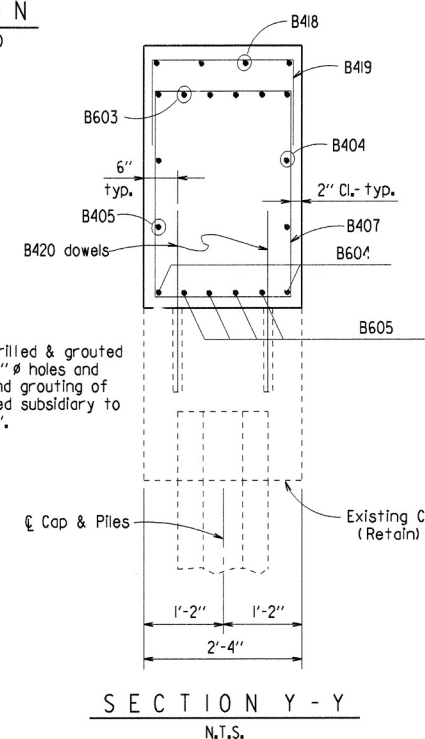
B A R L I S T

MK	No. Req'd.	Length	A	B	Pin Dia.
B601	6	34'-0"	33'-4"	6"	4½"
B602	6	33'-4"			Str.
B603	6	36'-4"	35'-8"	6"	4½"
B604	2	35'-9"	30'-9"	5'-0"	4½"
B605	4	32'-11"	27'-11"	5'-0"	4½"
B606	4	8'-0"			Str.
B401	39	8'-8"	2'-0"	2'-2"	2"
B402	12	6'-2"	2'-0"	2'-2"	2"
B403	2	33'-4"			Str.
B404	2	35'-8"			Str.
B405	2	34'-2"			Str.
B406	3	7'-10"	2'-0"	3'-0"	2"
B407	60	10'-4"	2'-0"	3'-0"	2"
B408- B417	1 Ea.	7'-8" to 10'-2"	2'-0"	1'-8" to 2'-11"	2"
B418	4	17'-6"			Str.
B419	18	5'-2"	2'-0"	1'-8"	2"
B420	36	2'-6"			Str.

Bending Diagram
(Dimens. are out to out of bars)

The diagrams illustrate the bending shapes and dimensions for different reinforcement bars:

- Top Diagram (B601, B603):** Shows a horizontal bar of length A with a vertical hook of height B at one end. The hook has a bend radius of 4½".
- Middle Diagram (B604, B605):** Shows a horizontal bar of length A with a diagonal hook of height B at one end. The hook has a slope of 3% and a bend radius of 12".
- Bottom Diagram (B401, B407, B408-B417):** Shows a rectangular frame with width A and height B. The corner bars have a bend radius of 4½" and a lap length of 17d.



Notes:

All concrete shall be Class "S". All exposed corners to be chamfered $\frac{3}{4}$ " unless otherwise noted. All concrete shall be poured in the dry.

All reinforcing steel shall conform to AASHTO M31 or M53, Grade 60.

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

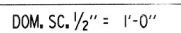
For additional information, see Layout.

STATE OF
ARKANSAS
REGISTERED
PROFESSIONAL
ENGINEER
No. 2168
DALE F. LOE

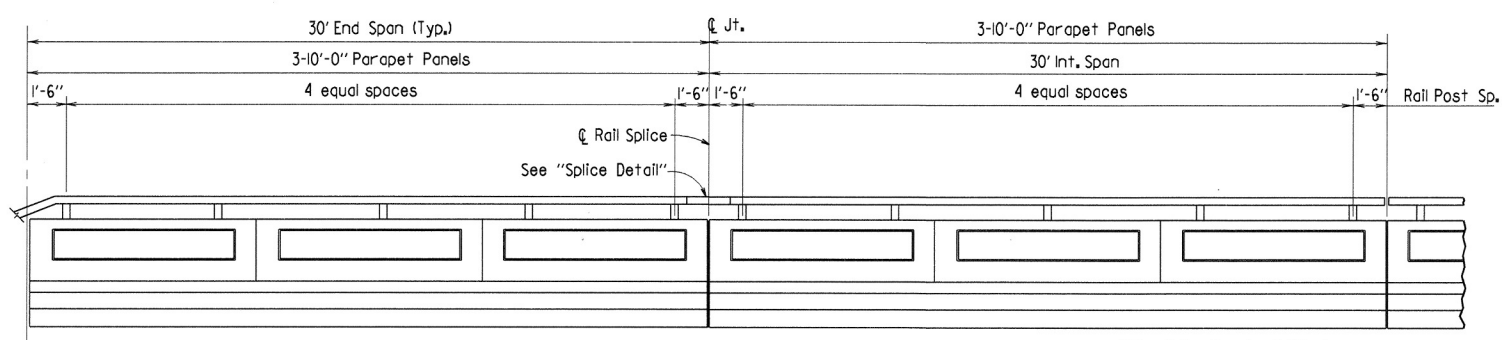
DETAILS OF BENT 3
CANE CREEK
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: W.M.A. DATE: 3-12-96
CHECKED BY: ARW DATE: 10-11-96 SCALE: $\frac{3}{8}" = 1'-0"$ Or As Shown
DESIGNED BY: ARW DATE: Sept-96
BRIDGE NO. 00832 DRAWING NO. 38042

Note:
For View B-B,
See Drwg. No. 38044

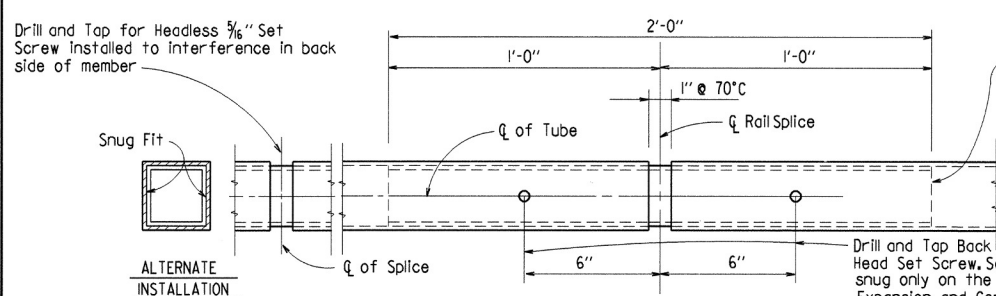


DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020112	51	139
						SPAN		38044



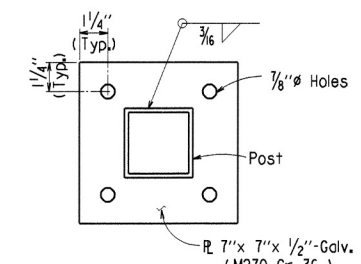
VIEW B-B
N.T.S.

Note: Rail splice is optional.

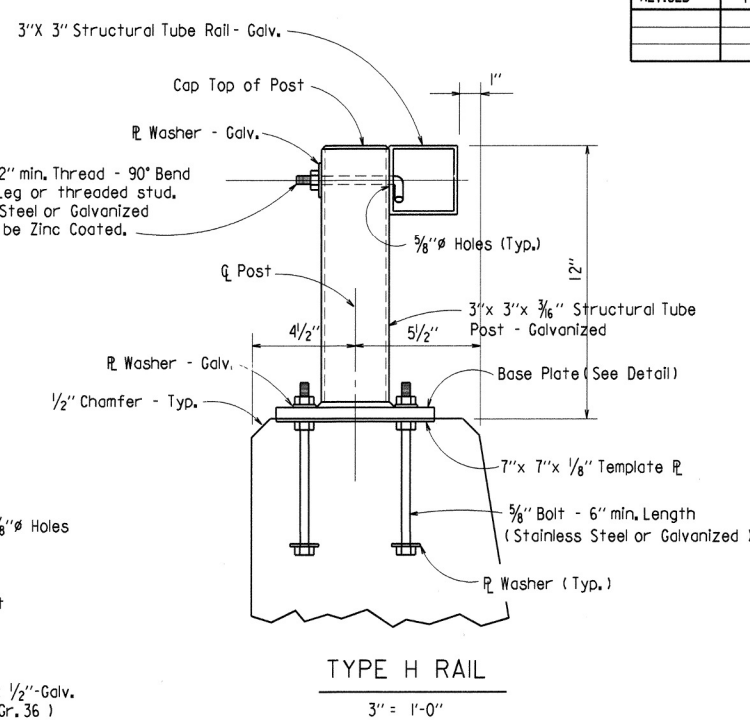


SPLICE DETAIL
N.T.S.

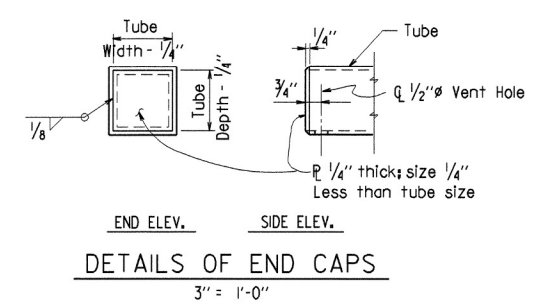
Splice Member with 1/4" Wall x 2'-0" Long, of dimensions approx. 1/16" Less than inside dimensions of Rail Member. Smooth Ends, where necessary, for proper fit.



BASE PLATE
3" = 1'-0"



TYPE H RAIL
3" = 1'-0"



DETAILS OF END CAPS
3" = 1'-0"

MATERIALS FOR BRIDGE RAILING

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

Railing End Caps: AASHTO Specification M270, Gr. 36.

Steel Rail members shall be galvanized in accordance with AASHTO Specification M11, after fabrication.

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.

Splice Set Screws: Stainless steel, ASTM Specifications A193 or A320-Grade B8, or AASHTO M270, G36, galvanized.

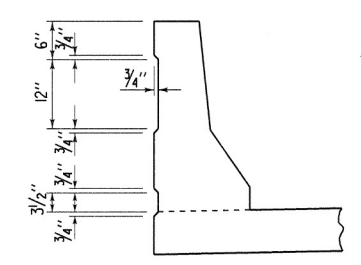
Nuts: Nuts shall conform to ASTM A194-Grade 8 (Stainless steel) or AASHTO M164 galvanized in accordance with AASHTO M232.

Threads: Threads on bolts, screws, and nuts shall conform to American Standard Coarse Series, Class 2 FIT, ASA Specification B 1.1.

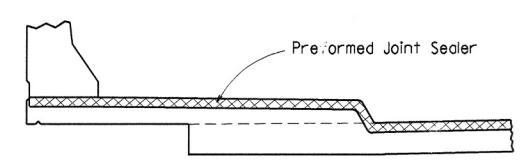
Washers shall be of high strength steel conforming to AASHTO M270, Gr. 36, galvanized in accordance with AASHTO M232, or of stainless steel conforming to ASTM A276 or A167-Type 302.

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

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



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



JOINT SEAL PLACEMENT AT CURB
N.T.S.

NOTES:

All Structural Steel shall be AASHTO designation 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)". M270, Gr. 50W steel shall not be painted. All exposed surfaces to be cleaned in accordance with Subsection 807.84(e) of the Standard Specifications. Structural steel completely embedded in concrete may be AASHTO M270, Gr. 36.

Beams are considered main load carrying members and shall meet the longitudinal Charpy V-Notch test specified in Section 807.05.

Design Specifications: AASHTO 1996 with Interim Specifications

Live loading: HS20

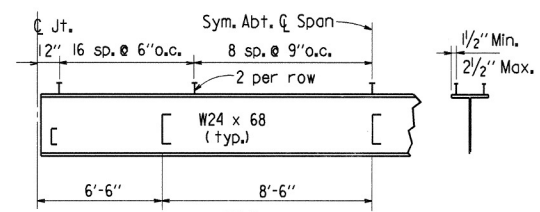
Method of Design: Load Factor

Dead Load:	Interior Beam	Exterior Beam
A. To W-Beam	900 plf + 1.3 (Wt./Ft. of W-Bm.)	650 plf + 1.3 (Wt./Ft. of W-Bm.)
B. To Composite Beam	45 plf *	45 plf *

Live Load: To each composite beam 1,636 wheels + impact 1,440 wheels + impact

* Includes 173 plf future wearing surface

Material Strengths:
Class (SAC) Concrete (N-8) f'c = 4,000 p.s.i.
Reinforcing Steel (M3 or M53) fy = 60,000 p.s.i.
Structural Steel (M270, Gr. 36) fy = 36,000 p.s.i.
Structural Steel (M270, Gr. 50W) fy = 50,000 p.s.i.



SPACING FOR 7/8" STUD SHEAR CONNECTORS & DIAPHRAGMS
N.T.S.

Note: Stud Shear Connectors shall be 4" long. 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".

DEAD LOAD DEFLECTIONS

Span Length	Load No.	Loading	Location			
			Int. Beam	Ext. Beam	Int. Beam	Ext. Beam
30'-0"	1	Bm. & Diaph.	0"	0"	0"	0"
	2	1 & Slab	3/16"	1/4"	1/8"	3/16"
	3	2 & Parapet	1/4"	3/16"	3/16"	1/4"

(SHEET 2 OF 3)

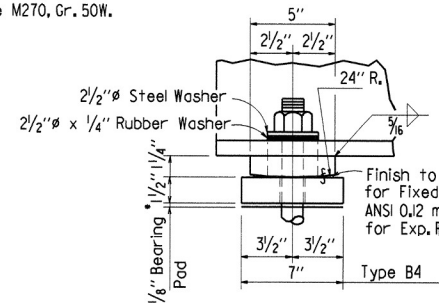
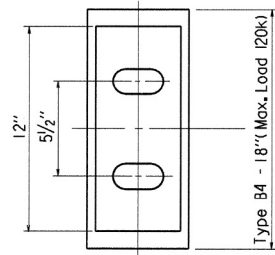
DETAILS OF
30'-0" COMP. W-BEAM SPAN
CANE CREEK
ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: WMAJ DATE: 3-8-96
CHECKED BY: ARW DATE: 10-11-96
DESIGNED BY: ARW DATE: 10-11-96
BRIDGE NO. 00832 DRAWING NO. 38044

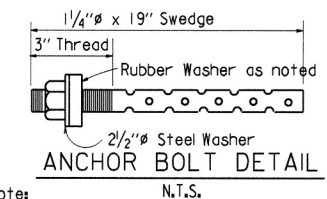


NOTE: Plates for Type "B" Shoes must be M270, Gr. 50W.



FIXED SHOES: 1/2" Holes in Sole Plate, Masonry Plate & Beam Flange.
EXPANSION SHOES: 3"x 1/2" Slot in Sole Plate & Beam Flange;
1/2" Holes in Masonry Plate.

TYPE "B" FIXED OR EXP. SHOE
N.T.S.



Notes:
Anchor Bolt, Nut and Washer to be according to subsection 807.07 of the specifications. In-tations shall be circular with rounded bottoms and staggered as shown above. Rubber washer shall be closed cell expanded rubber, meeting the requirements of ASTM D1056 - 85 282 E2, and shall be considered subsidiary to the item of Structural Steel.

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.

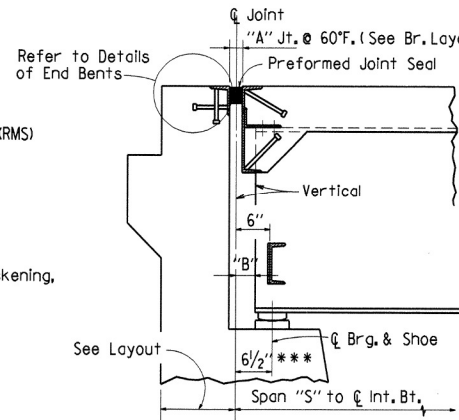
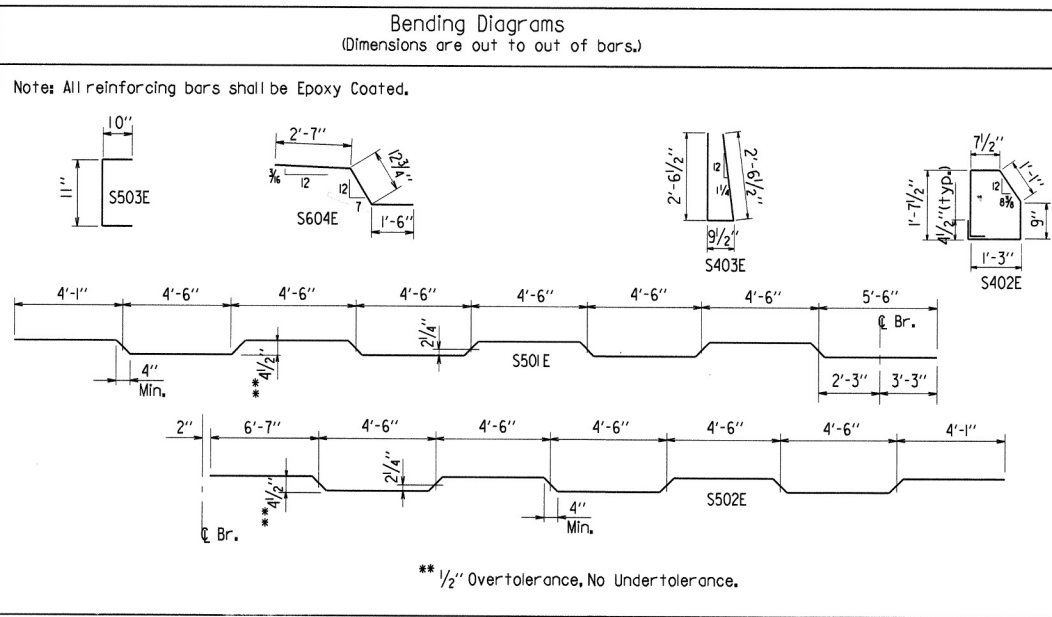
JOINT SEAL DATA

"A" Joint Width Perpendicular To Joint @ 60°F*	"B" Perpendicular To Joint	"C" Uncompressed Seal Width	"W" Width Between Plates	Bumper Plate Size
1"	1 3/4" ±	** 1 5/8"	1/4"	1" x 3/8"
1 1/4"	1 7/8" ±	2"	1/2"	1" x 3/8"

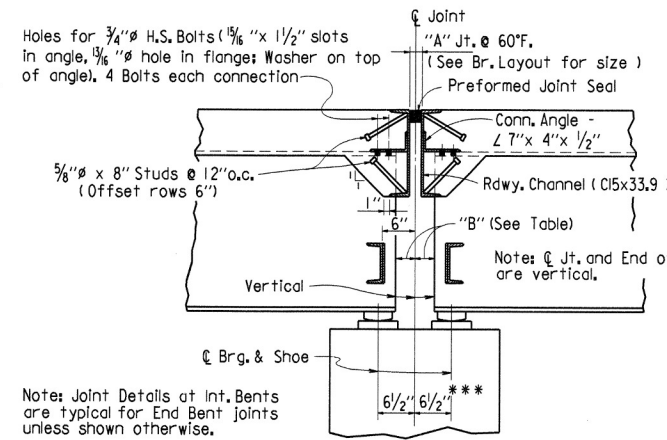
* Installation is limited to 40°F, min. and 80°F, max.
** 1 3/4" Seal may be used.

BAR LIST - PER SPAN

MK	No. Req'd.	Length	Pin Dia.
S601E	26	36'-7"	Str.
S602E	26	33'-5"	Str.
S603E	102	7'-0"	Str.
S604E	52	4'-8"	4 1/2"
S501E	25	37'-4"	3"
S502E	25	33'-9"	3"
S503E	52	2'-4"	3 3/4"
S504E	52	4'-6"	Str.
S505E	26	36'-7"	Str.
S506E	26	33'-5"	Str.
S401E	184	29'-6"	Str.
S402E	60	5'-8"	2"
S403E	60	5'-8"	2"
S404E	36	9'-6"	Str.



JOINT AT END BENTS
3/4" = 1'-0"



Note: Joint Details at Int. Bents are typical for End Bent joints unless shown otherwise.

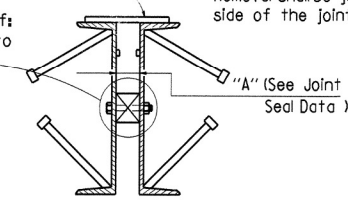
*** Jt. to Brg. Dimension is 6 1/2" unless otherwise noted.

JOINT AT INTERMEDIATE BENTS
3/4" = 1'-0"

One of two different blocking systems is required depending on the type of span finishing machine that is used.

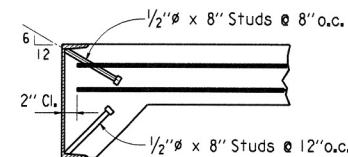
For Transverse Strike-off: Plate, Angle, or other shapes, attached to Channels (or Angles) for Blocking

For Longitudinal Strike-off: Bolt & spacer attached to channels for blocking



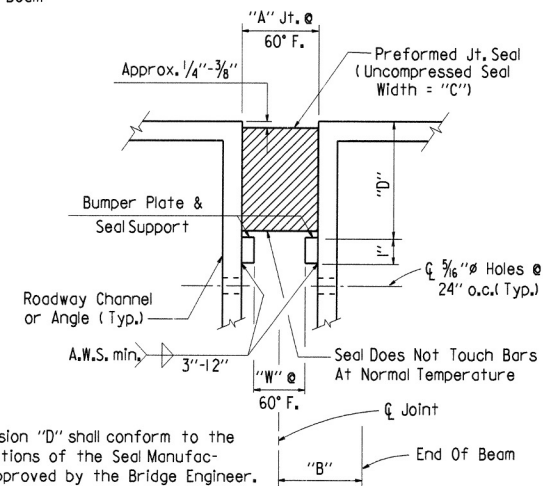
Note: Blocking Detail shown for joint at Int. Bent. Joint at End Bent is similar.

DETAILS FOR BLOCKING EXPANSION JOINT DEVICE
1 1/2" = 1'-0"



Note: As an alternate to 5/8" studs, 1/2" x 8" studs spaced as shown may be used. Use weight of 5/8" stud as basis of measurement of structural steel in anchors.

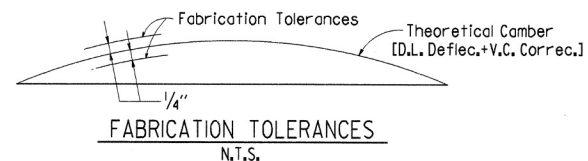
DETAILS OF ALTERNATE ANCHORS
1" = 1'-0"



Note: Dimension "D" shall conform to the recommendations of the Seal Manufacturer as approved by the Bridge Engineer.

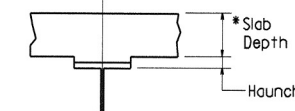
DETAIL OF JOINT SEAL & SUPPORT
N.T.S.

Note: The Seal shall be in one piece (without splices) for the full length of the joint, except that lengths 55 feet and longer may have a factory made splice. Splices, when required, shall be shown on the Shop Drawings and shall be placed near the high ends of the Roadway. Separation of the Splice during installation shall be cause for rejection of the Seal.



FABRICATION TOLERANCES
N.T.S.

Note: Each expansion joint device shall be blocked in the Shop by the Fabricator to the dimension "A", and the blocking details shall be shown on the Shop Drawings. The blocking shall not be removed until the Slab on one side is complete. Blocking shall be placed within 2 feet of each end of the device and with a maximum spacing of 8 feet. Removal shall be just before or after pouring the second side of the joint, as directed by the Engineer.



*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.

Note: No increase in concrete and structural steel quantities will be made to meet slab tolerances.

ADJUSTMENT FOR SLAB THICKNESS TOLERANCE WHEN REMOVABLE DECK FORMING IS USED
N.T.S.

Tolerances shown are applicable only when removable deck forming is used. See std. dwg. no. 1499 for tolerances when permanent steel deck forms are used. Payment for concrete shall be based on removable deck forming.

GENERAL NOTES

The superstructure details shown are for use when removable deck forming is used and are the basis for measurement of Class (S/AE) Concrete. See std. dwg. no. 1499 for allowable modifications and for tolerances when permanent steel bridge deck forms are used.

Governing specifications are the Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, current edition, with applicable supplemental specifications and special provisions.

All concrete shall be Class (S/AE) and shall be poured in the dry. All exposed corners to be chamfered 3/4" unless otherwise noted. Concrete for span lengths thru 50 feet shall be poured in one continuous operation with a strike off extending over the whole span length. Spans over 50 feet in length may be poured in increments with the center one-third to one-half span length poured first, after which, not less than 72 hours shall elapse before pouring the end sections. End sections may be poured simultaneously. If not poured simultaneously, 48 hours shall elapse between end section pours. A minimum of 72 hours shall elapse between completion of the slab and the pouring of the parapet railing or curb. Concrete shall be placed and consolidated for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent.

The bridge deck shall be given a fine finish as specified for final finishing in subsection 802.9 for a Class 5 Tined Bridge Roadway Surface Finish.

Reinforcing steel shall conform to AASHTO M31 or M53, Grade 60. The reinforcing 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 "Reinforcing Steel".

All structural steel shall be AASHTO M270, Gr. 50W unless otherwise noted.

All longitudinal beams and cover plates are considered main load carrying members. All welding shall conform to Subsection 807.26. Welded connections shall be 3/16" fillet shop welds unless otherwise noted. 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 formal request to the Bridge Engineer of the Arkansas State Highway and Transportation Department for approval.

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.

Field connections shall be bolted with 3/4" high strength bolts. Unless otherwise noted, bolt holes shall be 1/16" except that 1/8" holes may be used for connection of expansion devices, diaphragms, and end struts if a washer is used under both the nut and head of the bolt.

Diaphragms shall be installed as beams are erected and shall be completely bolted prior to pouring of the concrete deck.

Bearings shall be seated in accordance with Subsection 807.66 of the Standard Specifications. This work and material are to be considered as subsidiary to the item "Structural Steel in Beam Spans" and will not be paid for directly.

Drawings show general features of design only. Shop drawings shall be made in accordance with the specifications, submitted and approval secured before any fabrication is begun. Structural shapes of equal or greater strength may be substituted for shapes shown if approval is obtained from the bridge engineer. Payment will be made on the basis of shapes shown.

(SHEET 3 OF 3)

DETAILS OF
30'-0" COMP. W-BEAM SPAN
CANE CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: W.M.J. DATE: 3-8-96
CHECKED BY: J.R.W. DATE: 10-11-96
DESIGNED BY: J.R.W. DATE: 5-9-96
BRIDGE NO. 00832 DRAWING NO. 38045

