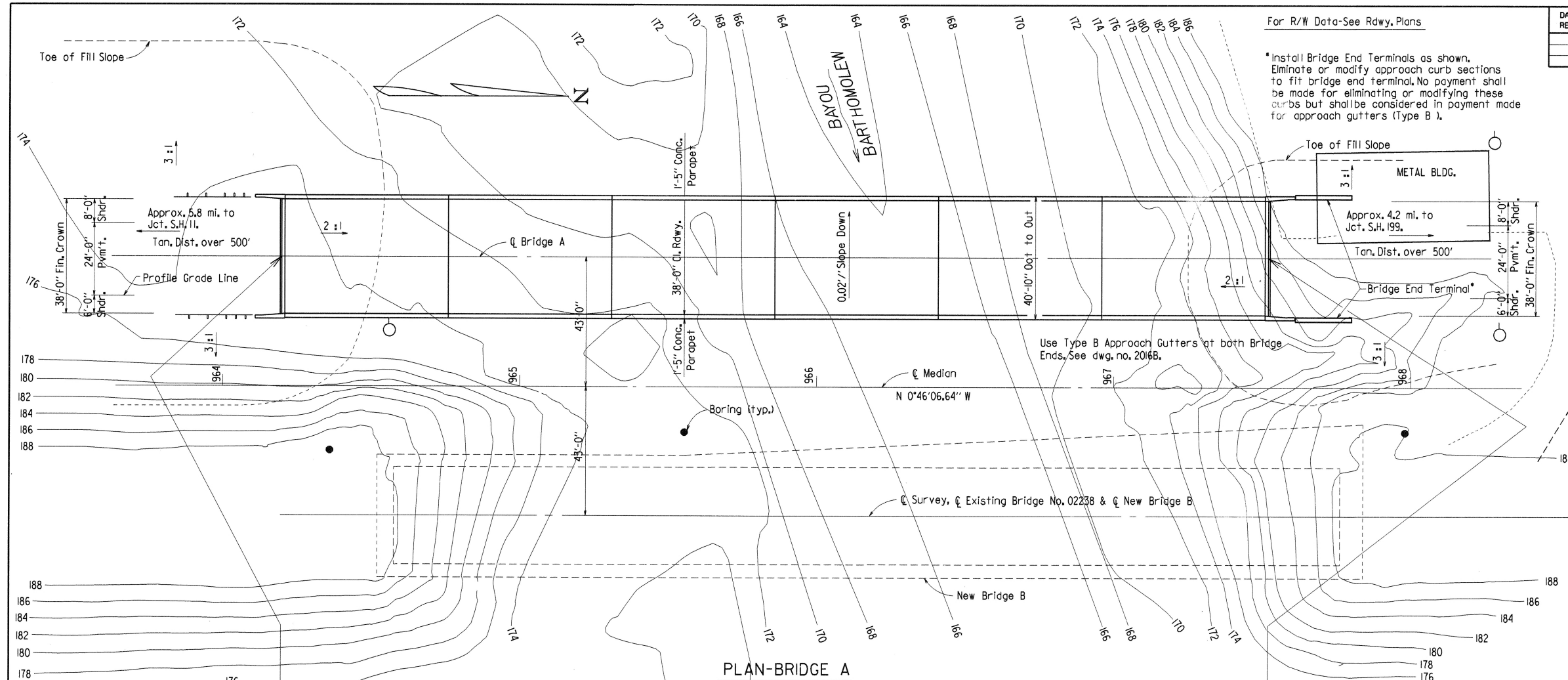


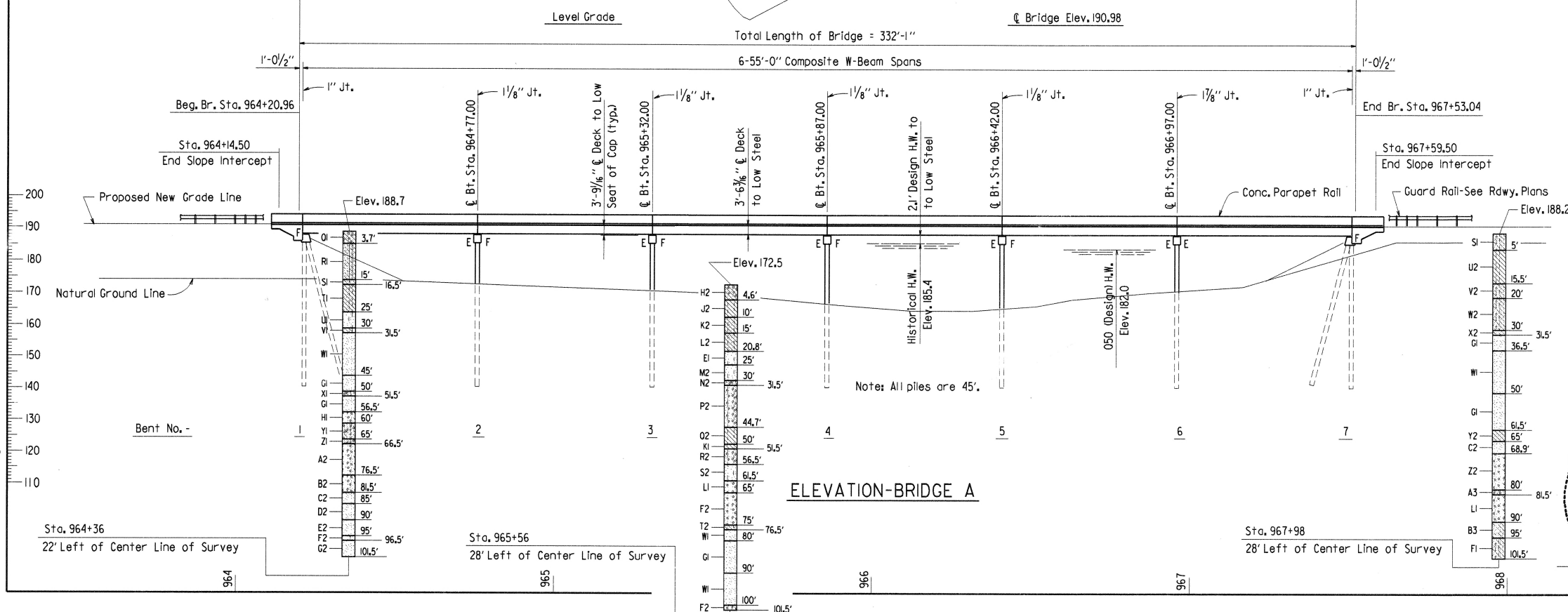
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020112	53	139
				A6681		LAYOUT		38046

For R/W Data-See Rdwy. Plans

*Install Bridge End Terminals as shown. Eliminate or modify approach curb sections to fit bridge end terminal. No payment shall be made for eliminating or modifying these curbs but shall be considered in payment made for approach gutters (Type B).



PLAN-BRIDGE A



ELEVATION-BRIDGE A

"N" VALUES

Sta. 964+36 - 22' Left of Center Line of Survey

4.2- 5.2, N=12
9.2- 10.2, N=9
15.5- 16.5, N=11
20.5- 21.5, N=6
25.5- 26.5, N=17
30.5- 31.5, N=20
35.5- 36.5, N=25
40.5- 41.5, N=26
45.5- 46.5, N=46
50.5- 51.5, N=32
55.5- 56.5, N=32
60.5- 61.5, N=10
65.5- 66.5, N=14
70.5- 71.5, N=28
75.5- 76.5, N=22
80.5- 81.5, N=20
85.5- 86.5, N=68
90.5- 91.5, N=21
95.5- 96.5, N=31
100.5- 101.5, N=22

Sta. 965+56 - 28' Left of Center Line of Survey

5.1- 6.1, N=4
10.5- 11.5, N=5
15.5- 16.5, N=2
20.5- 21.5, N=6
25.5- 26.5, N=14
30.5- 31.5, N=20
35.5- 36.5, N=20
40.5- 41.5, N=28
45.5- 46.5, N=5
50.5- 51.5, N=14
55.5- 56.5, N=19
60.5- 61.5, N=18
65.5- 66.5, N=31
70.5- 71.5, N=53
75.5- 76.5, N=19
80.5- 81.5, N=33
85.5- 86.5, N=42
90.5- 91.5, N=25
95.5- 96.5, N=22
100.5- 101.5, N=32

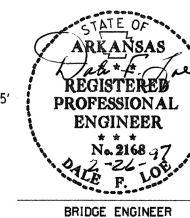
Sta. 967+98 - 28' Left of Center Line of Survey

4.0- 5.0, N=12
9.0- 10.0, N=8
16.0- 17.0, N=7
20.5- 21.5, N=7
25.5- 26.5, N=6
30.5- 31.5, N=37
35.5- 36.5, N=33
40.5- 41.5, N=19
45.5- 46.5, N=20
50.5- 51.5, N=37
55.5- 56.5, N=51
60.5- 61.5, N=34
65.5- 66.5, N=27
70.5- 71.5, N=20
75.5- 76.5, N=12
80.5- 81.5, N=31
85.5- 86.5, N=15
90.5- 91.5, N=45
95.5- 96.5, N=30
100.5- 101.5, N=21

SHEET 1 OF 3

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

DRAWN BY: WMAJ DATE: 1-3-96
CHECKED BY: GYA DATE: 6-3-96
DESIGNED BY: ARW DATE: Dec. 95
BRIDGE NO. A6681 DRAWING NO. 38046



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	55	139
				1	A6681 & B6681	LAYOUT		38048

BORING LOG

Al-Moist, Stiff, Brown Sandy, Silty Clay with Gravel
Bl-Moist, Loose, Brown Silt with Clay Seams
Cl-Moist, Loose, Brown Sandy Silt with some Clay Seams
Dl-Moist, Loose, Brown Sandy Silt with Clay Seams
El-Wet, Loose, Brown and Gray Silty Sand
Fl-Wet, Medium Dense, Brown Silty Sand
Gl-Wet, Dense, Brown Sand
Hl-Wet, Dense, Brown Sand and Pea Gravel
Jl-Wet, Medium Dense, Brown and Gray Sand
Kl-Moist, Stiff, Gray Silty Clay
Ll-Wet, Medium Dense, Brown Sand and Gravel
Ml-Wet, Medium Dense, Gray to Brown Sand
Nl-Wet, Medium Dense, Brown to Gray and Brown Sand and Gravel
Pl-Wet, Dense, Brown Silty Sand
Ql-Moist, Stiff, Brown Sandy Clay with Gravel
Rl-Moist, Medium Dense to Loose, Brown Sandy Silt with Clay Seams
Sl-Moist, Medium Dense, Brown Silty Sand with Clay Seams
Tl-Moist, Stiff to Medium Stiff, Gray and Brown Sandy, Silty Clay with some Organic Matter
Ul-Wet, Medium Dense, Gray Silty Sand
Vl-Wet, Medium Dense, Brown and Gray Silty Sand with Clay Seams
Wl-Wet, Medium Dense, Brown Sand
Xl-Wet, Dense, Brown and Gray Sand with Clay Seams and Gravel
Yl-Wet, Loose, Brown Sand with Clay Seams and Pea Gravel
Zl-Wet, Medium Dense, Brown and Gray Sand with Clay Seams and Gravel
A2-Wet, Medium Dense, Gray to Brown Sand and Gravel
B2-Wet, Medium Dense, Gray Sand and Gravel
C2-Wet, Medium Dense, Gray Sand
D2-Wet, Very Dense, Brown Sand
E2-Wet, Medium Dense to Dense, Brown Sand
F2-Wet, Dense, Brown Sand and Gravel
G2-Wet, Medium Dense, Brown Sand with some Gravel
H2-Moist, Soft, Brown Sandy Clay with Gravel
J2-Moist, Soft, Brown and Gray Silty Clay with some Organic Matter
K2-Moist, Medium Stiff, Brown and Gray Sandy, Silty Clay
L2-Wet, Soft, Brown and Gray Sandy, Silty Clay
M2-Wet, Medium Dense, Gray Silty Sand with some Gravel
N2-Wet, Medium Dense, Brown and Gray Sand with Clay Seams and Pea Gravel
P2-Wet, Medium Dense, Brown to Brown and Gray Silty Sand and Gravel
Q2-Moist, Medium Stiff, Gray and Brown Clay with Silt Seams
R2-Wet, Medium Dense, Gray Silty Sand and Gravel
S2-Wet, Medium Dense, Gray and Brown Silty Sand
T2-Wet, Medium Dense, Brown Silty Sand with Clay Seams
U2-Moist, Medium Stiff, Brown and Gray to Brown Silty Clay
V2-Moist, Loose, Brown Silty Sand with Clay Seams
W2-Wet, Loose, Brown Silty Sand with Clay Seams
X2-Wet, Dense, Brown Sand with Clay Seams
Y2-Moist, Stiff, Brown Sandy Clay
Z2-Wet, Medium Dense, Gray Sand and Gravel with some Clay Seams
A3-Wet, Dense, Gray Sand with Clay Seams and Gravel
B3-Wet, Dense, Brown Sand with Clay Seams and some Organic Matter and Thin Cemented Sand Seams
C3-Moist, Stiff, Brown Sandy, Silty Clay
D3-Moist, Medium Dense, Brown Silt with Clay Seams
E3-Moist, Very Loose, Brown Sandy Silt with Clay Seams
F3-Moist, Soft, Brown and Gray Sandy, Silty Clay
G3-Moist, Medium Stiff, Brown and Gray Silty Clay
H3-Moist, Soft, Brown Silty Clay
J3-Moist, Loose, Brown Silty Sand
K3-Wet, Dense, Brown Sand with some Clay Seams
L3-Wet, Medium Dense, Brown Sand with some Clay Seams
M3-Wet, Medium Dense, Gray Silty Sand with some Clay Seams
N3-Wet, Medium Dense, Gray and Brown to Gray Sand and Gravel
P3-Wet, Dense, Gray and Brown Sand

HYDRAULIC DATA

FLOOD DESCRIPTION	FREQUENCY	DISCHARGE	*NATURAL WATER SURFACE ELEVATION	WATER SURFACE ELEVATION WITH BACKWATER
	YEARS	CFS	FEET	FEET
Design	50	5200	182.0	182.1
Base	100	5760	182.7	182.8
Extreme	500	7100	184.5	184.6
Overtopping	>500			

* Unconstricted water surface without structure or roadway approaches.
Drainage area = 189.0 square miles.
Historical H.W. Elev. 185.4

GENERAL NOTES

BENCH MARK: R.R. Spike in C.P. 72.50 Lt. Sta. 970+99.92; Elev. 186.95.

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.

SEISMIC PERFORMANCE CATEGORY: A

LIVE LOADING: HS20 METHOD OF DESIGN: Load Factor

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) Fy = 60,000 psi
Structural Steel (M270, Gr. 50W) Fy = 50,000 psi
Structural Steel (M270, Gr. 36) Fy = 36,000 psi

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

CONCRETE PILING: Piling in End Bents 1 and 7 shall be 16" octagonal or 14" square precast concrete. Piles in End Bents to be driven after embankment to bottom of cap is in place to a minimum safe bearing capacity of 44 tons per pile. Piling in bents 2 - 6 shall be 18" square precast concrete and shall be driven to a minimum safe bearing capacity of 65 tons per pile. All piling shall be driven with an approved air, steam or diesel hammer. Piles in bents 2 - 6 shall be driven to a minimum penetration of 20' below natural ground. Lengths of piling shown are for estimating quantities only. Actual lengths to be determined in the field. Drive one 50' test pile in End Bent No. 1 and one 50' Test Pile in Bent Nos. 3 & 6 for Bridges A & B.

DETAIL DRAWINGS:

DRAWING NO.

End Bents 38049, 38051, 38054 & 38060
Intermediate Bents 38050, 38055 - 38059
W-Beam Spans 38052, 38053, 38062 - 38066

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

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

EXISTING BRIDGE: The existing bridge No. 02238 is 28' wide and 318.25' long. The substructure consists of concrete caps and concrete piles. The superstructure consists of 7 spans with steel beams with a concrete deck.

REMOVAL AND SALVAGE: After the New Bridge A is open to traffic the existing bridge no. 02238 shall be removed in accordance with section 205 of the Standard Specifications. All material from the existing bridge shall become the property of the Contractor except the existing abutments from a previous bridge shall not be removed.

MAINTENANCE OF TRAFFIC: For maintenance of traffic, see Roadway Plans.

SHEET 3 OF 3

LAYOUT OF BRIDGES OVER
BAYOU BARTHOLOMEW
CANE CR. & BAYOU BARTHOLOMEW
STRS. & APPRS. (F)
LINCOLN COUNTY

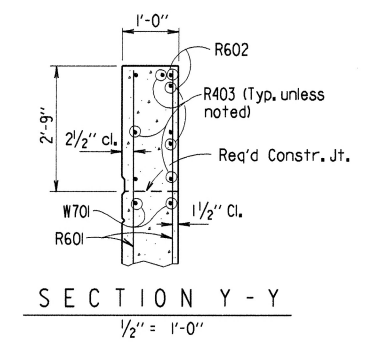
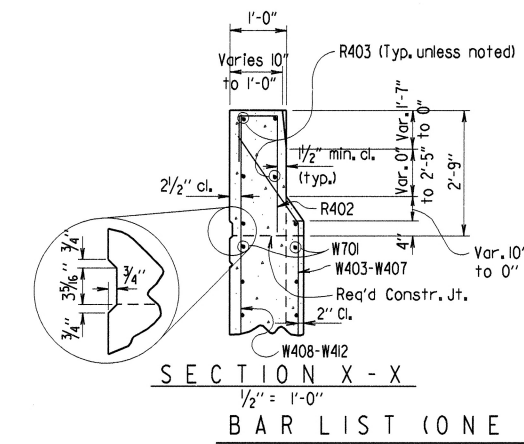
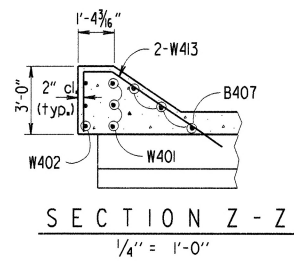
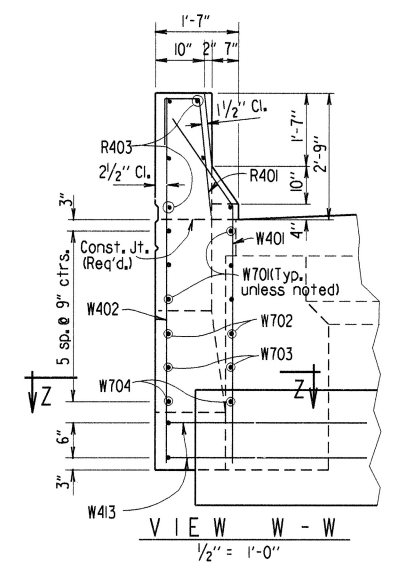
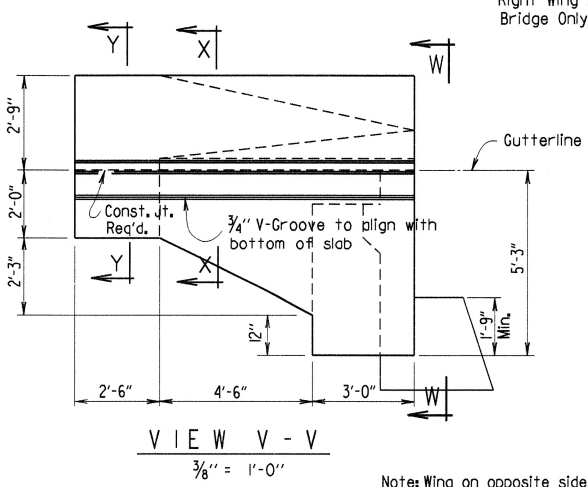
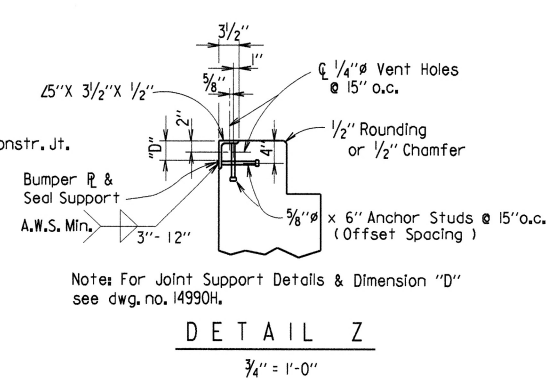
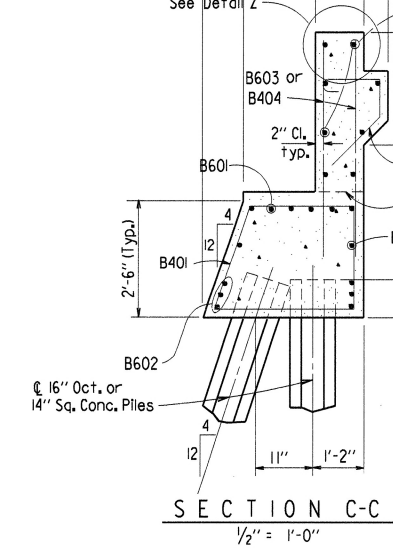
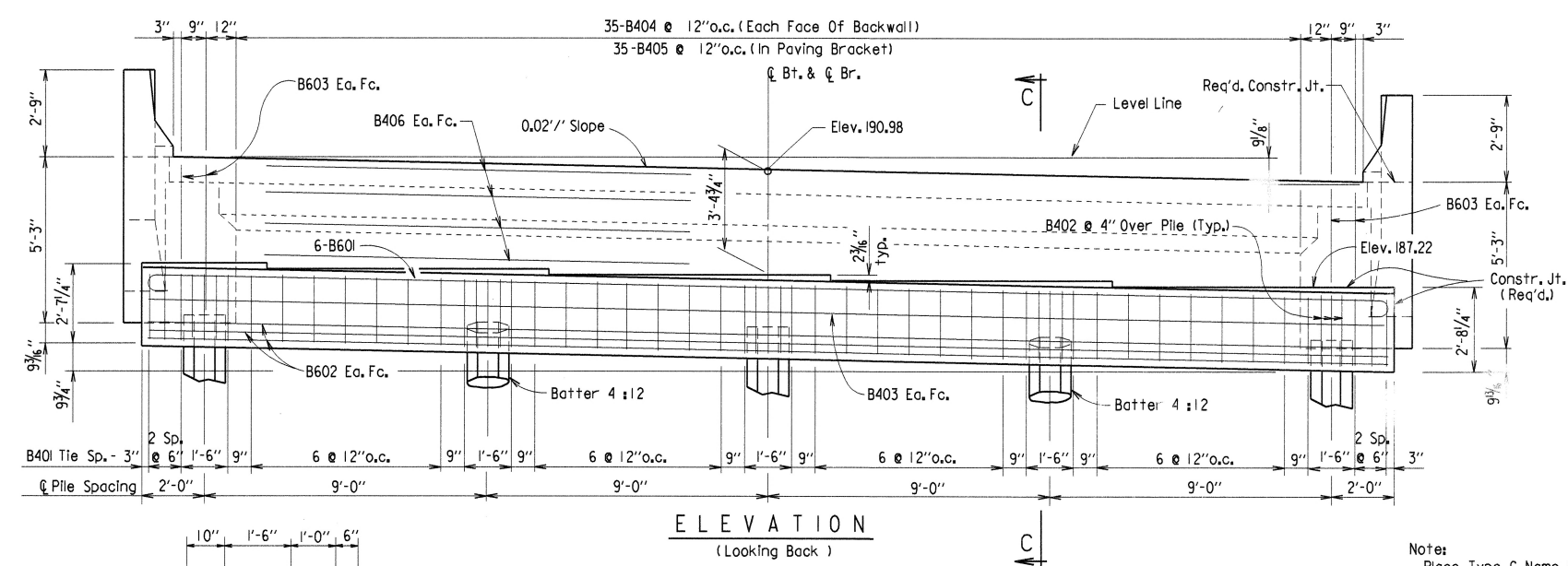
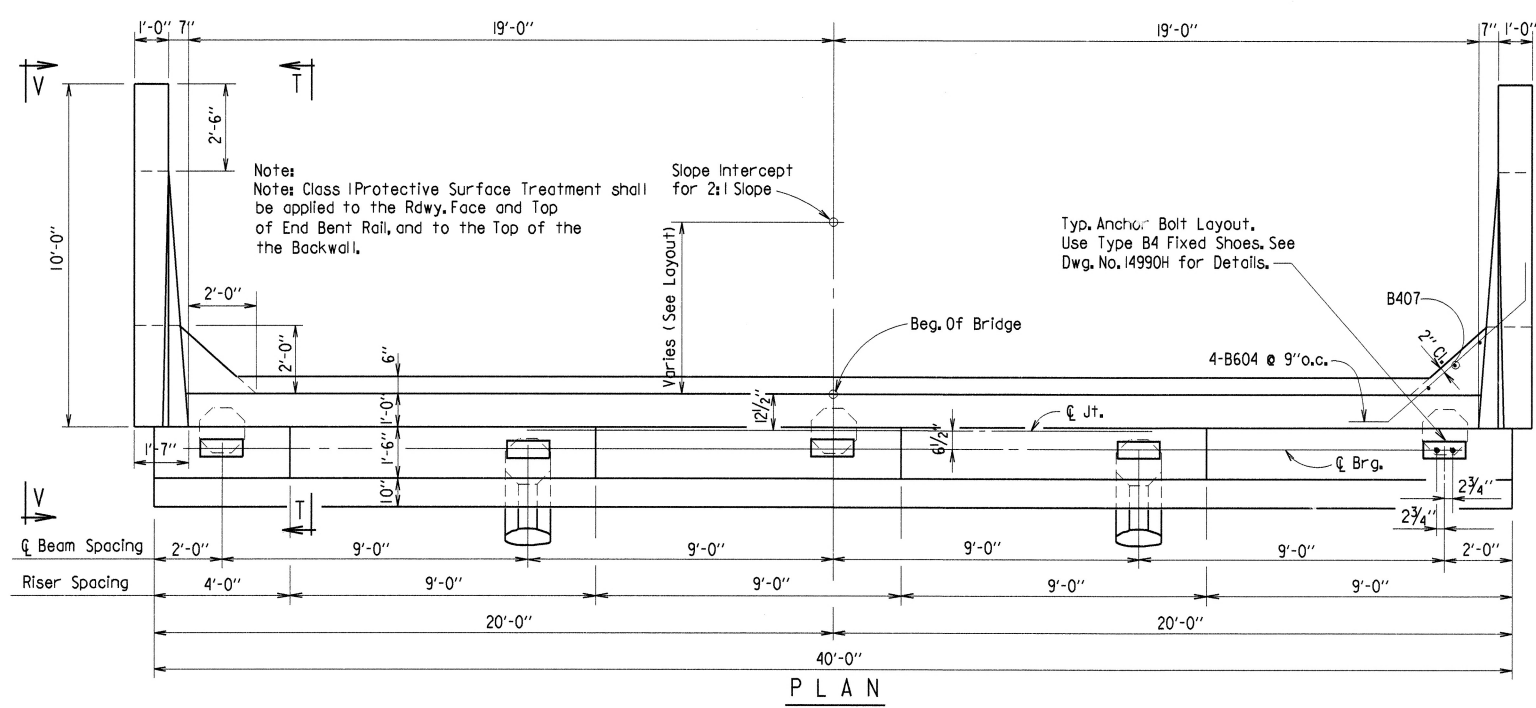
ROUTE 425 SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.



BRIDGE ENGINEER

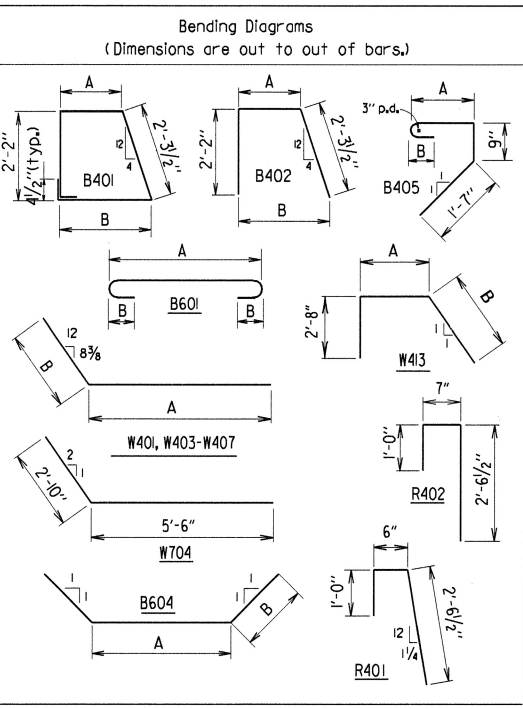
DRAWN BY: WMAJ DATE: 1-3-96
CHECKED BY: GVA DATE: 6-3-96 SCALE: 1" = 20'
DESIGNED BY: ARW DATE: Dec-95
BRIDGE NO. A6681 & B6681 DRAWING NO. 38048

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	56	139
				A6681	BENT		38049	



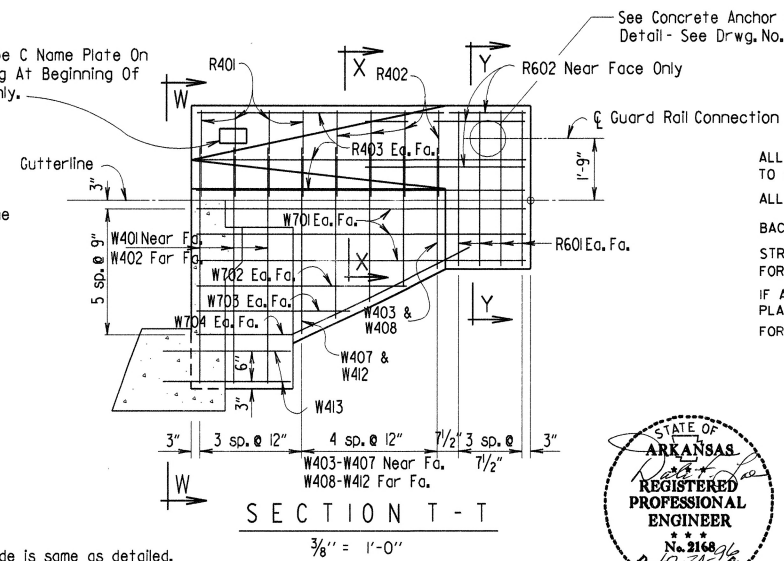
BAR LIST (ONE END BT.)

Mark	No. Req'd.	Length	A	B	Pin Dia.
B401	42	9'-11"	2'-2"	2'-11"	2"
B402	15	6'-6"	2'-2"	2'-11"	2"
B403	2	39'-8"			Str.
B404	70	4'-11"			Str.
B405	35	3'-11"	1'-2"	4 1/2"	2"
B406	16	2'-3"			Str.
B407	6	4'-11"			Str.
B601	6	4'-0"	39'-8"	6"	4 1/2"
B602	6	39'-8"			Str.
B603	8	4'-11"			Str.
B604	8	7'-3"	5'-3"	1'-0"	4 1/2"
R401	8	3'-11"			2"
R402	8	4'-0"			2"
R403	12	9'-8"			Str.
R601	16	4'-5"			Str.
R602	6	5'-0"			Str.
W401	6	6'-6"	5'-4"	1'-2"	2"
W402	6	7'-8"			Str.
W403-W407	2 Ea.	Var. 3'-5" to 5'-5"	Var. 2'-3" to 4'-3"	1'-2"	2"
W408-W412	2 Ea.	Var. 4'-6" to 6'-6"			Str.
W413	4	7'-11"	1'-1"	4'-3"	2"
W701	12	9'-8"			Str.
W702	4	6'-0"			Str.
W703	4	4'-6"			Str.
W704	4	8'-4"			5 1/4"



Note: Place Type C Name Plate On Right Wing At Beginning Of Bridge Only.

See Concrete Anchor Insert Assembly Detail - See Dwg. No. GR-8A



ALL CONCRETE SHALL BE CLASS "S" AND BE POURED IN THE DRY. ALL EXPOSED CORNERS TO BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED.

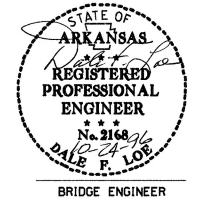
ALL REINFORCING STEEL SHALL CONFORM TO AASHTO M31 OR M53, GRADE 60.

BACKWALL SHALL NOT BE POURED BEFORE BEAMS ARE IN PLACE.

STRUCTURAL STEEL IN END BENTS SHALL BE AASHTO M270, GR. 50W AND SHALL BE PAID FOR AS "STRUCTURAL STEEL IN BEAM SPANS (M270, GR. 50W)".

IF ANCHOR BOLTS ARE DRILLED INTO CAP, TOP REINFORCING BARS SHALL BE PROPERLY PLACED TO AVOID DAMAGE.

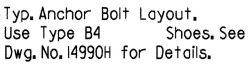
FOR ADDITIONAL INFORMATION, SEE LAYOUT.



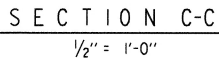
DETAILS OF BENT I FOR BRIDGE A
BAYOU BARTHOLOMEW
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: WMAJ DATE: 6-26-96
CHECKED BY: [Signature] DATE: 10-11-96 SCALE: 3/8" = 1'-0" Or As Shown
DESIGNED BY: [Signature] DATE: Jan-96
BRIDGE NO. A6681 DRAWING NO. 38049

1	A668I	BENT	38050
---	-------	------	-------



P L A N



NOTES:

ALL CONCRETE SHALL BE CLASS "S" AND BE POURED IN THE DRY. ALL EXPOSED CORNERS TO BE CHAMFERED $\frac{3}{4}$ " UNLESS OTHERWISE NOTED.

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.

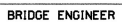
FOR ADDITIONAL INFORMATION, SEE LAYOUT.

BAR LIST (ONE INT. BENT)

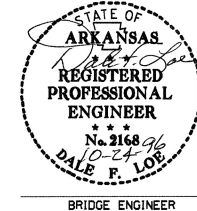
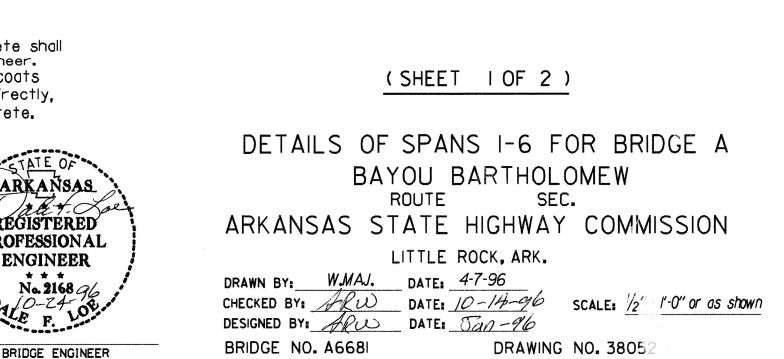
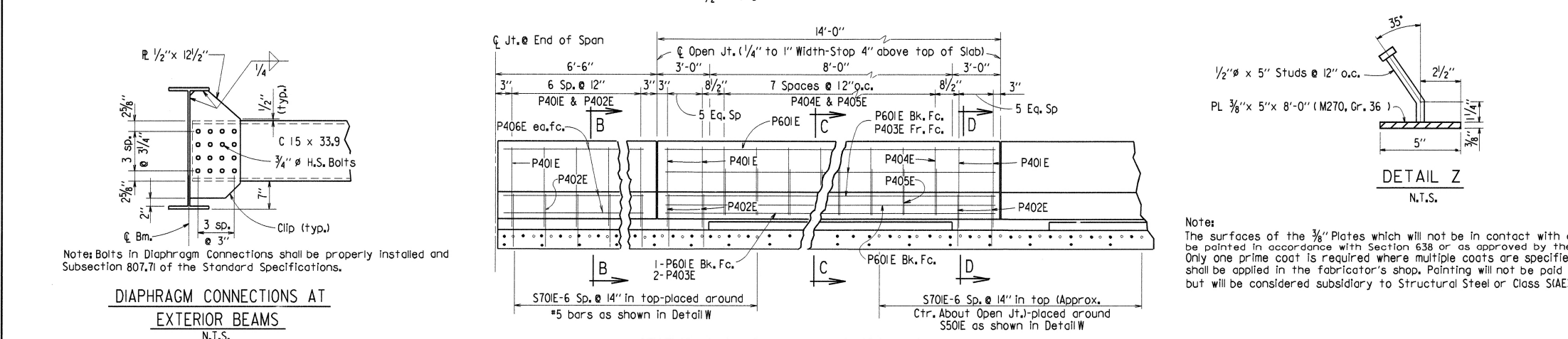
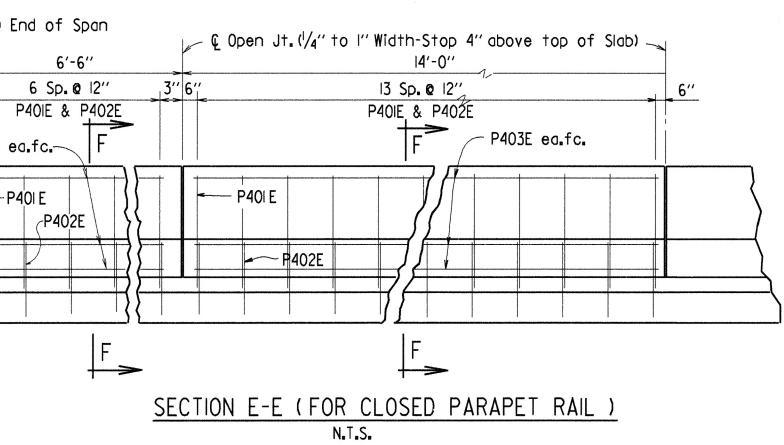
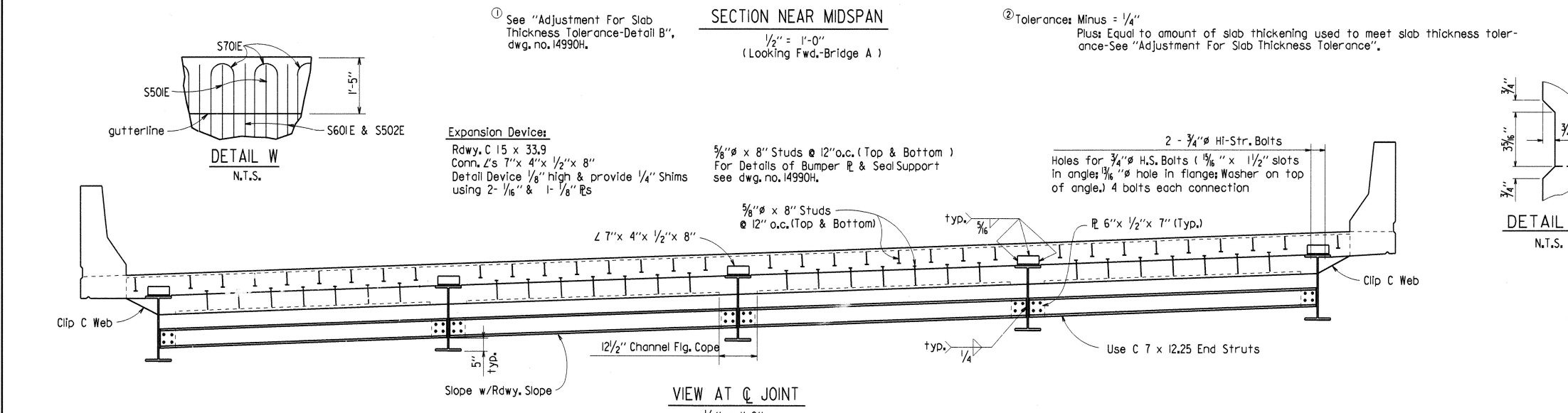
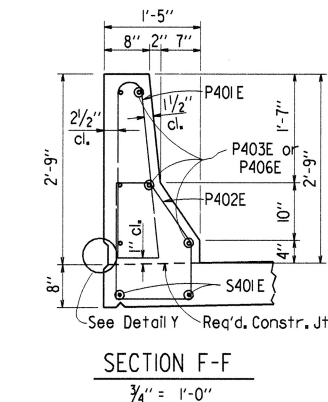
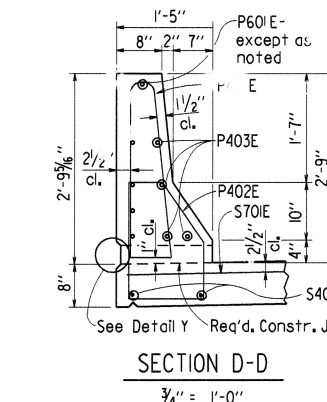
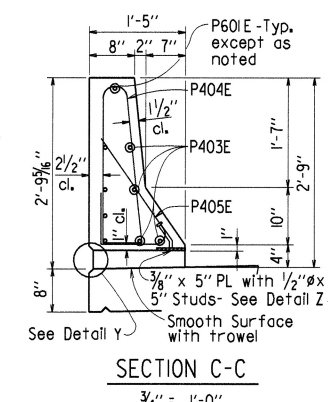
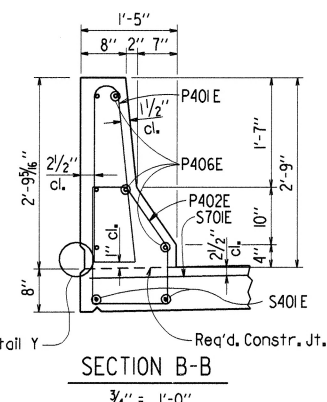
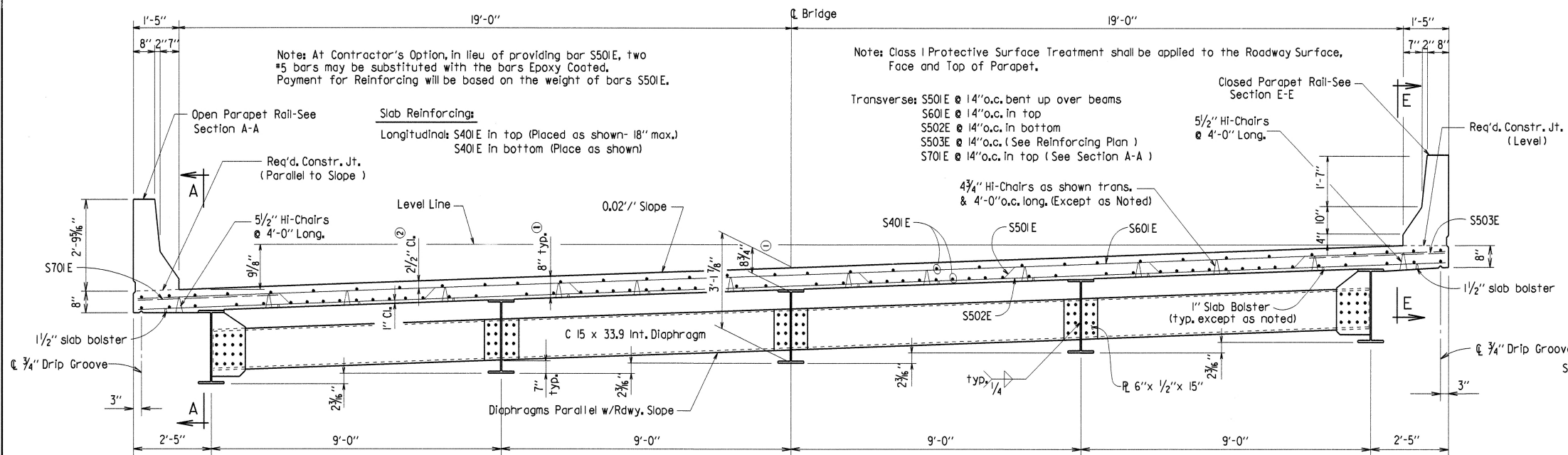
Technical drawings of three types of wall anchors:

- B40I**: A square anchor with dimensions A and B . The hole diameter is $4\frac{1}{2}"$ (typ.).
- B402**: A square anchor with dimensions A and B .
- B60I**: A U-shaped anchor with dimensions A and B .

DRAWN BY: WMA DATE: 7-96
 CHECKED BY: ARW DATE: 10-11-96 SCALE: 3/8" = 1'-0" Or As Shown
 DESIGNED BY: ARW DATE: Jan-96
 BRIDGE NO. A668! DRAWING NO. 38050



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	59	139
				A6681		W-BEAM SPAN		38052



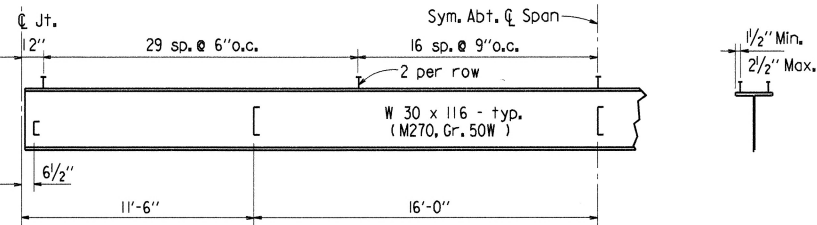
DETAILS OF SPANS 1-6 FOR BRIDGE A
BAYOU BARTHOLOMEW
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: W.M.A.J. DATE: 4-7-96
CHECKED BY: ARW DATE: 10-14-96
DESIGNED BY: ARW DATE: 10-14-96
BRIDGE NO. A6681 DRAWING NO. 38052

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	60	139
				A6681		SPANS		38053

BAR LIST (PER SPAN)

MK	No. Req'd.	Length	Pin Dia.	Bending Diagrams (Dimensions are out to out of bars.)
S401E	184	28'-4"	Str.	<p>** 1/2" Overtolerance, No Undertolerance. Sym. abt. Q Bridge</p>
S501E	46	4'-0"	3"	
S502E	47	40'-6"	Str.	
S503E	47	4'-9"	Str.	
S601E	47	40'-6"	Str.	
S701E	28	10'-9"	5/4"	
P401E	106	6'-4"	2"	
P402E	106	5'-7"	2"	
P403E	30	13'-8"	Str.	
P404E	24	5'-10"	2"	
P405E	24	3'-2"	2"	
P406E	24	6'-2"	Str.	
P601E	15	13'-8"	Str.	



SPACING FOR 7/8" STUD SHEAR CONNECTORS & DIAPHRAGMS

N.T.S.
Notes: 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		
			1/4 Pt.	1/2 Pt.	1/4 Pt.	1/2 Pt.
55'	1	Bm. & Diaph.	1/8"	3/16"	1/8"	3/16"
	2	1 & Slab	15/16"	1 3/8"	3/4"	1 1/16"
	3	2 & Parapet	1"	1 7/16"	1 3/16"	1 3/16"

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 Standard Drawing No. 1499I for allowable modifications and for tolerances when permanent steel bridge deck forms are used.

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 current 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.)	706 plf + 1.3 (Wt./Ft. of W-Bm.)
B. To Composite Beam	336 plf *	336 plf *

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

* Includes 182 plf future wearing surface

Material Strengths:
Class S(AE) Concrete (N-8) f'c = 4,000 p.s.i.
Reinforcing Steel (M31 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.

For additional details, see Std. Dwg. No. 14990H.

(SHEET 2 OF 2)

DETAILS OF SPANS 1-6 FOR BRIDGE A
BAYOU BARTHOLOMEW
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: W.M.A. DATE: 4-12-96
CHECKED BY: [Signature] DATE: 10-14-96 SCALE: As Shown
DESIGNED BY: [Signature] DATE: Jan-96
BRIDGE NO. A6681 DRAWING NO. 38053

