

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
04-15-16				6	ARK.			
				JOB NO.		061349	24	94
(1) 07297 - QUANTITIES - 56935								

SCHEDULE OF BRIDGE QUANTITIES - JOB NO. 061349

BRIDGE NO. CODE NO. NAME PLATE TITLE	UNIT OF STRUCTURE	ITEM NO.	205	619	802	802	803	804	804	805	SP & 807	808	809	812	816
		ITEM	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 1)	6' - 0" CHAIN LINK FENCE	CLASS S CONCRETE - BRIDGE	CLASS S(AE1) CONCRETE - BRIDGE	CLASS 1 PROTECTIVE SURFACE TREATMENT	REINFORCING STEEL - BRIDGE (GRADE 60)	EPOXY COATED REINFORCING STEEL (GRADE 60)	STEEL PILING HP14x73 HP14x89	STRUCTURAL STEEL IN BEAM SPANS (M 270, GRADE 50W)	ELASTOMERIC BEARINGS	SILICONE JOINT SEALANT	BRIDGE NAME PLATE (TYPE D)	CONCRETE RIPRAP
		UNIT	LUMP SUM	LIN. FT.	CU. YD.	CU. YD.	GAL.	LB.	LB.	LIN. FT.	LB.	CU. IN.	LIN. FT.	EACH	CU. YD.
07297 X171 BAUXITE & NORTHERN RR SPUR	BENT NO. 1				34.85		0.3	3,530		230	778	1495.5			30
	BENT NO. 2				34.85		0.3	3,530		230	778	1495.5			32
	100' COMP. W-BEAM SPAN			194		128.80	10.5		27,650		163,464		88	1	
TOTALS FOR JOB NO. 061349			1	194	69.70	128.80	11.1	7,060	27,650	460 (1)	165,020	2991.0	88	1	62

(1) These steel piles are required to be Grade 50 and have special pile tips which will not be paid for directly, but will be considered subsidiary to the item "Steel Piling - HP14x73".
HP14x89

AILEEN SCHUBEL
DESIGN SECTION SUPERVISOR

Increased pile size for sacrificial corrosion resistance due to acidic soil encountered during construction per Change Order No. 2.
04-15-16 ACP

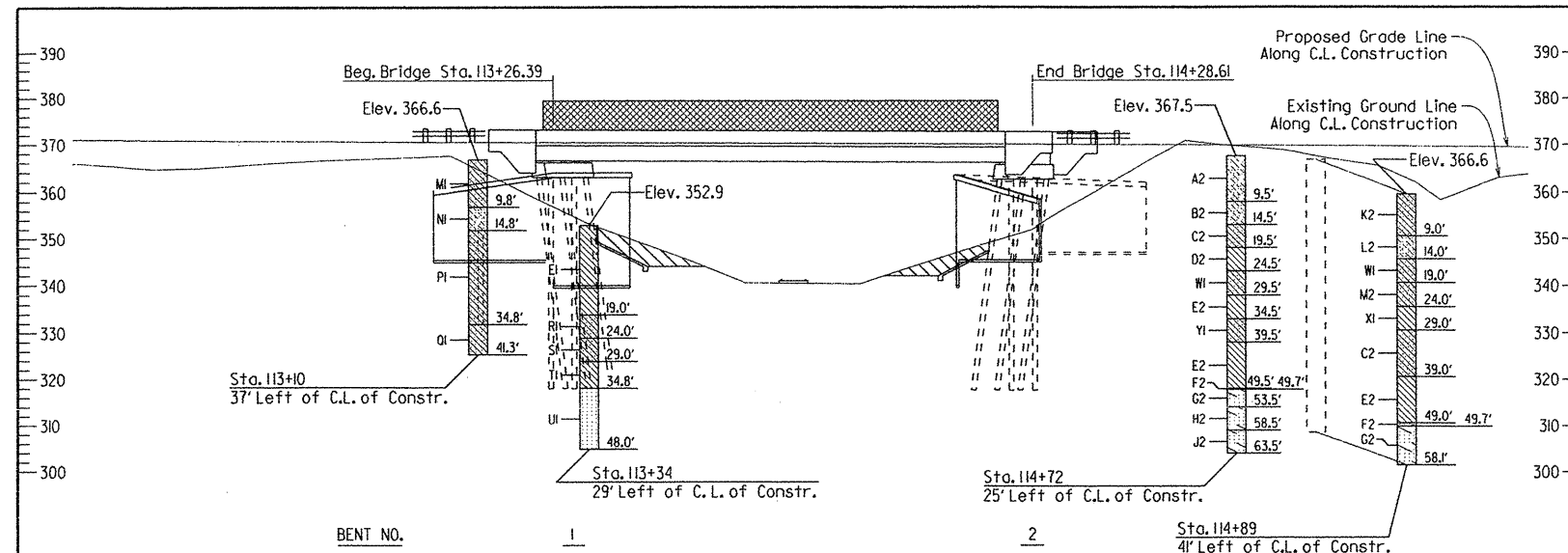
SCHEDULE OF BRIDGE QUANTITIES
BAUXITE & NORTHERN RR SPUR
STR. & APPRS. (S)
SALINE COUNTY

ROUTE 183 SEC. 1
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

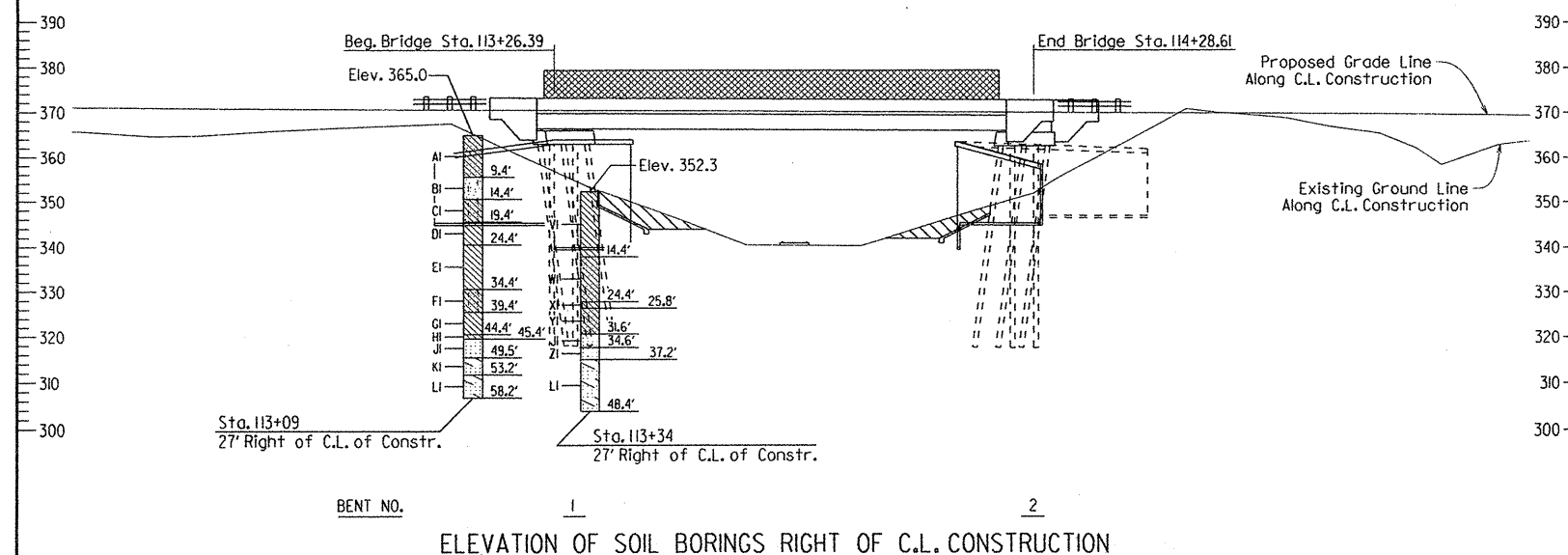
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CHECKED BY: ACP DATE: 4/2/15 SCALE: No Scale
DESIGNED BY: DATE: BRIDGE NO. 07297 DRAWING NO. 56935



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.		061349	33	94
				07297 - LAYOUT - 56937				



ELEVATION OF SOIL BORINGS LEFT OF C.L. CONSTRUCTION



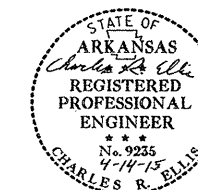
ELEVATION OF SOIL BORINGS RIGHT OF C.L. CONSTRUCTION

BORING LEGEND

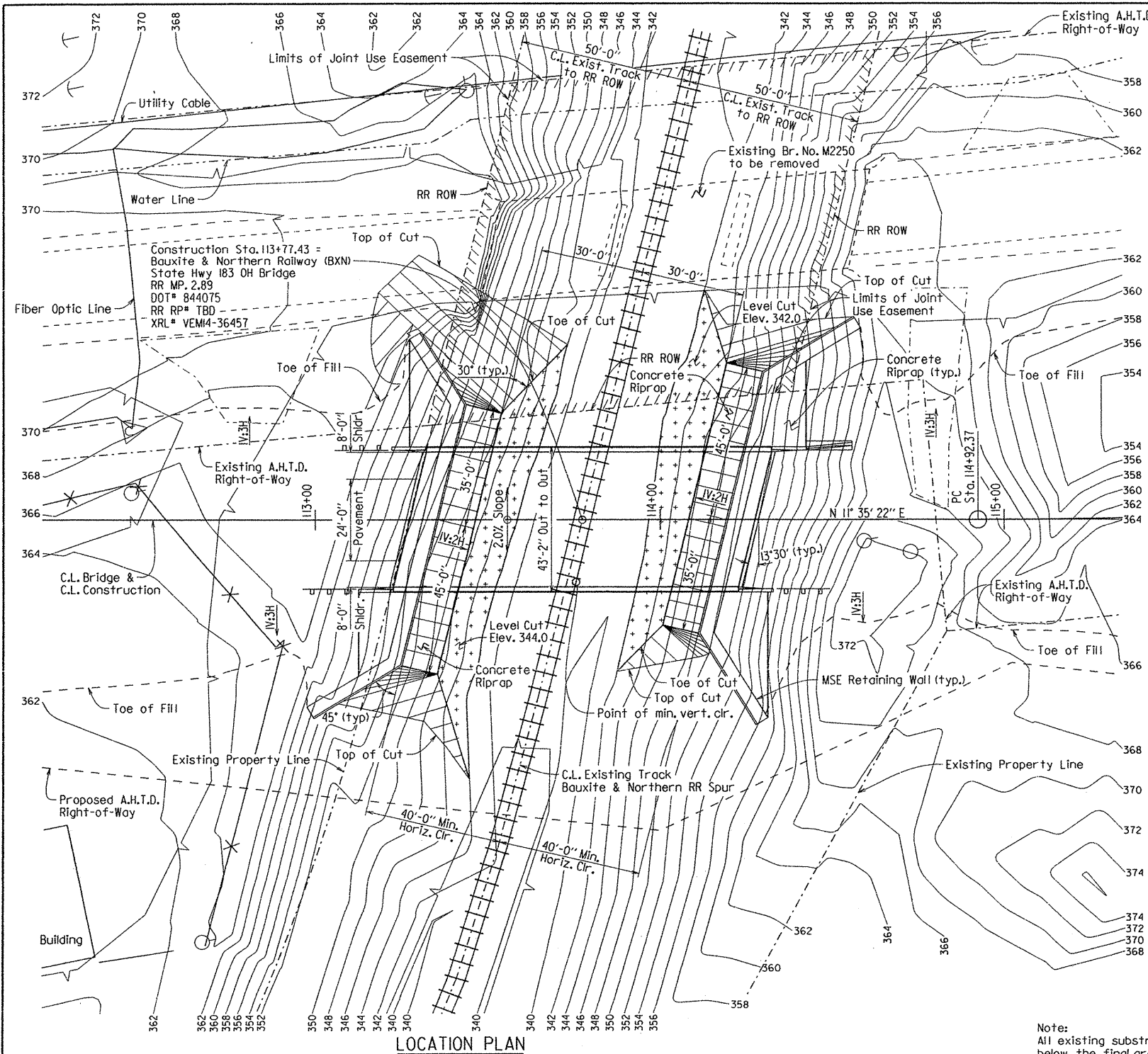
A1-Moist, Stiff, Reddish Brown to Brown Sandy Clay
 B1-Moist, Medium Dense, Brown and Gray Silty Sand
 C1-Moist, Very Stiff, Gray Clay with Silt and Sand Seams
 D1-Moist, Very Stiff, Dark Brown Clay with Silt and Sand Partings
 E1-Moist, Very Stiff, Brown and Gray Clay with Silt and Sand Partings
 F1-Moist, Very Stiff, Brown and Gray Clay with Silt and Sand Seams
 G1-Moist, Very Stiff, Brown and Gray Clay with Silt Partings
 H1-Moist, Very Hard, Brown and Gray Clay with Silt Partings
 I1-SANDSTONE - Light Brown, Poorly-Cemented (Bauxite)
 J1-SANDSTONE WITH REDDISH BROWN CLAY LAYERS - Reddish Brown and Gray, Medium Bedded, Cemented, with Slight Dip (Bauxite)
 L1-SANDSTONE WITH REDDISH BROWN CLAY LAYERS - Reddish Brown and Gray, Medium Bedded, Poorly-Cemented, with Slight Dip (Bauxite)
 M1-Moist, Stiff, Dark Gray Sandy Clay
 N1-Moist, Medium Dense, Dark Gray Sand with Clay
 P1-Moist, Very Stiff, Gray and Brown Clay with Silt and Sand Seams
 Q1-Moist, Very Stiff, Gray and Brown Clay with Sand Layers
 R1-Moist, Very Stiff, Brown and Gray Clay with Sand Seams
 S1-Moist, Hard, Brown and Gray Clay with Sand Seams
 T1-Moist, Hard, Dark Brown Clay with Slickensides
 U1-SANDSTONE WITH REDDISH BROWN CLAY SEAMS - Reddish Brown and Gray, Medium Bedded, Poorly-Cemented, with Slight Dip (Bauxite)
 V1-Moist, Very Stiff, Gray and Brown Clay with Silt and Sand Partings
 W1-Moist, Very Stiff, Gray and Brown Clay with Sand Seams
 X1-Moist, Very Stiff, Gray and Brown Clay with Sand Partings
 Y1-Moist, Hard, Gray and Brown Clay with Sand Seams
 Z1-SANDSTONE - Light Brown and Gray, Medium Bedded, Cemented, with Slight Dip (Bauxite)
 A2-Moist, Medium Dense, Brown Sand with Gray Clay and some Gravel (Sandstone Fragments)
 B2-Moist, Medium Dense, Brown and Gray Sand with Clay
 C2-Moist, Very Stiff, Gray Clay with Sand Seams
 D2-Moist, Very Stiff, Gray Clay with Sand Partings
 E2-Moist, Hard, Gray and Brown Clay with Sand Partings
 F2-SANDSTONE WITH CLAY LAYERS - Reddish Brown, Poorly-Cemented (Bauxite)
 G2-SANDSTONE WITH CLAY LAYERS - Reddish Brown, Medium Bedded, Poorly-Cemented, with Slight Dip (Bauxite)
 H2-SANDSTONE WITH CLAY SEAMS - Reddish Brown, Medium Bedded, Poorly-Cemented, with Slight Dip (Bauxite)
 J2-ALTERNATING LAYERS OF REDDISH BROWN AND BLACK SANDSTONE WITH CLAY SEAMS - Medium Bedded, Poorly-Cemented, with Slight Dip (Bauxite)
 K2-Moist, Medium Stiff, Gray Clay with Sand Seams
 L2-Moist, Medium Dense, Brown Sand with Clay
 M2-Moist, Very Stiff, Dark Brown Clay with Sand Seams

"N" VALUES

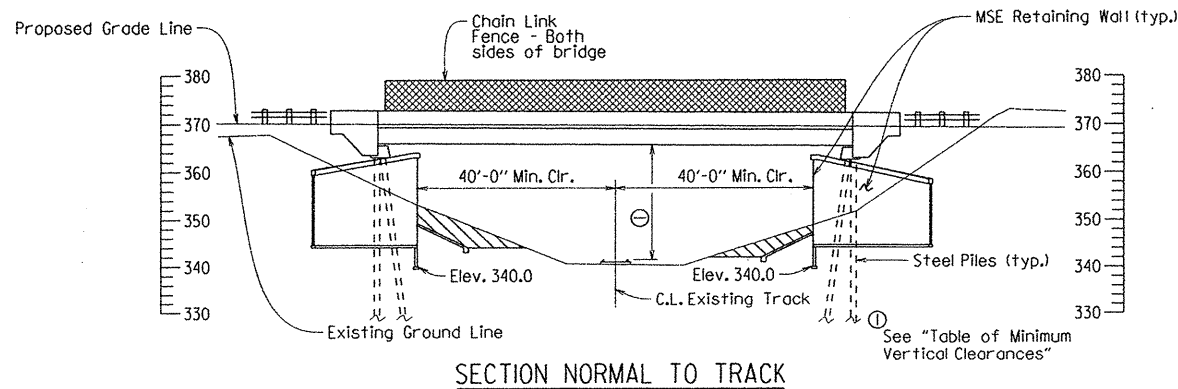
Sta. 113+09 - 27' Right of C.L. of Constr.	Sta. 113+34 - 29' Left of C.L. of Constr.	Sta. 114+72 - 25' Left of C.L. of Constr.
4.9- 5.9, N=15	4.5- 5.5, N=19	5.0- 6.0, N=15
9.9- 10.9, N=22	9.5- 10.5, N=22	10.0- 11.0, N=18
14.9- 15.9, N=22	14.5- 15.5, N=27	15.0- 16.0, N=24
19.9- 20.9, N=17	19.5- 20.5, N=22	20.0- 21.0, N=24
24.9- 25.9, N=20	24.5- 25.5, N=33	25.0- 26.0, N=27
29.9- 30.9, N=28	29.5- 30.5, N=31	30.0- 31.0, N=37
34.9- 35.9, N=23	34.5- 34.8, N=60(3')	35.0- 36.0, N=33
39.9- 40.9, N=25		40.0- 41.0, N=41
44.9- 45.5, N=98(7')		45.0- 46.0, N=32
49.4- 49.5, N=60(1')		49.5- 49.7, N=60(2')
Sta. 113+10 - 37' Left of C.L. of Constr.	Sta. 113+34 - 27' Right of C.L. of Constr.	Sta. 114+89 - 4' Left of C.L. of Constr.
5.3- 6.3, N=9	4.9- 5.9, N=19	4.5- 5.5, N=8
10.3- 11.3, N=16	9.9- 10.9, N=23	9.5- 10.5, N=16
15.3- 16.3, N=18	14.9- 15.9, N=23	14.5- 15.5, N=20
20.3- 21.3, N=20	19.9- 20.9, N=23	19.5- 20.5, N=20
25.3- 26.3, N=27	24.9- 25.9, N=29	24.5- 25.5, N=23
30.3- 31.3, N=29	29.9- 30.9, N=34	29.5- 30.5, N=25
35.3- 36.3, N=22	34.4- 34.6, N=30(2')	34.5- 35.5, N=25
40.3- 41.3, N=30		39.5- 40.5, N=37
		44.5- 45.5, N=50
		49.5- 49.7, N=60(2')



SHEET 2 OF 2
 LAYOUT OF BRIDGE OVER
 BAUXITE & NORTHERN RAILROAD SPUR
 BAUXITE & NORTHERN RR SPUR
 STR. & APPRS. (S)
 SALINE COUNTY
 ROUTE 183 SEC. 1
 ARKANSAS STATE HIGHWAY COMMISSION
 LITTLE ROCK, ARK.
 DRAWN BY: ACP/PGT DATE: 6-13 FILENAME: b061349.LI.dgn
 CHECKED BY: JWP DATE: 4-14-15 SCALE: 1" = 20'
 DESIGNED BY: ACP DATE: 6-13
 BRIDGE NO. 07297 DRAWING NO. 56937



LOCATION PLAN



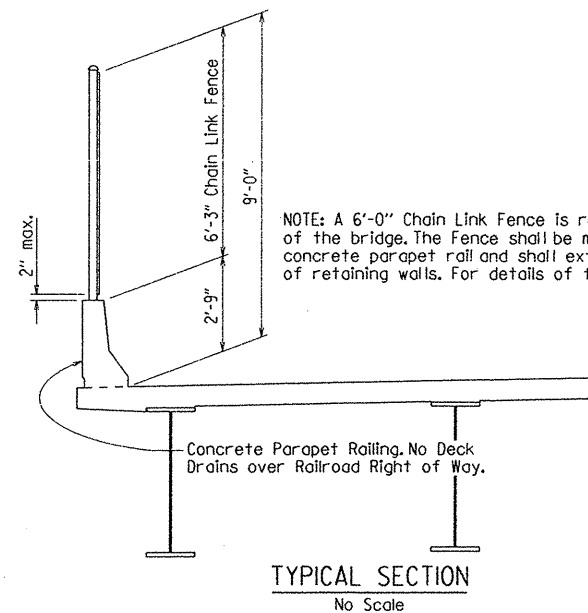
SECTION NORMAL TO TRACK

NOTE:
Traffic shall remain on the existing bridge until construction of the new bridge is complete. The contractor shall notify the following railroad contacts prior to shifting traffic to the new bridge:

Shawn Barlow - General Manager
Bauxite & Northern Railway Company (BXN)
6232 Cyanamid Road
Bryant, AR 72022
Office: 501-776-4619
E-Mail: Shawn.Barlow@gwrr.com

OR

Danny Caulk - Roadmaster
Bauxite & Northern Railway Company (BXN)
140 Plywood Mill Road
Crossett, AR 71635
Mobile: 870-310-8397
E-Mail: dcaulk@gwrr.com



TYPICAL SECTION
No Scale

GENERAL NOTES

All demolitions within the Railroad's right-of-way and/or demolition that may impact the Railroad's tracks or operations shall comply with the Railroad's demolition requirements.

Erection over the Railroad's right-of-way shall be designed to cause no interruption to the Railroad's operation. Erection over the Railroad's track shall be developed such that it enables the track(s) to remain open to traffic per the Railroad's requirements.

The Contractor must submit a proposed method of erosion and sediment control and have the method approved by the Railroad prior to beginning any grading on the project site.

All personnel must clear the area within 25 feet of the track centerline and secure all equipment when trains are present.

"The State shall not plow ice, snow, or sleet over the sides of the structure, in consideration of this practice, the Carrier waives its request for the State to attach splash boards to sides of the structure." This statement is in the State-Railroad Agreement.

Existing drainage patterns will be maintained. The proposed bridge structure will not significantly change the quantity and/or characteristic of flow in the Railroad's ditches and/or drainage structure(s).

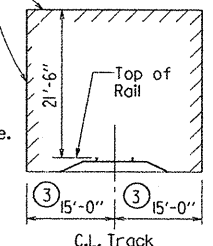
Closed Parapet Railing (No Deck Drains) over Railroad Right of Way - Typical on both sides of Bridge.

Construction shall comply with the requirements noted in Job 061349 Special Provision "Insurance, Construction, and Flagging Requirements on Railroad Property".

Note: No excavation permitted within 15' of C.L. track for construction of the new bridge.

③ Measured normal to track.

No construction activities or other obstructions may be placed within these limits.



MINIMUM CONSTRUCTION
CLEARANCES
No Scale

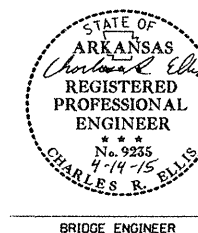
Note:
All existing substructure units shall be removed to at least 5 feet below the final ground surface, but no lower than the top of the existing footing, unless otherwise specified by the Railroad.

TABLE OF MINIMUM VERTICAL CLEARANCES

Location	Proposed Low Chord to Top of Rail
Face of South Wall	24'-5"
Future Track to South	24'-4"
Existing Track	24'-1"
Future Track to North	24'-0"
Face of North Wall	23'-11"

Notes:
Location of future tracks measured 15' perpendicular from C.L. Existing Track.

Existing Top of Rail Elevations used to calculate minimum vertical clearances at face of walls and future track locations.



BRIDGE ENGINEER

EXHIBIT A
LAYOUT OF BRIDGE OVER
BAUXITE & NORTHERN RAILROAD SPUR
BAUXITE & NORTHERN RR SPUR
STR. & APPRS. (S)
SALINE COUNTY
ROUTE 183 SEC. 1
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: ACP/PGT DATE: 6-13 FILENAME: b061349_LL.dgn
CHECKED BY: JJP DATE: 4-15-15 SCALE: 1" = 20'
DESIGNED BY: ACP DATE: 06-13
BRIDGE NO. 07297 DRAWING NO. 56938

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. 061349	35	94
07297 - RETAINING WALLS - 56939								

① For borings in vicinity of retaining walls, See Dwg. No. 56937.

TABLE OF QUANTITIES
(FOR INFORMATION ONLY)

ITEM NO.	210	SP JOB 061349	SP JOB 061349
ITEM	UNCLASSIFIED EXCAVATION	SELECT GRANULAR BACKFILL	RETAINING WALL
LOCATION	CU. YD.	CU. YD.	SQ. FT.
WALL A: STA. 0+00 TO STA. 0+30	85	115	370
WALL B: STA. 0+30 TO STA. 1+10	1,109	1,616	2,000
WALL C: STA. 1+10 TO STA. 1+35	111	123	356
WALL D: STA. 0+00 TO STA. 0+31	152	218	455
WALL E: STA. 0+31 TO STA. 1+11	828	1,592	1,968
WALL F: STA. 1+11 TO STA. 1+43	85	147	456
TOTALS	2,370	3,811	5,605

GENERAL NOTES

Design Specifications: AASHTO LRFD Bridge Design Specifications, Sixth Edition (2012) with 2013 Interim Revisions.

A factored bearing resistance of 5,000 psf is recommended for the existing foundation material based on an estimated width of the reinforced zone.

An Ashlar Stone finish or approved equivalent will be required for the wall face.

Retaining Wall Stations are measured along outside vertical face of wall. Elevations shown are profile grade for top of wall. Wall and ground elevations are approximate. Wall dimensions may vary depending on wall design selected.

Boring logs may be obtained from the Construction Contract Procurement Section of the Program Management Division upon request.

Reinforcement placement and details for retaining walls may be affected by end bent construction and proposed roadway drainage structures. See End Bent drawings for pile locations and wingwall details. See Roadway Plans for locations and details of drainage structures.

Pipe Underdrains shall be used in the area of backfill as determined by the Engineer.

For ditch paving, See Standard Dwg. No. CDP-1. Weep holes shall be eliminated.

Preformed joint filler, joint sealer, polystyrene board, and pipe underdrains will not be paid for directly, but will be considered subsidiary to the item "Retaining Wall".

See Job SP "Retaining Walls" for additional information.



SHEET 1 OF 2

LAYOUT OF RETAINING WALLS

ROUTE 183 SEC. 1

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: ACP

CHECKED BY: JYP

DESIGNED BY: ACP

DATE: 9-13

DATE: 12-9-15

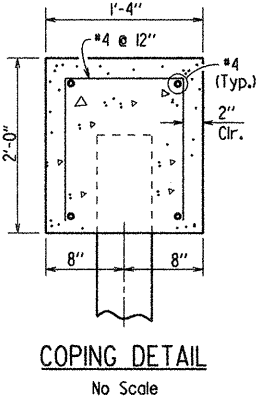
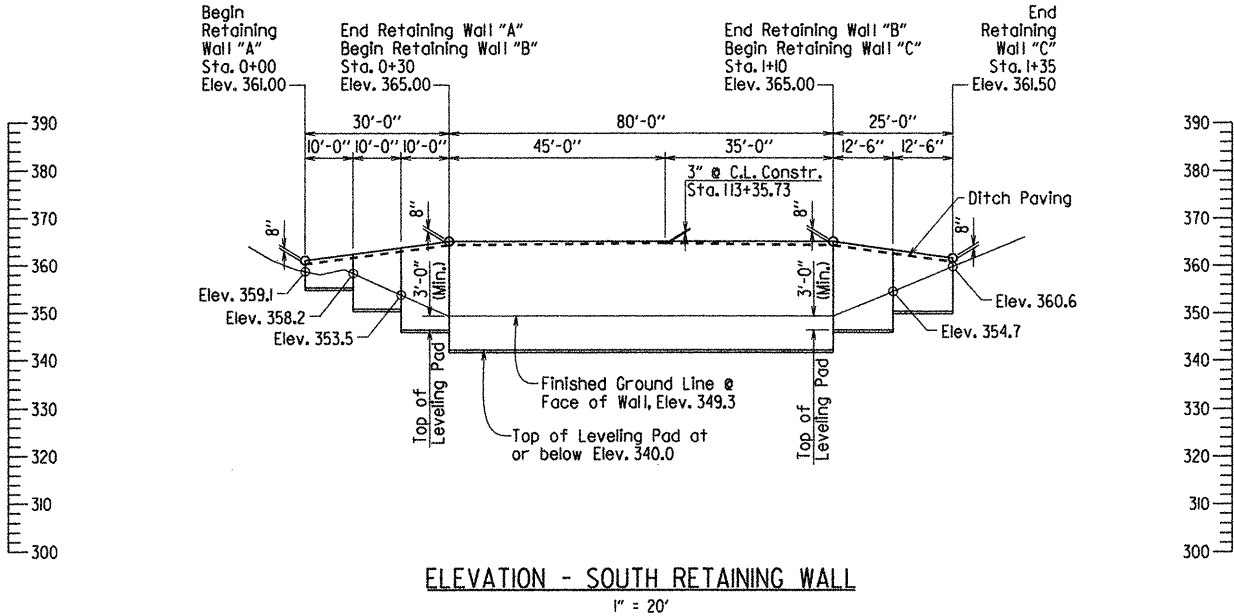
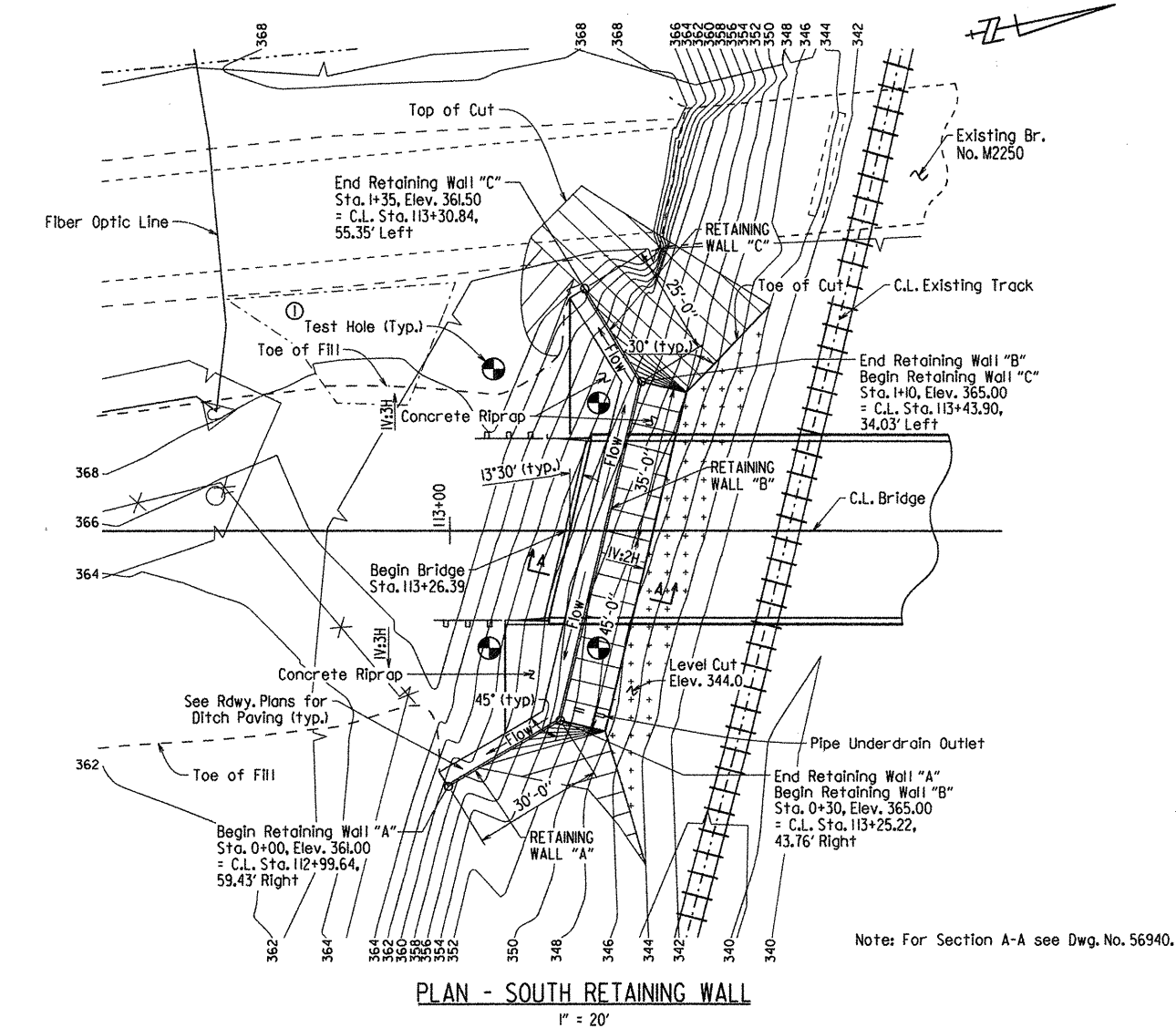
DATE: 9-13

FILENAME: b061349_rwl.dgn

SCALE: As Shown

BRIDGE NO. 07297

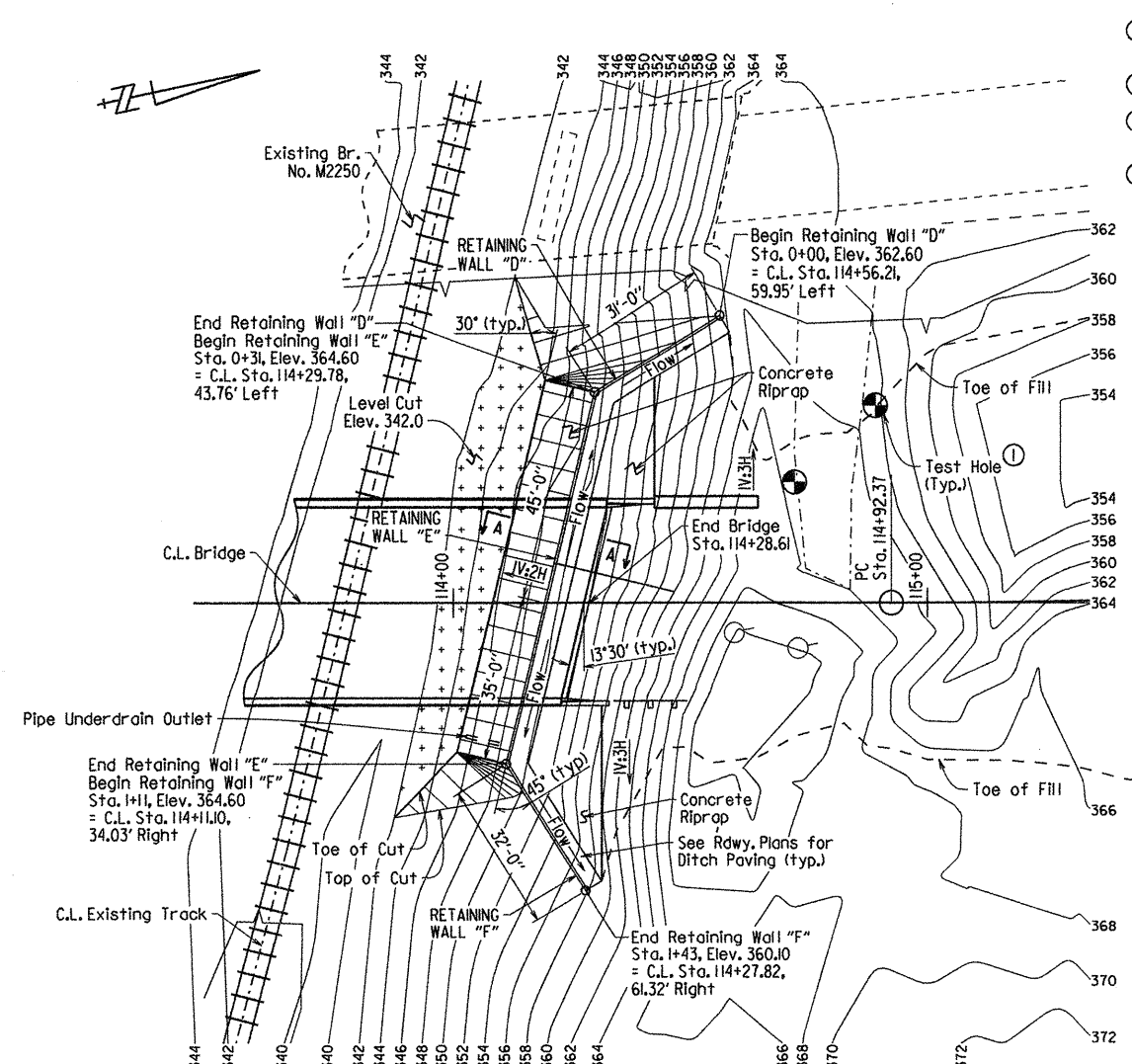
DRAWING NO. 56939



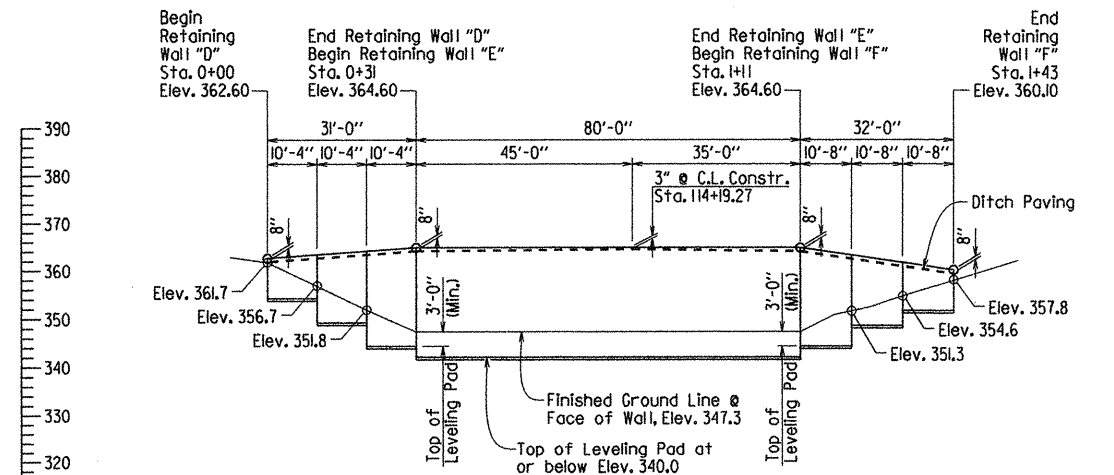
Notes:
Reinforcing steel and Class S(AE) Concrete for coping shall not be paid for directly, but will be considered subsidiary to the item "Retaining Wall."

Precast coping may be substituted for cast-in-place coping 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.		061349	38	94
				①	07297 - RETAINING WALLS - 56940			

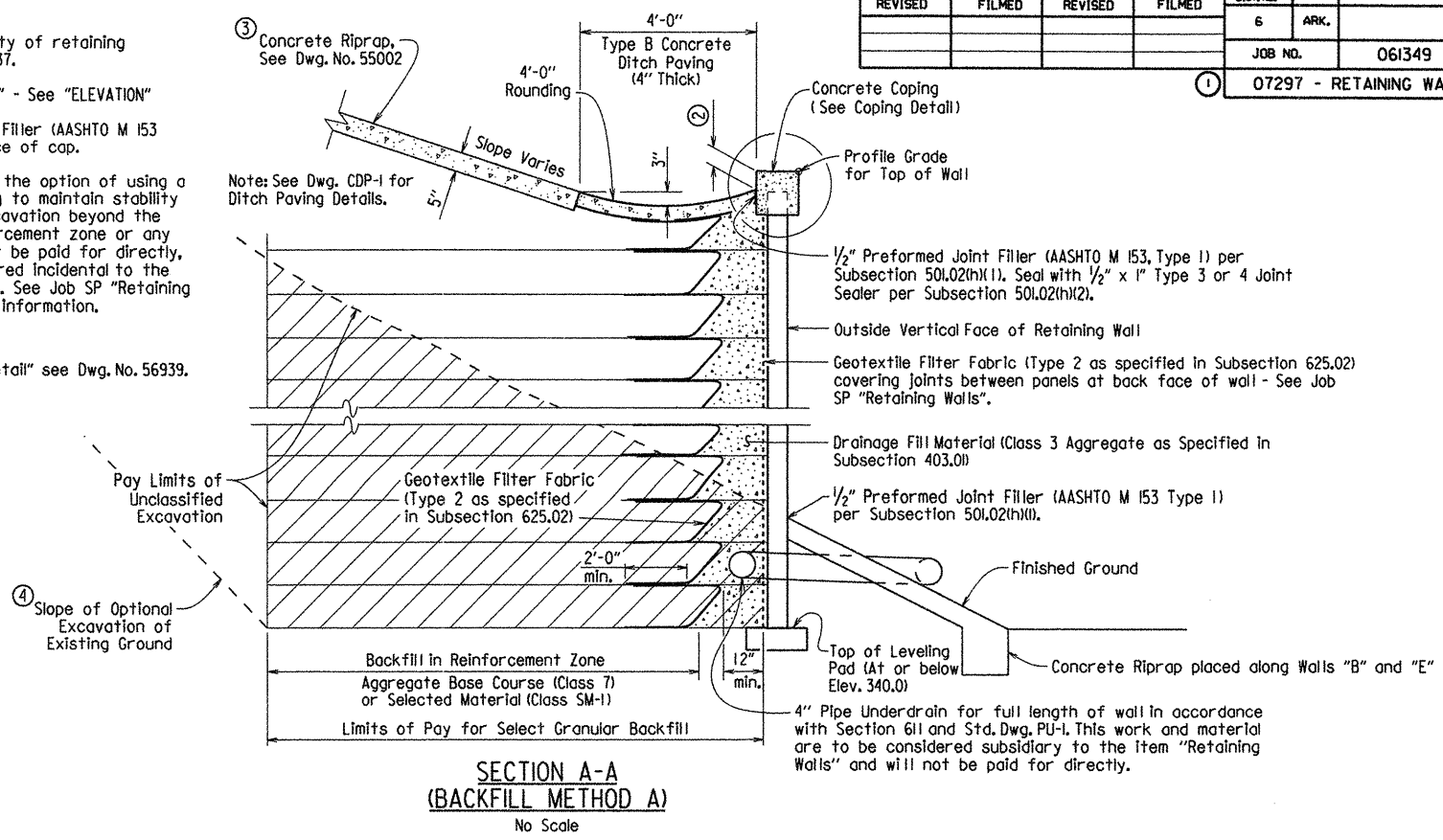


PLAN - NORTH RETAINING WALL
1" = 20'

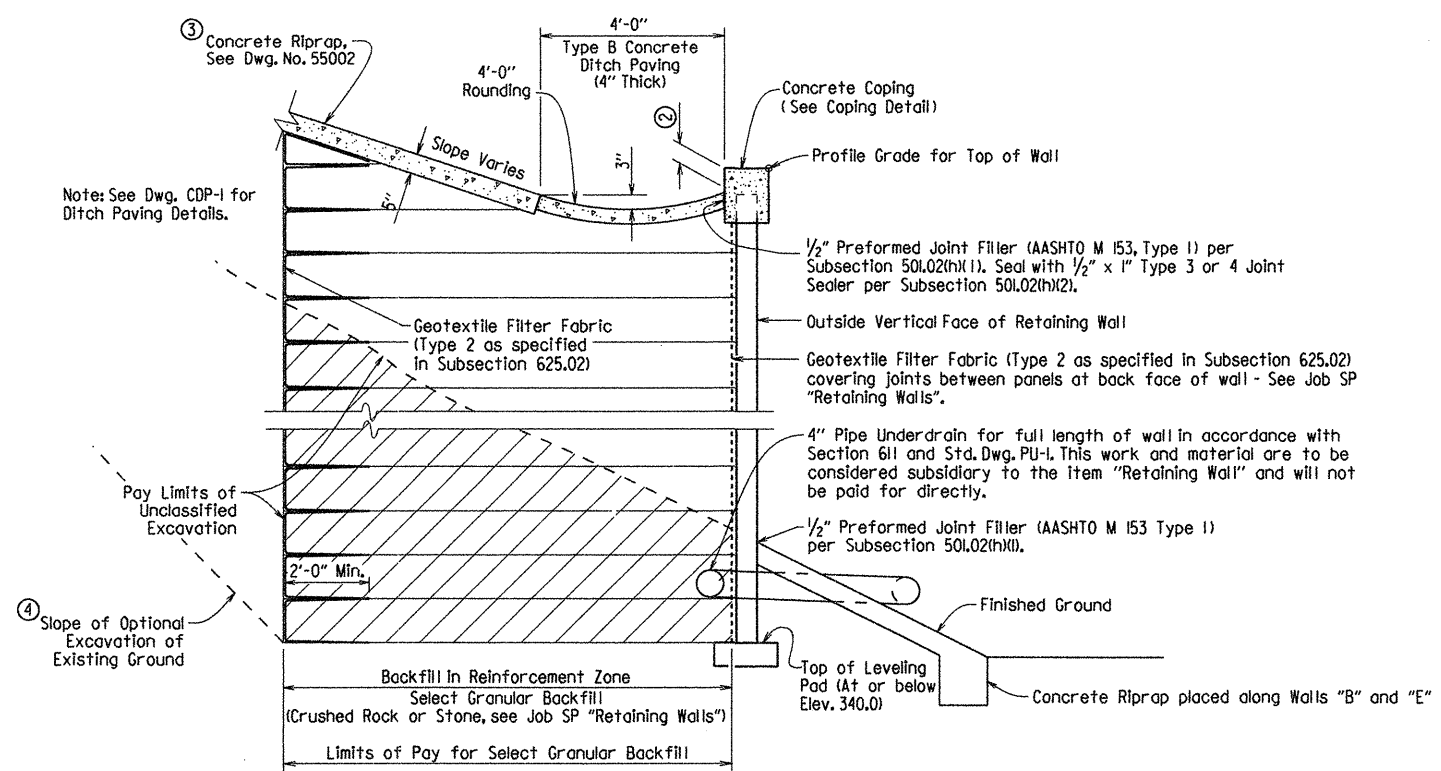


ELEVATION - NORTH RETAINING WALL
1" = 20'

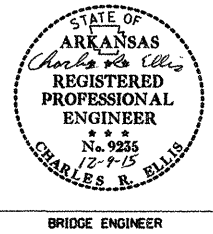
- For borings in vicinity of retaining wall, see Dwg. No. 56937.
 - Varies from 3" to 8" - See "ELEVATION"
 - 1/2" Preformed Joint Filler (AASHTO M 153 Type 1) at front face of cap.
 - The Contractor has the option of using a cut slope or shoring to maintain stability of the cut. Any excavation beyond the limits of the reinforcement zone or any shoring used will not be paid for directly, but shall be considered incidental to the item "Retaining Wall". See Job SP "Retaining Walls" for additional information.
- Note: For "Coping Detail" see Dwg. No. 56939.



SECTION A-A
(BACKFILL METHOD A)
No Scale



SECTION A-A
(BACKFILL METHOD B)
No Scale



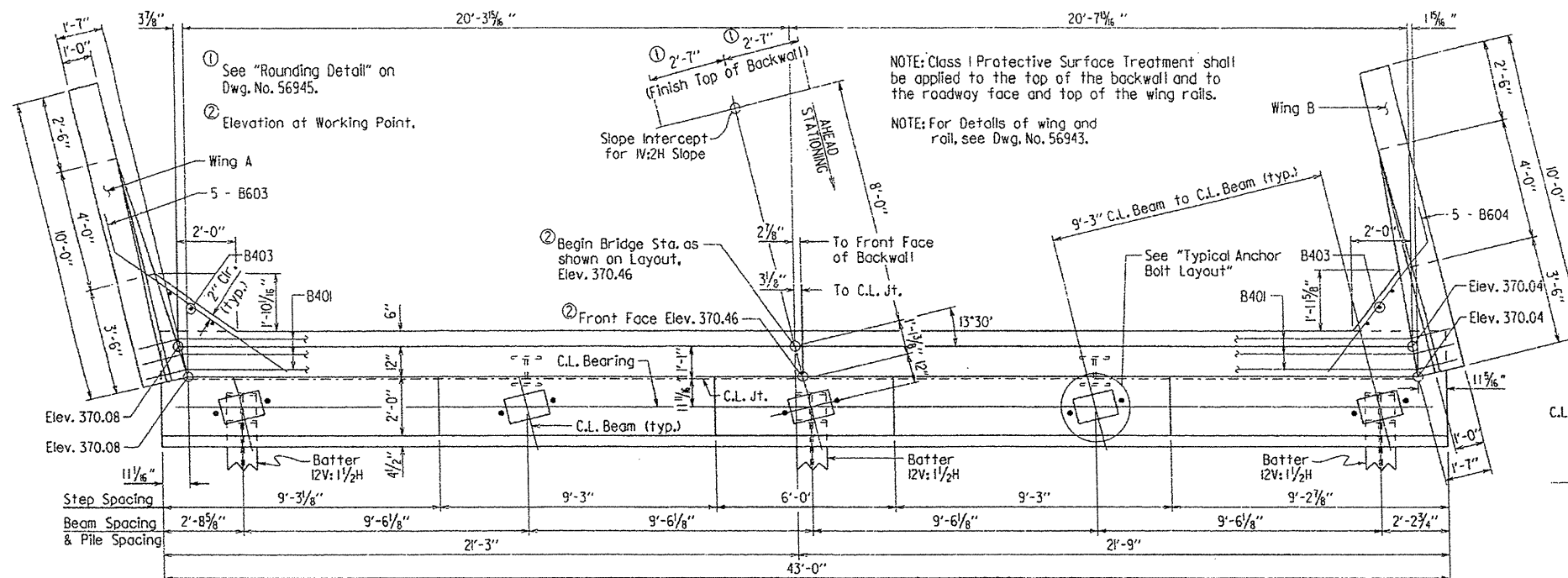
SHEET 2 OF 2
LAYOUT OF RETAINING WALLS
ROUTE 183 SEC. 1
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: ACP DATE: 9-13
CHECKED BY: JYP DATE: 12-9-15
DESIGNED BY: ACP DATE: 9-13

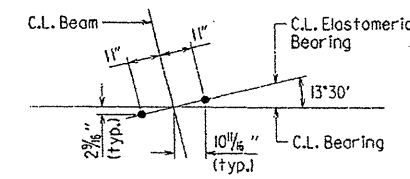
BRIDGE NO. 07297 DRAWING NO. 56940

PRINT DATE: 12/9/2015

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. AID DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
04-15-16				6	ARK.			
				JOB NO.		061349	37	94
①				07297 - END BENTS - 56941				

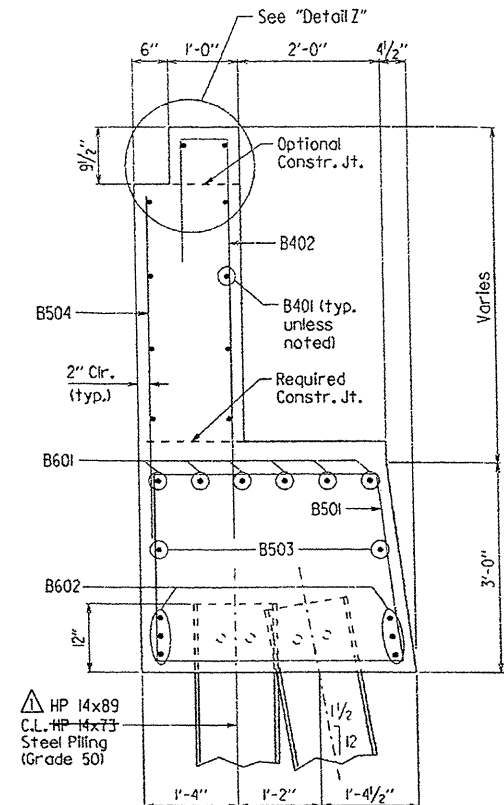


PLAN - BENT I

$$\frac{3}{8}'' = 1'-0''$$


TYPICAL ANCHOR BOLT LAYOUT

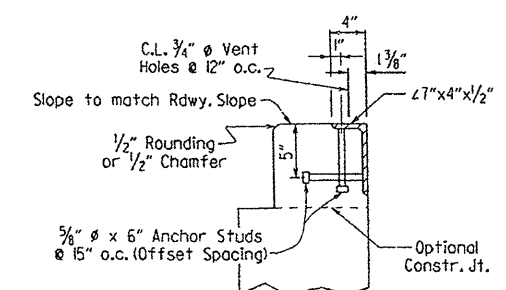
BENT
N.T.S.



SECTION A-A

$$\frac{3}{4}'' = 1'-0''$$

Note: The backwall above the required construction joint shall not be poured until the beams are in place. Backwall may be placed prior to placing the adjacent concrete deck only if the optional backwall construction joint is used. See Dwg. No. 56949 "Expansion Device Installation at End Bents" for additional information.



NOTES: For additional joint details, see Dwg. No. 56949.

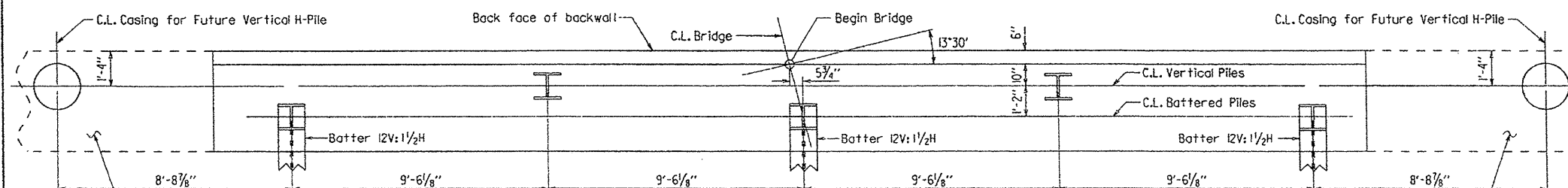
Concrete shall be hand packed under the joint armor in the backwall.

DETAIL Z

N.T.S.

SHEET 1 OF 3
DETAILS OF END BENTS
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: ACP DATE: 12-19-13 FILENAME: b061349_b1.dgn
 CHECKED BY: JYP DATE: 4-14-15 SCALE: As Shown
 DESIGNED BY: ACP DATE: 12-13
 BRIDGE NO. 07297 DRAWING NO. 56941



LAYOUT OF PILES

$$\frac{3}{8}'' = 1'-0''$$

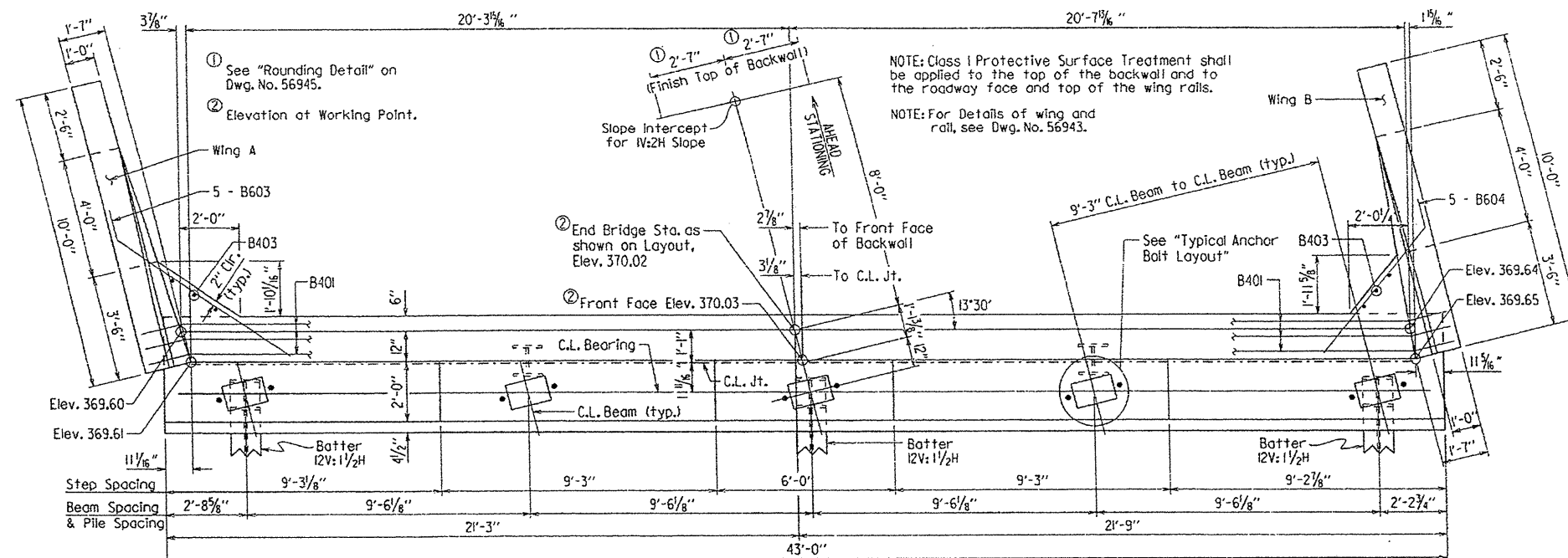
NOTE: For "View B-B", "View C-C", General Notes
and "Detail at Pile Top", see Dwg. No. 56942.

⚠ Increased pile size for sacrificial corrosion resistance due to acidic soil encountered during construction per Change Order No. 2. 04-15-16 ACP

PRINT DATE: 4/13/2015

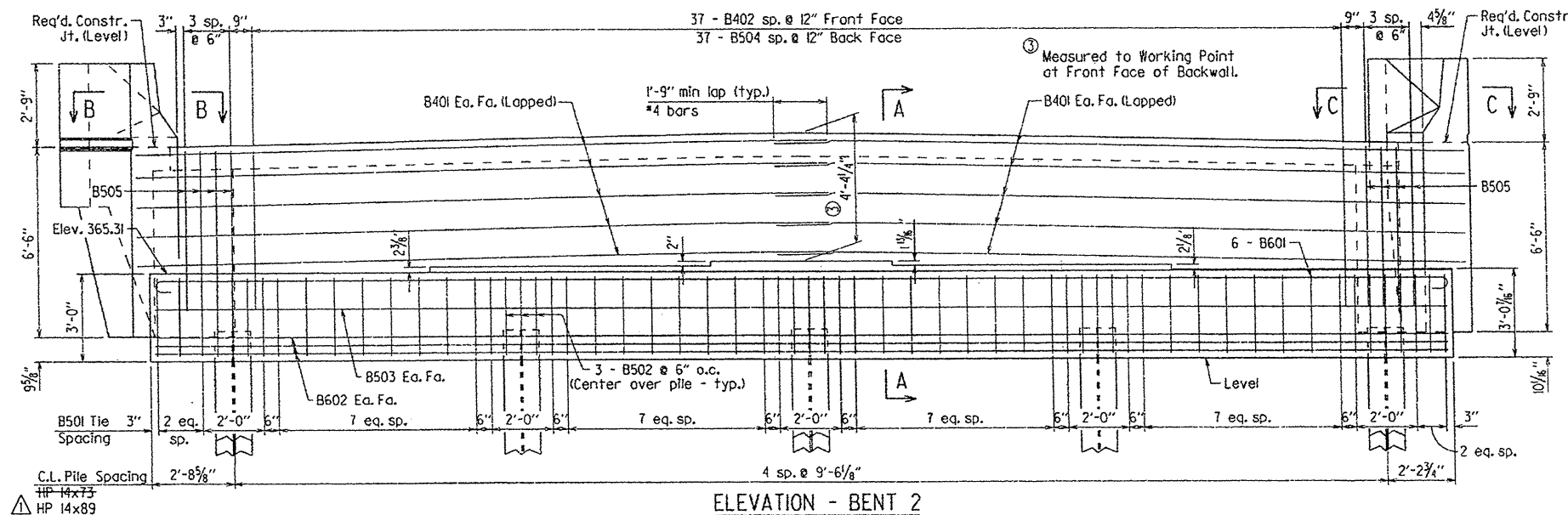
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
04-15-16				6	ARK.			
						061349	38	94

07297 - END BENTS - 56942



PLAN - BENT 2

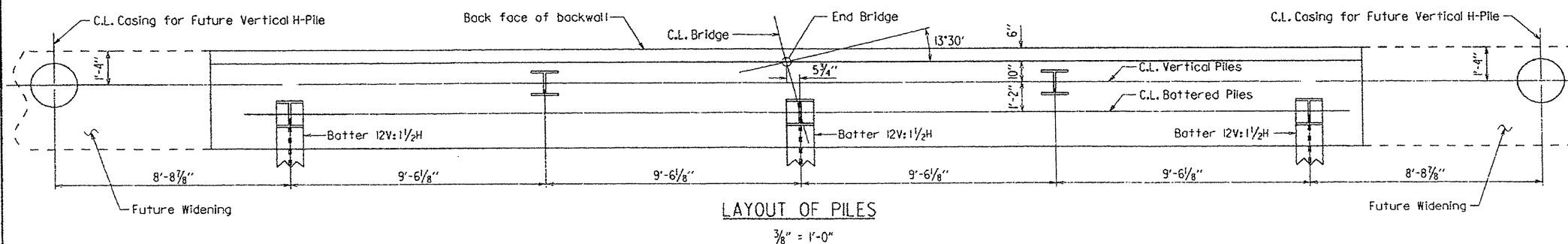
$\frac{3}{8}'' = 1'-0''$



ELEVATION - BENT 2

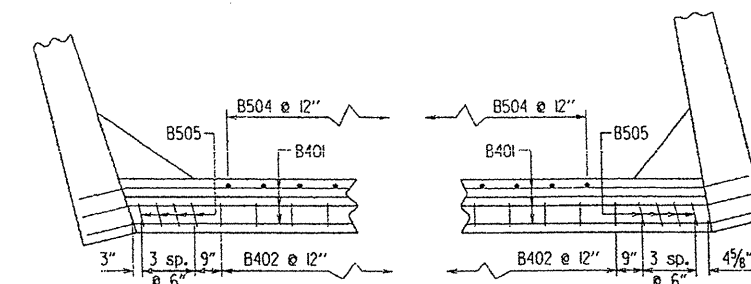
Looking Ahead
 $\frac{3}{8}'' = 1'-0''$

NOTE: For "Section A-A" see Dwg. No. 56941.



LAYOUT OF PILES

$\frac{3}{8}'' = 1'-0''$

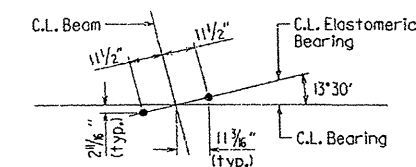


VIEW B-B

$\frac{3}{8}'' = 1'-0''$

VIEW C-C

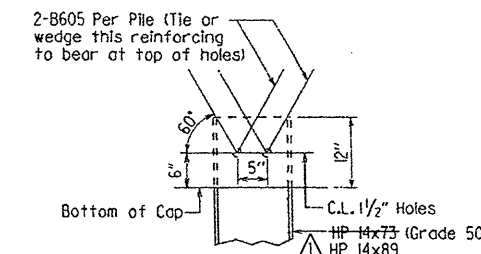
$\frac{3}{8}'' = 1'-0''$



For Details of Elastomeric Bearings, See Dwg. No. 56944.

TYPICAL ANCHOR BOLT LAYOUT

BENT 2
N.T.S.



DETAIL AT PILE TOP

N.T.S.

GENERAL NOTES

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

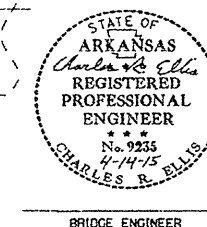
All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M 31 or M 322, Type A, with mill test reports.

Top reinforcing bars and pile anchorage in cap shall be properly placed to avoid interference with anchor bolts.

Structural steel in end bents shall be AASHTO M 270, Gr. 50W and shall be paid for as "Structural Steel in Beam Spans (M 270, Gr. 50W)".

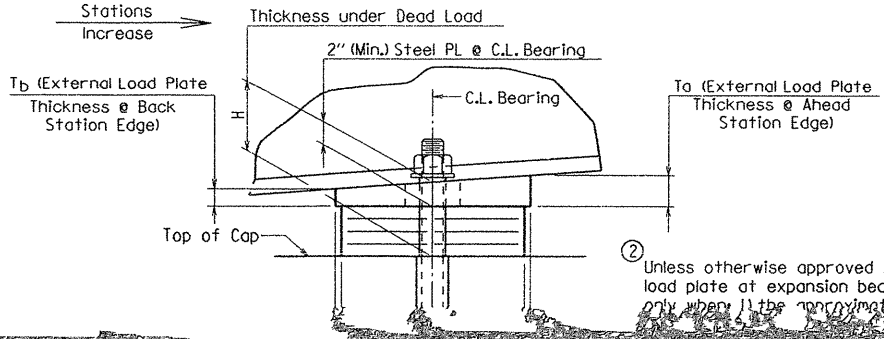
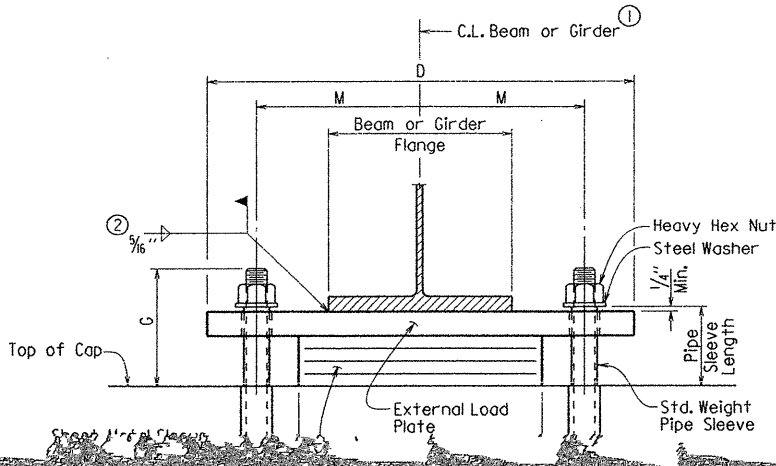
For additional information, see Layout.

Increased pile size for sacrificial corrosion resistance due to acidic soil encountered during construction per Change Order No. 2.
04-15-16 ACP



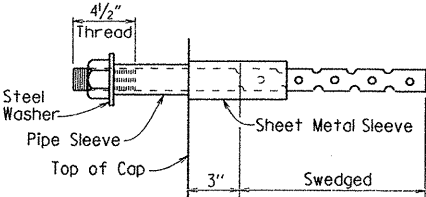
SHEET 2 OF 3
DETAILS OF END BENTS
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: ACP DATE: 12-19-13
CHECKED BY: JHP DATE: 4-14-15
DESIGNED BY: ACP DATE: 12-13
BRIDGE NO. 07297 DRAWING NO. 56942

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.		061349	40 of 44	
				07297		Elasto. Bearings	56944	



Note: The direction of bevel of the external load plate may not be accurately depicted with respect to T_a and T_b values shown in the "Table of Fabricator Variables".

Unless otherwise approved by the Engineer, welding of the external load plate at expansion bearings to the beam or girder will be allowed only when the approximate average air temperature during the



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.		061349	41	41
						07297 - 100' SPAN - 56945		

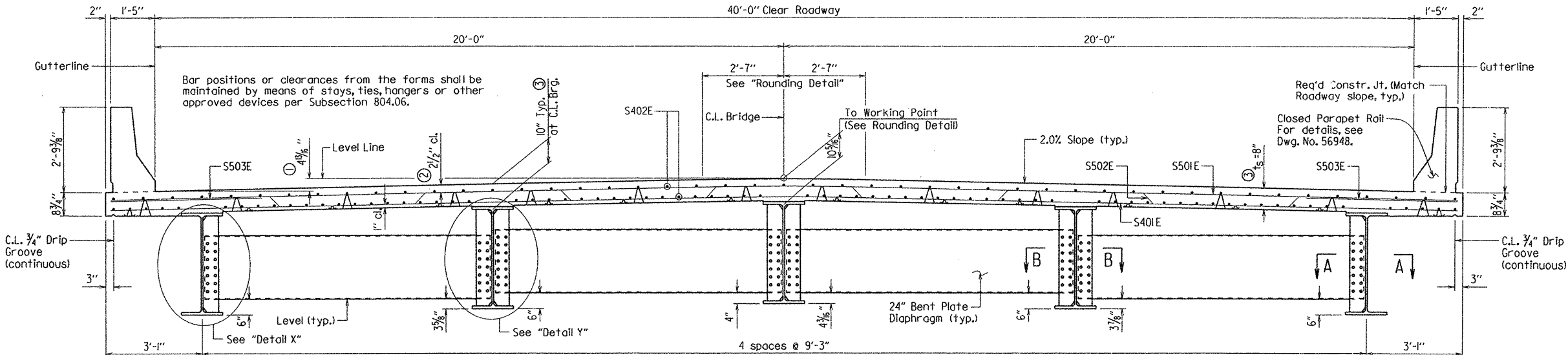
Slab Reinforcing:

Longitudinal: S402E as shown

Transverse: S502E @ 12" o.c. bent up over beams
S501E @ 12" o.c. in top, S401E @ 12" o.c. in bottom
S503E @ 6" in top of overhangs (bundled with #5 bars)

NOTES:
Class I Protective Surface Treatment shall be applied to the roadway surface and the roadway face and top of the concrete parapet rail.
At the Contractor's option, two straight epoxy coated #5 bars, top and bottom, may be substituted for bar S502E. Payment will be based on the weight of bar S502E.
Bars with an "E" suffix are epoxy coated.

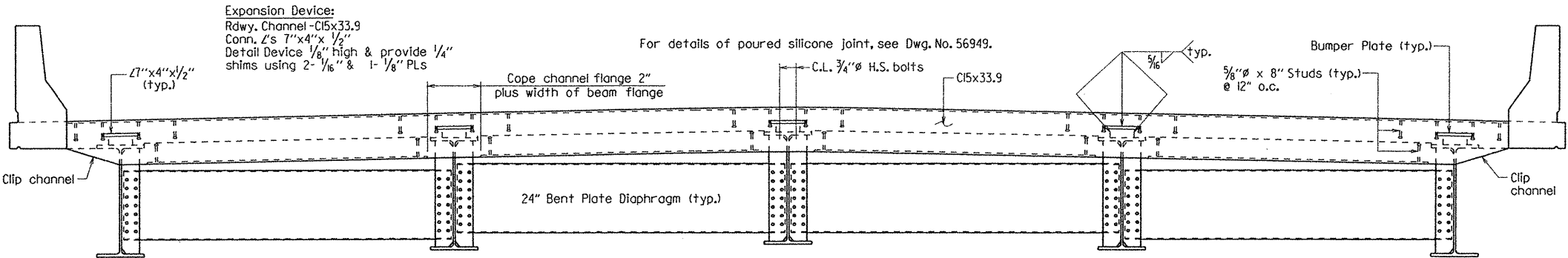
- ① Working point to gutterline.
② Tolerance: Minus = 1/4"; Plus equal to the amount of slab thickening used to meet slab thickness tolerance. See "Adjustment for Slab Thickness Tolerance".
③ See "Adjustment for Slab Thickness Tolerance".



TYPICAL ROADWAY SECTION

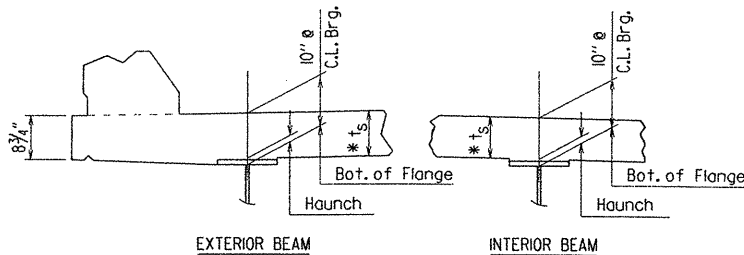
1/2" = 1'-0"

For "Section A-A" and "Section B-B", see Dwg. No. 56946.



ROADWAY SECTION NEAR JOINT

Looking Ahead
1/2" = 1'-0"



EXTERIOR BEAM INTERIOR BEAM

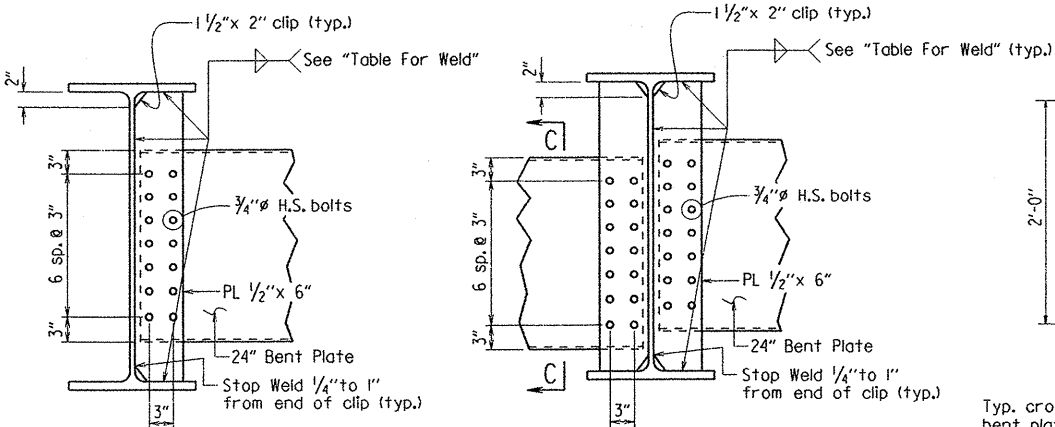
*Tolerance when removable deck forming is used is + 1/2", - 1/4". Haunch forming is required and shall be adjusted to maintain slab thickness tolerance.

ADJUSTMENT FOR SLAB THICKNESS TOLERANCE

No Scale

NOTES:
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.

Tolerances shown are applicable only when removable deck forming is used. See Std. Dwg. No. 55005 for tolerances when permanent steel deck forms are used. Payment for concrete shall be based on removable deck forming.

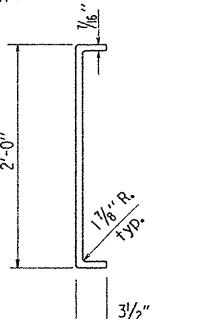


DETAIL X

1" = 1'-0"

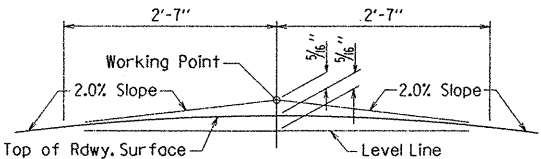
DETAIL Y

1" = 1'-0"



SECTION C-C

NTS



ROUNDING DETAIL

No Scale

TABLE FOR WELD

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

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



BRIDGE ENGINEER

SHEET 1 OF 5
DETAILS OF 100'-0"
W-BEAM SPAN

ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

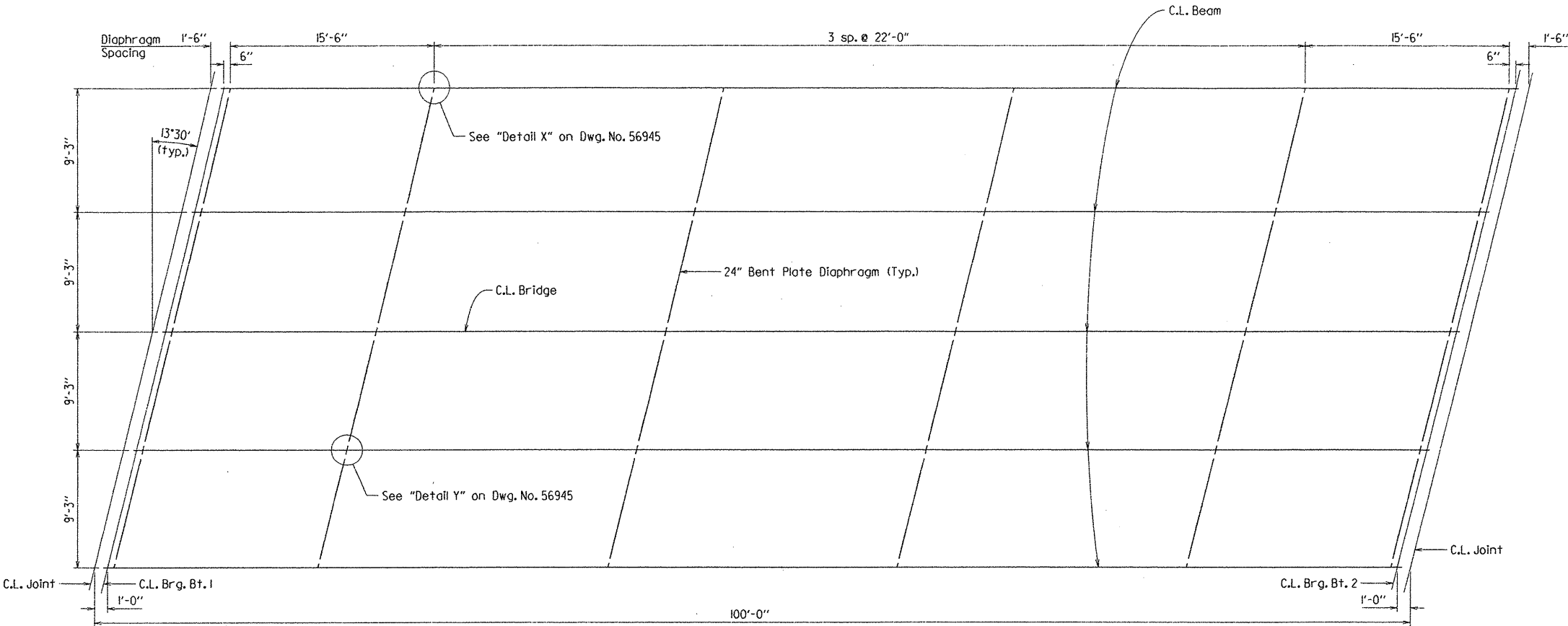
DRAWN BY: ACP DATE: 07-16-13 FILENAME: b061349_sl.dgn

CHECKED BY: JAP DATE: 4-14-15 SCALE: As Noted

DESIGNED BY: ACP DATE: 07-13

BRIDGE NO. 07297 DRAWING NO. 56945

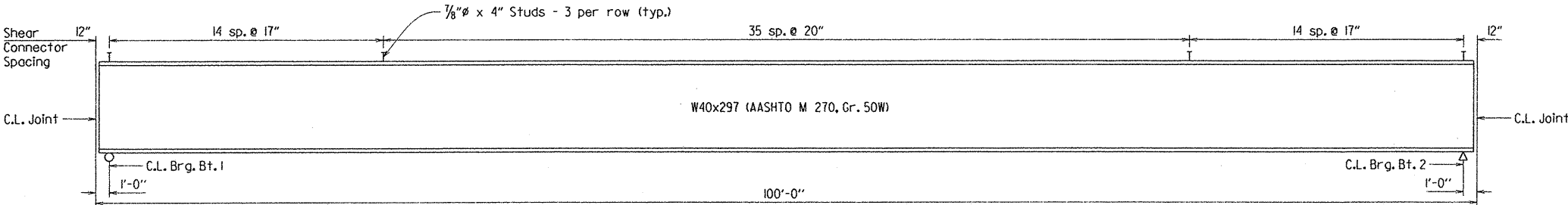
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061349	42	94
				07297 - 100' SPAN - 56946				



FRAMING PLAN

3/16" = 1'-0"

Note: All diaphragms shall be placed parallel to skew.

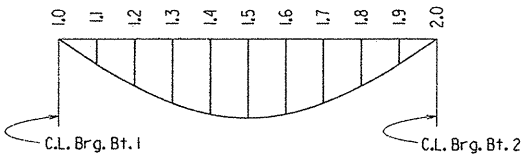


TYPICAL BEAM ELEVATION

N.T.S.

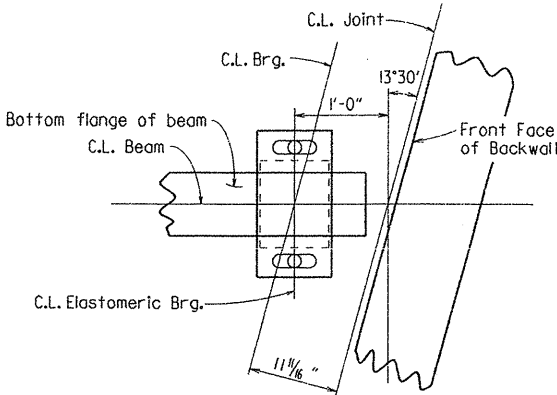
TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

Span	Point of Deflection	Structural Steel		Structural Steel + Slab		Structural Steel + Slab + Parapet	
		Exterior Beam	Interior Beam	Exterior Beam	Interior Beam	Exterior Beam	Interior Beam
1.0		0.000	0.000	0.000	0.000	0.000	0.000
1.1		0.302	0.314	1.114	1.341	1.209	1.432
1.2		0.571	0.595	2.108	2.538	2.289	2.710
1.3		0.782	0.814	2.886	3.476	3.133	3.711
1.4		0.916	0.954	3.381	4.071	3.671	4.347
1.5		0.961	1.002	3.550	4.275	3.854	4.564
1.6		0.916	0.954	3.381	4.071	3.671	4.347
1.7		0.782	0.814	2.886	3.476	3.133	3.711
1.8		0.571	0.595	2.108	2.538	2.289	2.710
1.9		0.302	0.314	1.114	1.341	1.209	1.432
2.0		0.000	0.000	0.000	0.000	0.000	0.000



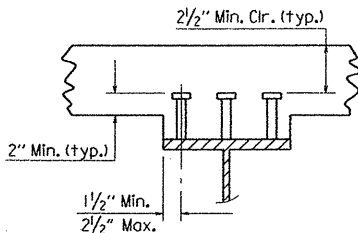
DEAD LOAD DEFLECTION DIAGRAM

NOTE: Camber for Dead Load Deflection +/- 1/4" tolerance. Deflections shown are along C.L. Beam from a chord from C.L. Bearing to C.L. Bearing.



PLAN OF BEARING AT END BENTS

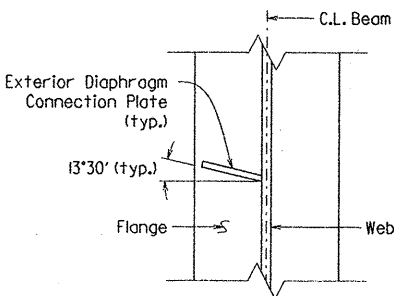
N.T.S.



SHEAR CONNECTOR DETAIL

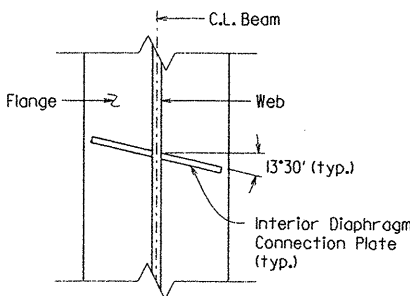
N.T.S.

Stud Shear Connectors shown shall be 3/8" x 4" long, granular flux filled, solid fluxed or equal, and automatically end welded to the beam flange in accordance with the recommendations of the Manufacturer. 3/4" studs may be used in place of the 3/8" studs shown, at the ratio of 1.361 - 3/4" studs in place of one 3/8" stud. 3/8" studs will be used as basis for measurement of structural steel in shear connectors.



SECTION A-A

TYPICAL FOR EXTERIOR BEAMS
N.T.S.



SECTION B-B

TYPICAL FOR INTERIOR BEAMS
N.T.S.



BRIDGE ENGINEER

SHEET 2 OF 5
DETAILS OF 100'-0"
W-BEAM SPAN

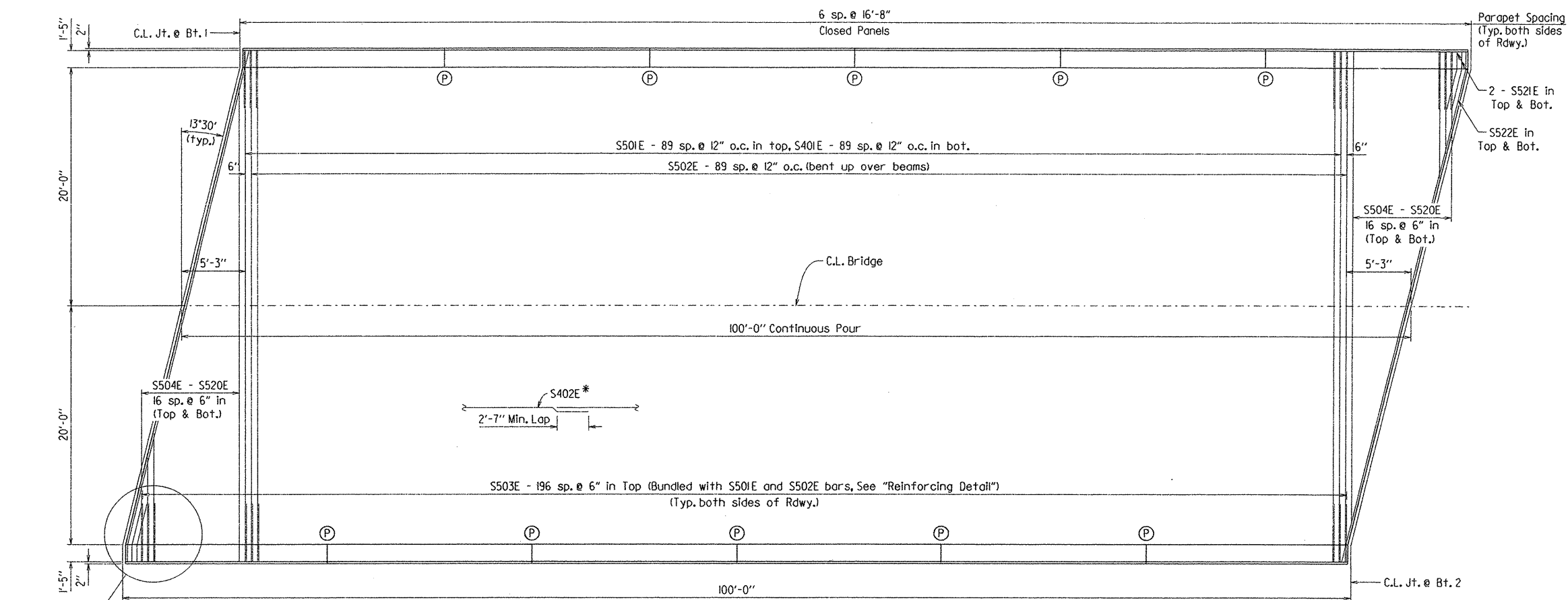
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: ACP DATE: 07-16-13 FILENAME: b061349_sl.dgn
CHECKED BY: JAP DATE: 4-14-15 SCALE: As Noted
DESIGNED BY: ACP DATE: 07-13
BRIDGE NO. 07297 DRAWING NO. 56946

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.		061349	43	94
				07297 - 100' SPAN - 56947				

Ⓟ Partial depth parapet joint at this location

* Placed as shown in "Typical Roadway Section,"
see Dwg. No. 56945.



REINFORCING PLAN AND POURING SEQUENCE

$$\frac{3}{16}'' = 1'-0''$$

POURING SEQUENCE NOTES:

Any ralling pours made before the entire slab has been placed must be approved by the Engineer. 72 hours shall elapse between the completion of the slab pouring and the beginning pour of the parapet rails. The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence shown.

See Dwg. No. 56948 for parapet reinforcing details.

BAR LIST

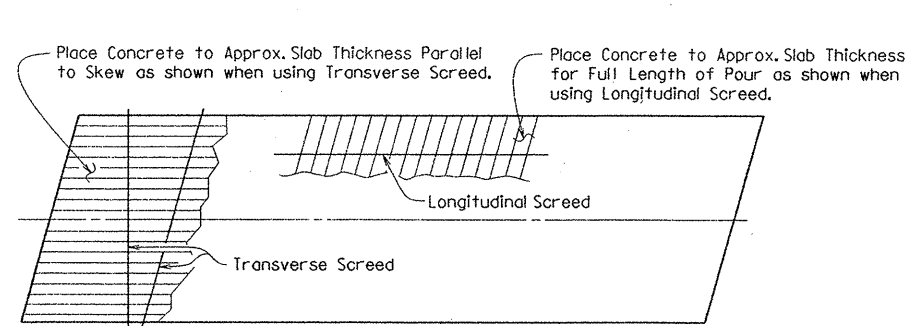
Mark	No. Req'd.	Length	Pin Dia.
S401E	90	42'-10"	Str.
S402E	363	34'-11"	Str.
S501E	90	42'-10"	Str.
S502E	90	43'-8"	3"
S503E	394	4'-10"	Str.
S504E - S520E	4 ea.	6'-9" to 40'-1"	Str.
S521E	8	4'-11"	3 3/4"
S522E	4	44'-0"	3 3/4"
P401E	408	5'-6"	3"
P402E	84	16'-4"	Str.
P403E	40	5'-7"	Str.
P501E	408	4'-10"	3 3/4"

Bending Diagrams
(Dimensions are out to out of bars.)

① 1/2" Overtolerance, No Undertolerance.

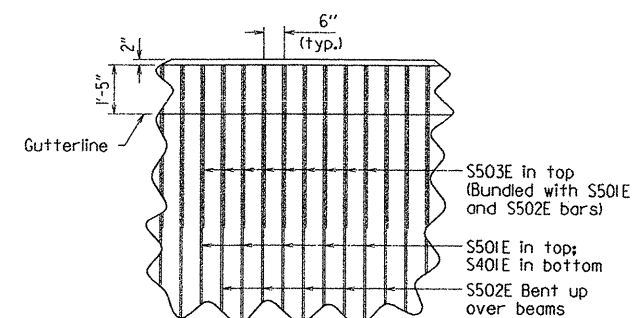
Note: All bars designated with an "E" are to be epoxy coated.

Note: All bars designated with an "E" are to be epoxy coated.



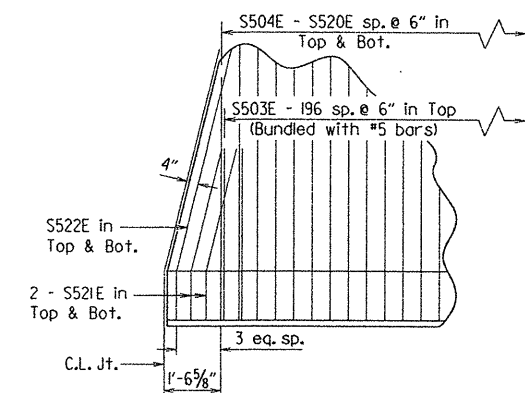
CONCRETE PLACEMENT PROCEDURE

N.T.S.



REINFORCING DETAIL

N.T.S.

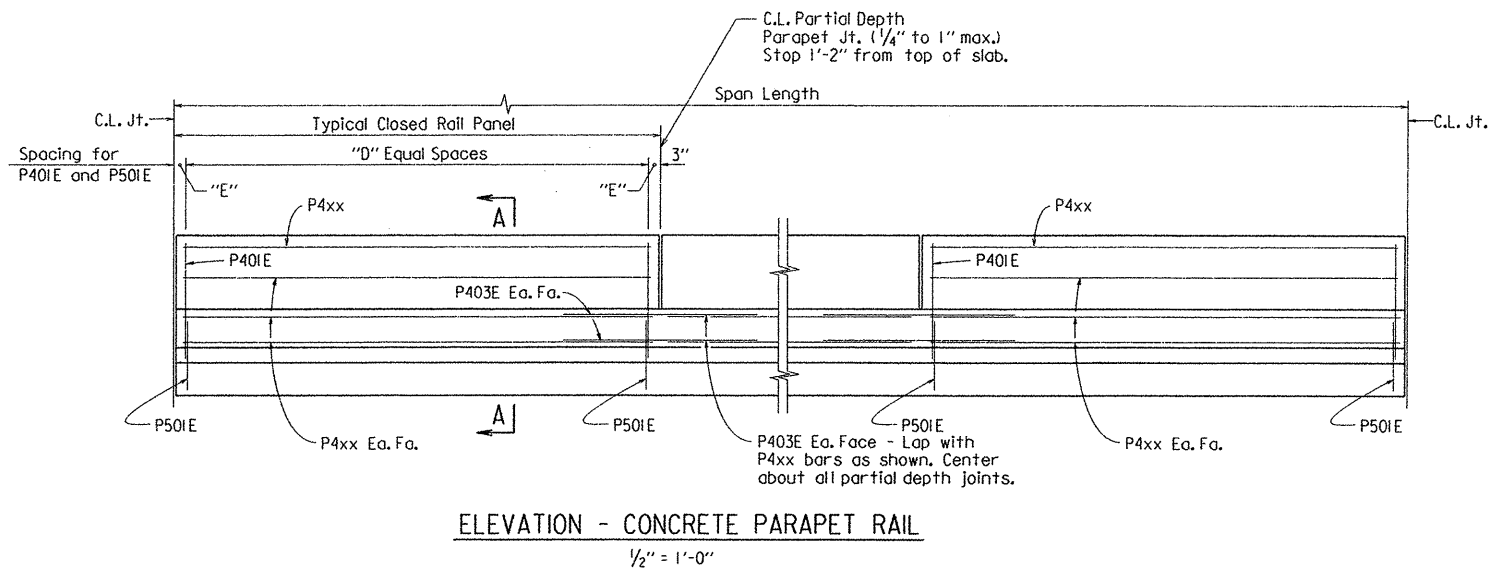


DETAIL A

$$\frac{3}{8}'' = 1'-0''$$

SHEET 3 OF 5
DETAILS OF 100'-0''
W-BEAM SPAN
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: ACP DATE: 07-16-13 FILENAME: b061349_sl.dgn
CHECKED BY: JHP DATE: 4-14-15 SCALE: As Noted
DESIGNED BY: ACP DATE: 07-13
BRIDGE NO. 07297 DRAWING NO. 56947

PRINT DATE: 4/13/2015



Note: For location of partial depth parapet joints, See Dwg. No. 56947.

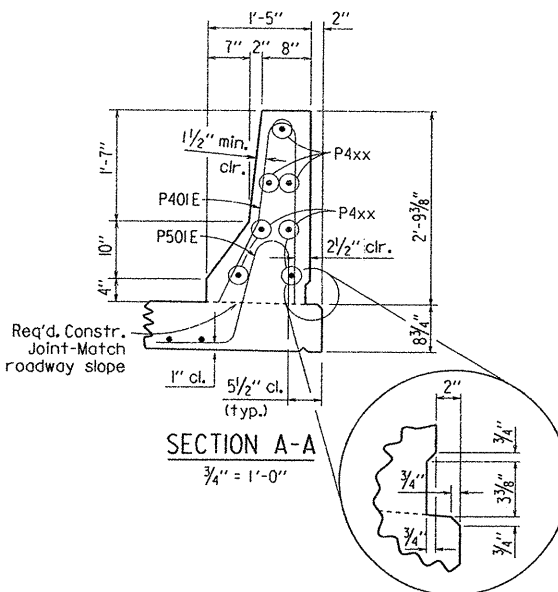
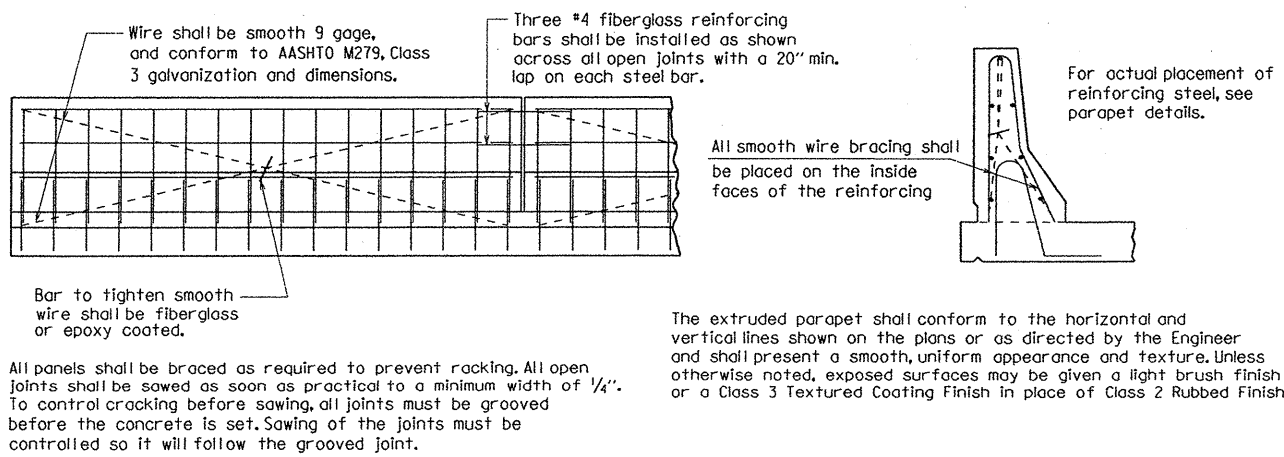
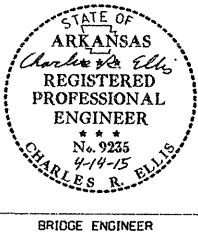
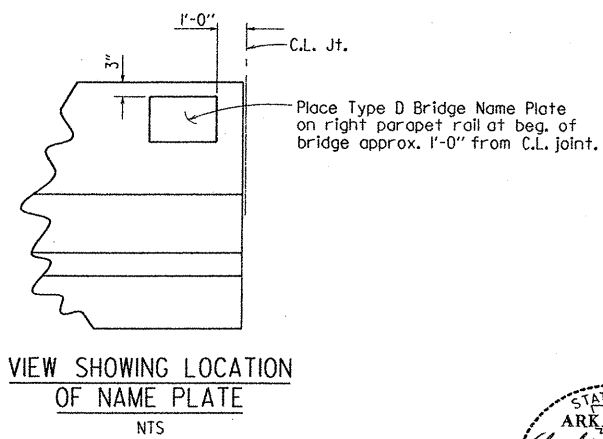


TABLE OF VARIABLES

Closed Rail Panels			
Panel Length	"D"	"E"	P4xx Bar
16'-8"	33	3"	P402E



DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE PARAPET RAIL



SHEET 4 OF 5
DETAILS OF 100'-0"
W-BEAM SPAN
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: ACP DATE: 07-17-13 FILENAME: b061349_sl.dgn
CHECKED BY: JNP DATE: 4-14-15 SCALE: As Noted
DESIGNED BY: ACP DATE: 07-13
BRIDGE NO. 07297 DRAWING NO. 56948

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 edition) with applicable Supplemental Specifications and Special Provisions.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Sixth Edition (2012) with 2013 Interims.

MATERIALS AND STRENGTHS:

Class (S/AE) Concrete
Reinforcing Steel (Gr. 60, AASHTO M 31 or M 322, Type A)
Structural Steel (M 270, Gr. 50W)
Structural Steel (M 270, Gr. 36)

$f'_c = 4,000$ psi
 $f_y = 60,000$ psi
 $F_y = 50,000$ psi
 $F_y = 36,000$ psi

CONCRETE :

Concrete shall be poured in the dry and all exposed corners to be chamfered $\frac{3}{4}$ " unless otherwise noted. All concrete shall be Class (S/AE) with a minimum 28 day compressive strength $f'_c = 4,000$ psi.

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. 55005 for allowable modifications and for tolerances when Permanent Steel Bridge Deck Forms are used.

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 fine finish in accordance with Subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish. Movement of the finishing machine across new concrete shall be on planks placed on the surface and shall be prohibited for 72 hours after finishing the pour. Sufficient concrete must be placed ahead of the strike-off to fully load the beam. If a longitudinal strike-off is used, a vertical camber adjustment must be made in the strike-off to account for the future dead load deflection due to the railing. A minimum of 72 hours shall elapse between the completion of the slab and the pouring of the railing.

REINFORCING STEEL :

All reinforcing steel shall be Grade 60 conforming to AASHTO M 31 or M 322, Type A, with mill test reports. The reinforcing steel is to be accurately located in the forms and firmly held in place by steel wire supports, sufficient in number and size to prevent displacement during the course of construction. The wire supports will not be paid for directly but will be considered subsidiary to the item "Epoxy Coated Reinforcing Steel (Grade 60)."

STRUCTURAL STEEL :

All structural steel shall be AASHTO M 270, Grade 50W unless otherwise noted and shall be paid for as "Structural Steel in Beam Spans (M 270, Gr. 50W)". Grade 50W steel shall not be painted. All exposed surfaces shall be cleaned in accordance with Subsection 807.84(e). Structural steel completely embedded in concrete may be AASHTO M 270, Grade 36 unless otherwise noted.

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

Requests for substitution of structural steel shapes shown with shapes of greater size must be submitted by the Contractor to the Engineer for approval. Steels of equal or greater strengths will be accepted only when shown on the approved shop drawings. Payment will be based on the basis of shapes and materials shown in the plans, and no additional compensation will be made for any adjustments due to substitutions.

Beams are considered main load carrying members and shall meet the Longitudinal Charpy V-Notch Test specified in Subsection 807.05. This work and materials will not be paid for directly, but shall be considered subsidiary to the item "Structural Steel in Beam Spans (M 270, Gr. 50W)".

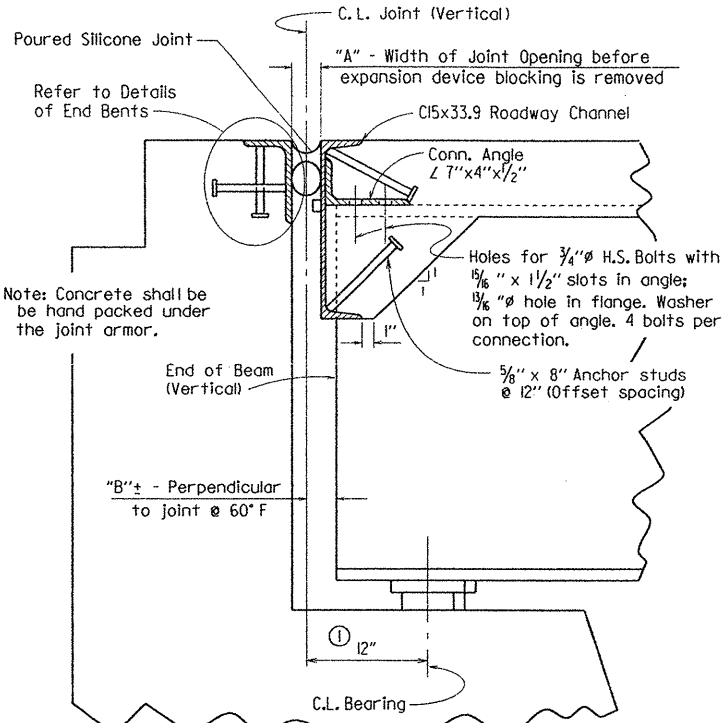
All beams shall be blocked in their true position with webs horizontal. The camber, distance between bearings, and openings of joints shall be measured and this information shall become part of the permanent records. All beam dimensions are based on a temperature of 60 degrees F. A tolerance of $\frac{1}{4}$ " +/- is allowed for camber.

All welding that is to be done during fabrication of structural steel, including temporary welds, shall be detailed on the shop drawings and submitted for approval. If additional welds are required, whether permanent or temporary, a formal request with detailed drawings shall be submitted to the Engineer for approval; however, additional welds used for attaching falsework support devices or screed rail supports to the structural steel that do not exceed the limitations of Subsection 802.13 will not require approval prior to construction. All welding shall conform to Subsection 807.26.

Field connections shall be bolted with high-strength bolts and shall be $\frac{3}{4}$ " ϕ bolts unless otherwise noted. Holes for $\frac{3}{4}$ " ϕ high-strength bolts may be $\frac{1}{2}$ " ϕ diameter if a washer is supplied for use under both the nut and head of the bolt.

Steel diaphragms shall be installed as beams are erected. All bolts in diaphragms shall be installed and tightened in accordance with Subsection 807.71 prior to pouring the concrete deck unless otherwise noted.

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.



SECTION THRU JOINT AT END BENT

① Measured Along C.L. Beam

SILICONE JOINT DATA

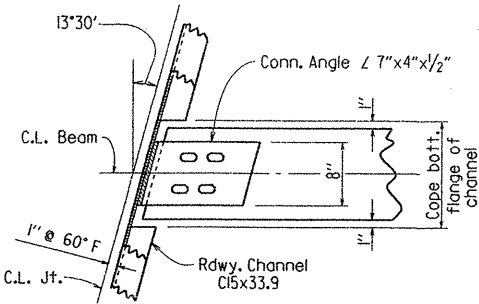
"A" Width Perpendicular to Joint at 24 Hour Average Temperature* Of:			"B" Perpendicular to Joint at 60°F	"D"	Bumper Plate Size
40°F	60°F	80°F			
2 1/8"	2"	1 7/8"	2 1/4"	4 1/2"	1" x 1"

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

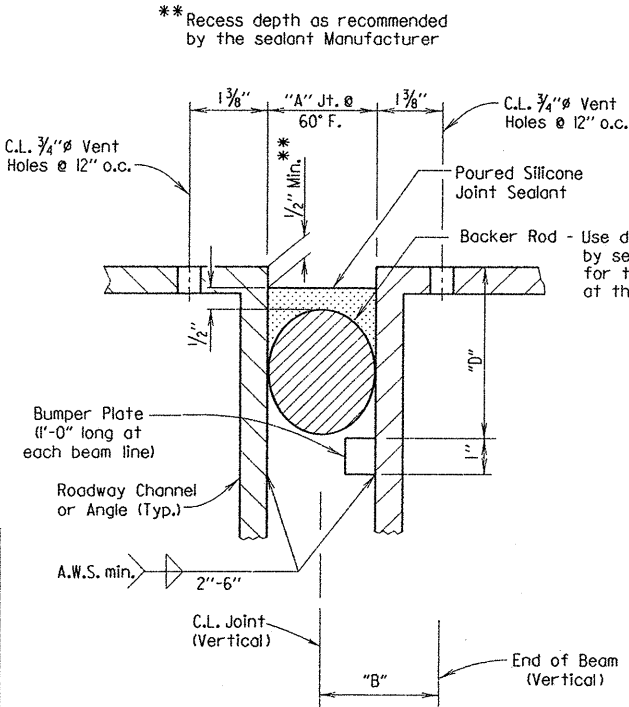
Notes:
The temperature limitations recommended by the sealant Manufacturer shall be observed. The sealant shall be installed only when the average 24 hour air temperature is between 40° and 80° F.

Use an appropriately sized backer rod at the depth shown in the Manufacturer's literature based on the joint width at the time of sealing. Unless otherwise noted, do not install more backer rod than can be sealed in the same day.

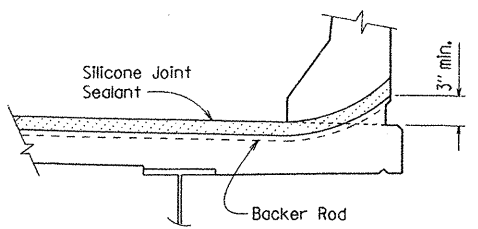
The Contractor shall verify separation of the backer rod from the joint material after the joint material has set.



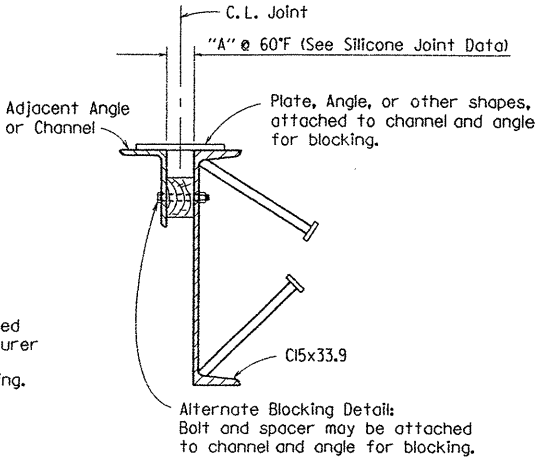
CHANNEL CONNECTION DETAIL



DETAIL OF POURED SILICONE JOINT



JOINT SEAL PLACEMENT AT CURB



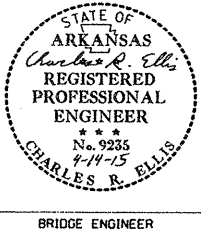
DETAILS FOR BLOCKING EXPANSION JOINT DEVICE

Note: Each expansion joint device shall be blocked in the Shop by the Fabricator to the dimension "A" shown for 60°F 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.

EXPANSION DEVICE INSTALLATION AT END BENTS:

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

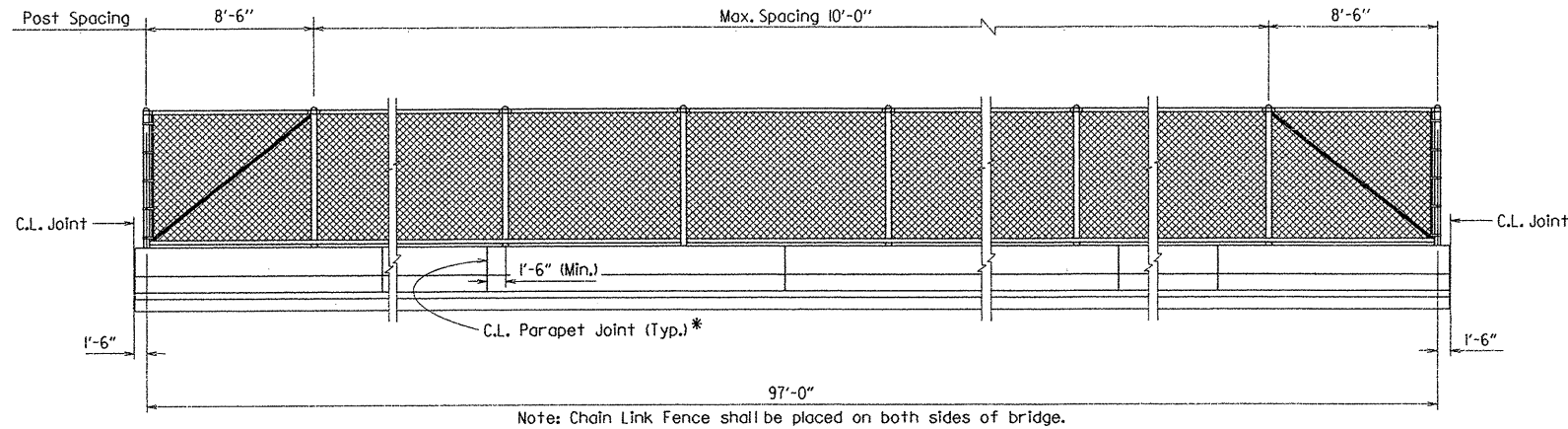
- The concrete span pour adjacent to joint shall be placed before the end bent backwall is placed. After the end bent backwall forms are in place and the beams erected, the blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior to placing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



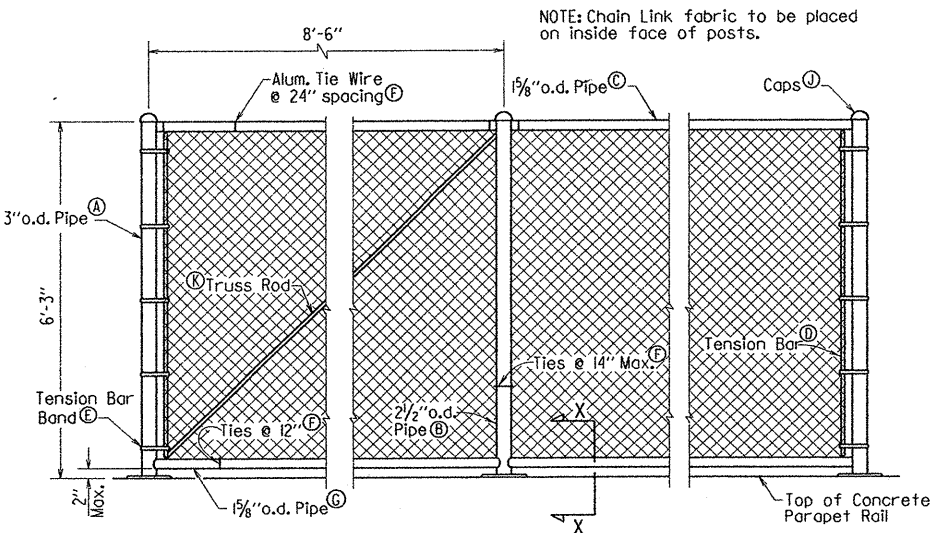
SHEET 5 OF 5
DETAILS OF 100'-0"
W-BEAM SPAN
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: ACP DATE: 07-17-13
CHECKED BY: JRP DATE: 4-14-15
DESIGNED BY: ACP DATE: 07-13
BRIDGE NO. 07297
FILENAME: b061349_sl.dgn
SCALE: No Scale
DRAWING NO. 56949

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.		061349	46	94
① 07297 - CHAIN LINK FENCE - 56950								

*For parapet open joint spacing along face of parapet, see "Reinforcing Plan & Pouring Sequence" on Dwg. No. 56947.



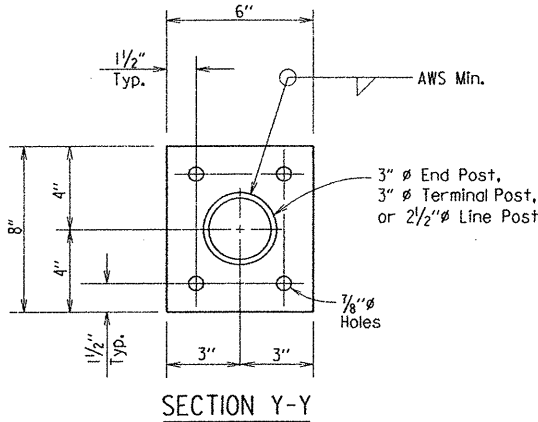
LONGITUDINAL VIEW OF CHAIN LINK FENCE



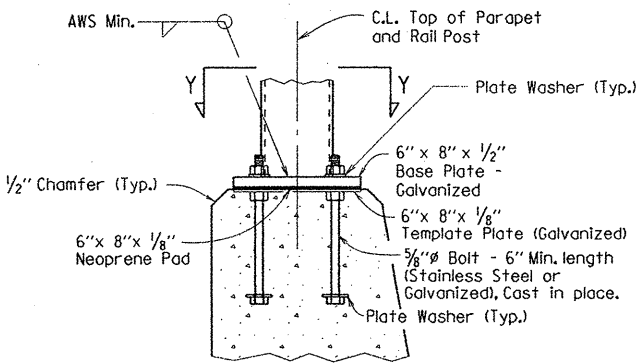
DETAIL OF CHAIN LINK FENCE

- (A) END POST: 3" O.D.
- (B) LINE POST: 2 1/2" O.D.
- (C) TOP RAIL: 1 5/8" O.D.
- (D) TENSION BAR: 3/8" x 3/4" Bar
- (E) TENSION BAR BAND: 3/4" x .074 w/ 5/16" x 1 1/4" Bolt (1 Band Top and Bottom w/ 15" Max. spaces)
- (F) TIE WIRE: 9 Ga. Aluminum
- (G) BOTTOM RAIL: 1 5/8" O.D.
- (H) FABRIC: 9 Ga. 2" Mesh w/ Knocklug or Twisting Selvage
- (I) CAPS: All Posts shall be Capped and Shall Conform to ASTM F626-84
- (K) TRUSS ROD: Min. of 5/8" Round with Tighteners and Fittings

NOTE: Chain Link Fence attached to Bridge and including tapered panel section shall be paid for as "6' Steel Chain Link Fence". For additional details of Chain Link Fence, See Standard Drawing WF-3.



SECTION Y-Y



SECTION X-X

DETAILS OF POST ANCHOR SYSTEM
(CAST-IN PLACE BOLTS)

NOTES:

Fence layout shall conform to the vertical and horizontal bridge alignments. Fence posts shall be set plumb (true vertical position). Parapet rail concrete shall be at least 7 days old before stretching and securing fabric to posts.

Cast in place anchor bolts shall be of stainless steel or high strength steel. Stainless steel anchor bolts shall conform to ASTM A 193 or A 320-Grade B8 with a minimum yield strength of 80,000 psi. High strength steel anchor bolts shall conform to AASHTO M 164 or ASTM A 354-Grade BC galvanized in accordance with AASHTO M 232, or M 298, Class 40 or 50.

Nuts: Nuts shall conform to AASHTO M 292, Gr. 8A (stainless steel) or galvanized in accordance with AASHTO M 232 or M 298, Class 40 or 50.

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

Washers: Washers shall be stainless steel and conform to the requirements of ASTM A 276 or A 167-Type 302 with dimensions meeting ASTM F436, or high strength steel conforming to AASHTO M 293 and galvanized in accordance with AASHTO M 232 or M 298, Class 40 or 50.

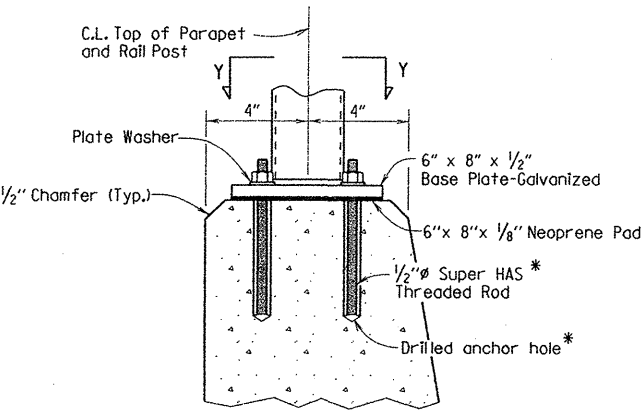
Base plates shall not be placed upon areas that are improperly finished, deformed, or irregular.

Plate Washers shall be stainless steel and conform to the requirements of ASTM A167-Type 302 or AASHTO M 270, Gr. 36, galvanized in accordance with AASHTO M 232 or M 298, Class 40 or 50. Plate Washers shall have dimensions meeting the requirements of ANSI/ASME B 18.22.1, Type A plain washer (Wide Series).

Chain Link Fence attached to Bridge shall be paid for as "6' Steel Chain Link Fence". For additional details of Chain Link Fence, See Standard Drawing WF-3.

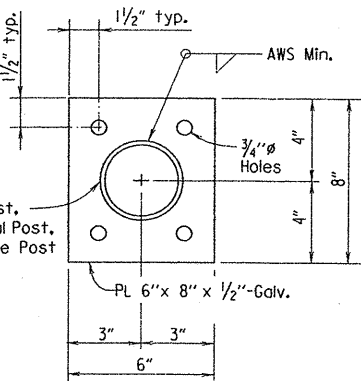
Neoprene pad and template plates shall not be paid for directly, but shall be considered incidental to the unit price bid for item "6' Steel Chain Link Fence".

Mixing of stainless steel and galvanized fasteners will not be permitted.



*HILTI HIT RE 500 Epoxy Adhesive Anchor System with 4 1/2" embedment or approved equal.
The HILTI Adhesive Anchor System shall be installed in accordance with Manufacturer's recommendations.

SECTION X-X



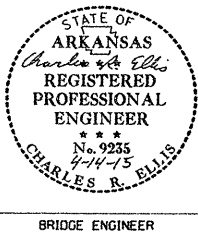
SECTION Y-Y

DETAILS OF ALTERNATE POST ANCHOR SYSTEM
(EPOXY ADHESIVE ANCHORS)

DETAILS OF CHAIN LINK FENCE
BAUXITE & NORTHERN RAILROAD SPUR

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

DRAWN BY: ACP DATE: 03-17-15 FILENAME: b061349.fl.dgn
CHECKED BY: JNP DATE: 4-14-15 SCALE: N.T.S.
DESIGNED BY: Std DATE:
BRIDGE NO. 07297 DRAWING NO. 56950



BRIDGE ENGINEER