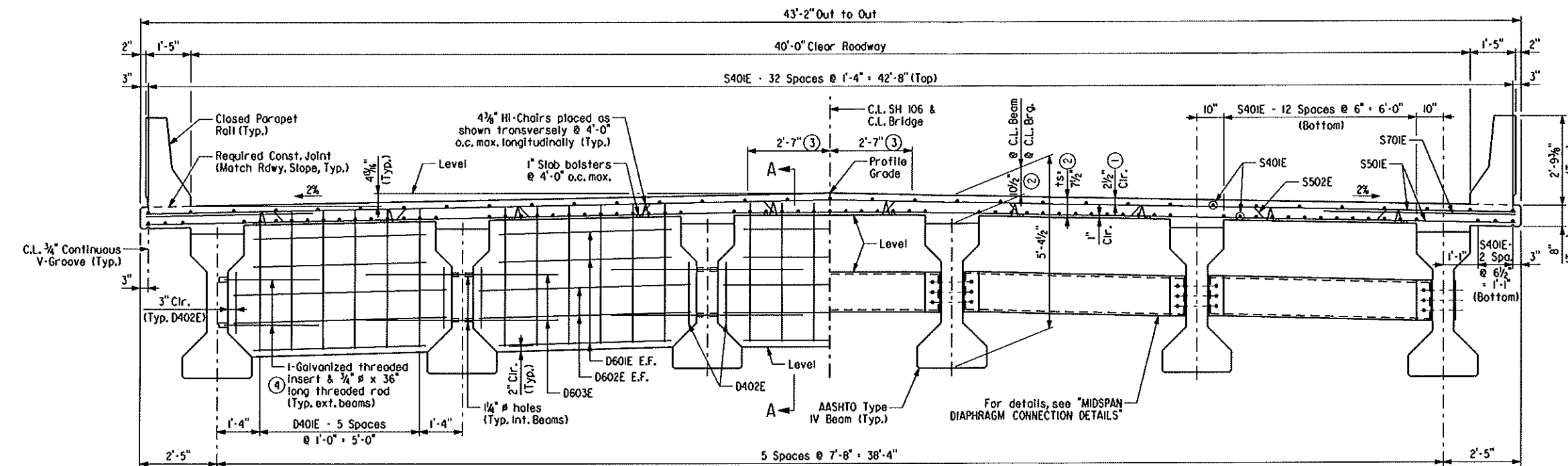


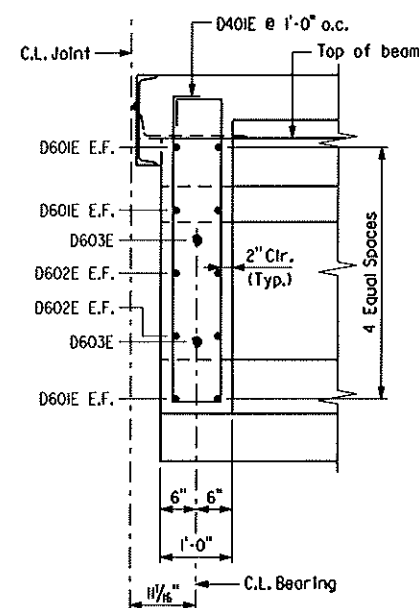
Note: Superstructure details shown are for use when removable deck forms are used and are the basis for measurement of Class S(AE) concrete.



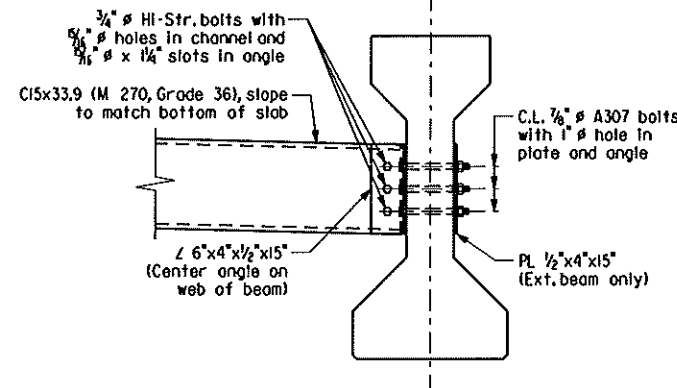
HALF-SECTION AT C.L. BEARING

### HALF-SECTION AT INTERMEDIATE DIAPHRAGMS

HALF-SECTIONS: C.L. BEARING AND INTERMEDIATE DIAPHRAGMS

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

NOTE: A standard washer shall be supplied for use under both the nut and the head of the  $\frac{3}{4}$ "  $\phi$  and  $\frac{1}{8}$ "  $\phi$  bolts. An additional  $2\frac{1}{2}$ " O.D. washer shall cover the angle slots.

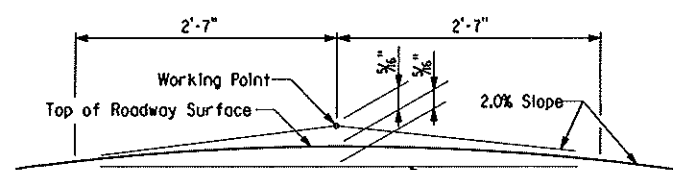


MIDSPAN DIAPHRAGM CONNECTION DETAIL

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

Galvanized steel diaphragms shall be used at all intermediate diaphragm locations. All components of the steel diaphragms to be AASHTO M 270, Grade 36, and shall be galvanized in accordance with AASHTO M 111.

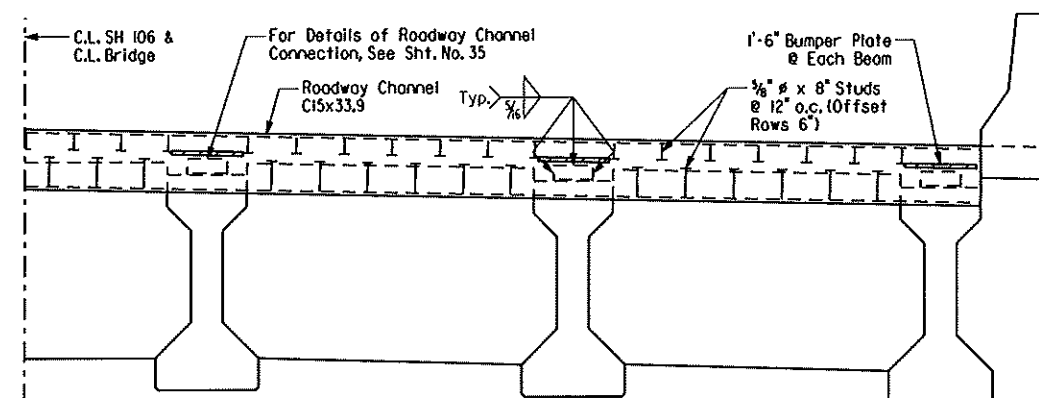
SECTION A-A

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


NOTE: Working Point matches Theoretical Roadway Grade.

### ROUNDING DETAIL

No Scale



HALF-SECTION AT C.L. JOINT

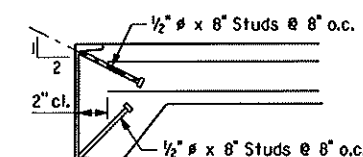
$$\frac{1}{2}'' = 1' \cdot 0''$$

**NOTES:**

Class I Protective Surface Treatment shall be applied to the Roadway Surface and the Face and Top of Concrete Parapet Wall.

Note: One #5 bar in the top and one #5 bar in the bottom may be substituted for each bar S502E. Payment will be based on the weight of bars S502E.

- ① TOLERANCE:  
Minus:  $\frac{1}{4}$ "  
Plus: Equal to amount of slob thickening used to meet slob thickness tolerance. See "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE WHEN REMOVABLE DECK FORMING IS USED".
- ② See "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE WHEN REMOVABLE DECK FORMING IS USED".
- ③ See "ROUNDING DETAIL"
- ④ Galvanized Dayton-Richmond F-42 Loop Ferrule Insert or an approved equal,  $\frac{3}{4}$ "  $\phi$  Threaded Rods to be AASHTO M270, Grade 36 or AASHTO M 31or M 53, Grade 60. These are to be Non-Play Items-subsiditory to the Item "PRESTRESSED CONCRETE BEAMS (TYPE IV)". Galvanizing shall be in accordance with AASHTO M 232 Class C or AASHTO M 298 Class 50.



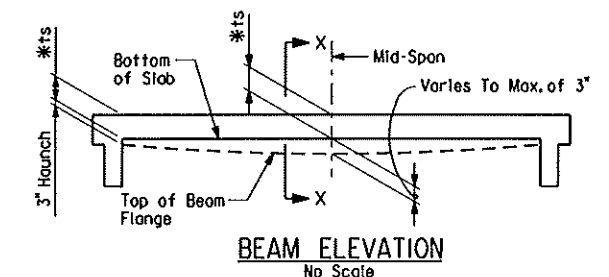
Note: As an alternate to  $\frac{3}{8}$ "  $\phi$  studs,  $\frac{1}{2}$ "  $\phi$  x 8" studs spaced as shown may be used. Use weight of  $\frac{3}{8}$ "  $\phi$  stud as basis of measurement of structural steel in anchors.

DETAIL OF  
ALTERNATE ANCHORS  
No Scale

No Scale

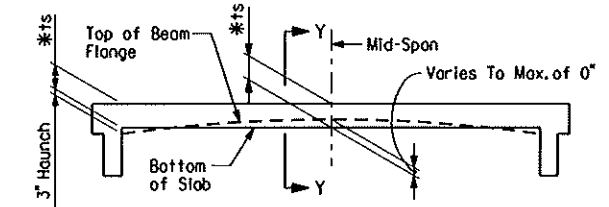
SLAB REINFORCING  
Transverse:  
S501E @ 1'-1" o.c. (Top)  
S501E @ 1'-1" o.c. (Bottom)  
S502E @ 1'-1" o.c. (Bent up over girders)  
S701E @ 6/2" o.c. (Place as shown, see "DETAIL A" on Sht. No. 31)  
Longitudinal:  
S401E @ 1'-4" o.c. (Top)  
S401E @ 0'-6" o.c. (Bottom)

EXPANSION DEVICE  
Roadway Channel - C15x33.9  
Connection Angle - MC18x42.7 (Cope one flange)



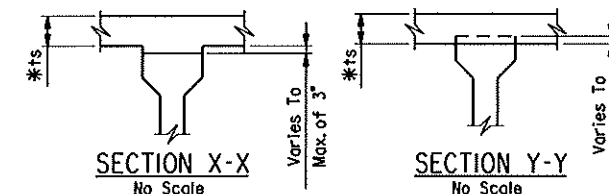
### BEAM ELEVATION

No Scale



BEAM ELEVATION

No Scale



Note: ts = slab thickness as shown on superstructure details.  
See "HALF-SECTIONS: C.L. BEARING AND INTERMEDIATE DIAPHRAGMS"

\*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. See Dwg. No. 14991 for tolerances when permanent steel deck forms are used.

"BEAM ELEVATION" sketches show the range of acceptability of the top of the Beam relative to bottom of slab after the placement of the slab. When the top of the Beam projects more than  $\frac{1}{2}$ " into the slab, a raise in grade will be necessary. Variation of haunch height will be at the Contractor's expense.

### ADJUSTMENT FOR SLAB THICKNESS TOLERANCE

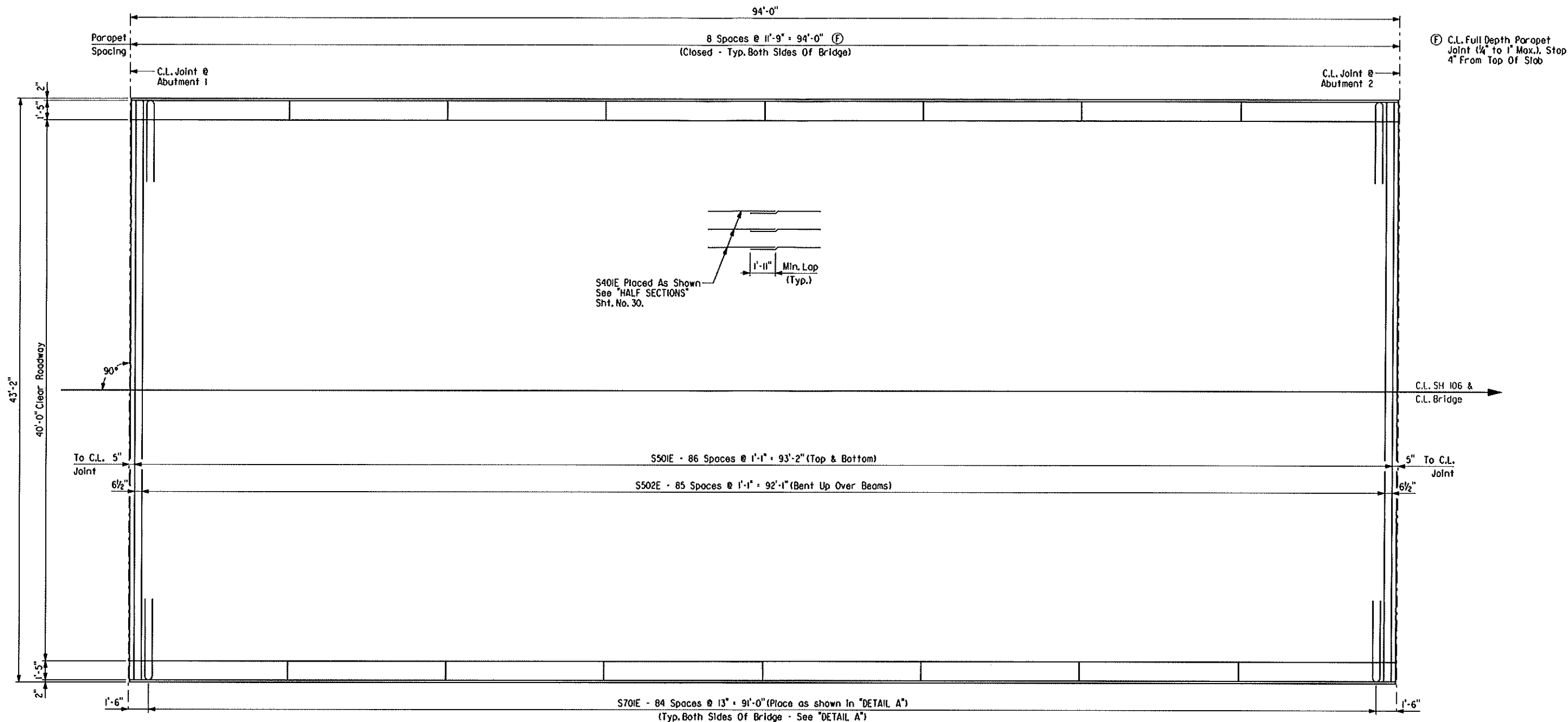
### WHEN REMOVABLE DECK FORMING IS USED



ARKANSAS LIME COMPANY  
LIMDALE QUARRY  
SHEET 1 OF 5  
DETAILS OF 94'-0" PRESTRESSED  
CONCRETE BEAM SPAN

Drawn: JAP	Check: LWS	Structural: LWS	Check: PJS	Project No:
Civil: JRP	Project:	Approved:	Date: JULY '08	Scale: As Shown

30



**REINFORCING PLAN**  
1/4" = 1'-0"

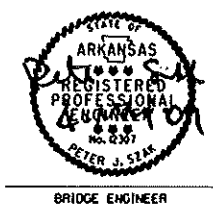
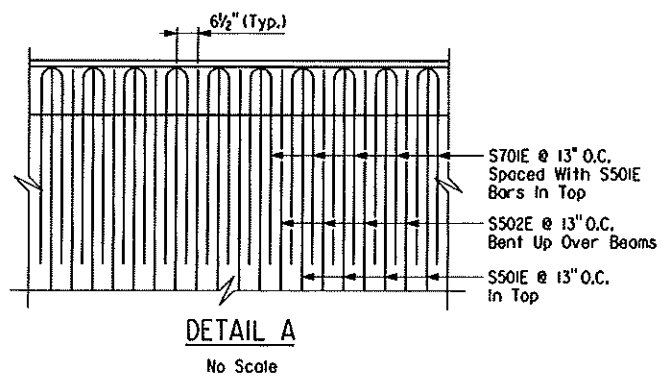
**BAR LIST**

MARK	NO. REQ'D	LENGTH	PIN DIA.
S401E	208	47'-9"	Str.
S501E	174	42'-10"	Str.
S502E	86	43'-11"	3"
S701E	170	12'-4"	5 5/8"
P501E	384	4'-10"	3 3/4"
P502E	384	5'-6"	2 3/4"
P503E	160	11'-5"	Str.
D401E	60	10'-0"	2"
D402E	20	4'-4"	2"
D601E	60	5'-5"	Str.
D602E	40	6'-8"	Str.
D603E	16	6'-0"	Str.

BENDING DIAGRAMS (Dimension are out to out of bars)	
<p>D401E</p>	<p>D402E</p>
<p>P501E</p>	<p>P502E</p>
<p>S502E</p>	
<p>S701E</p>	

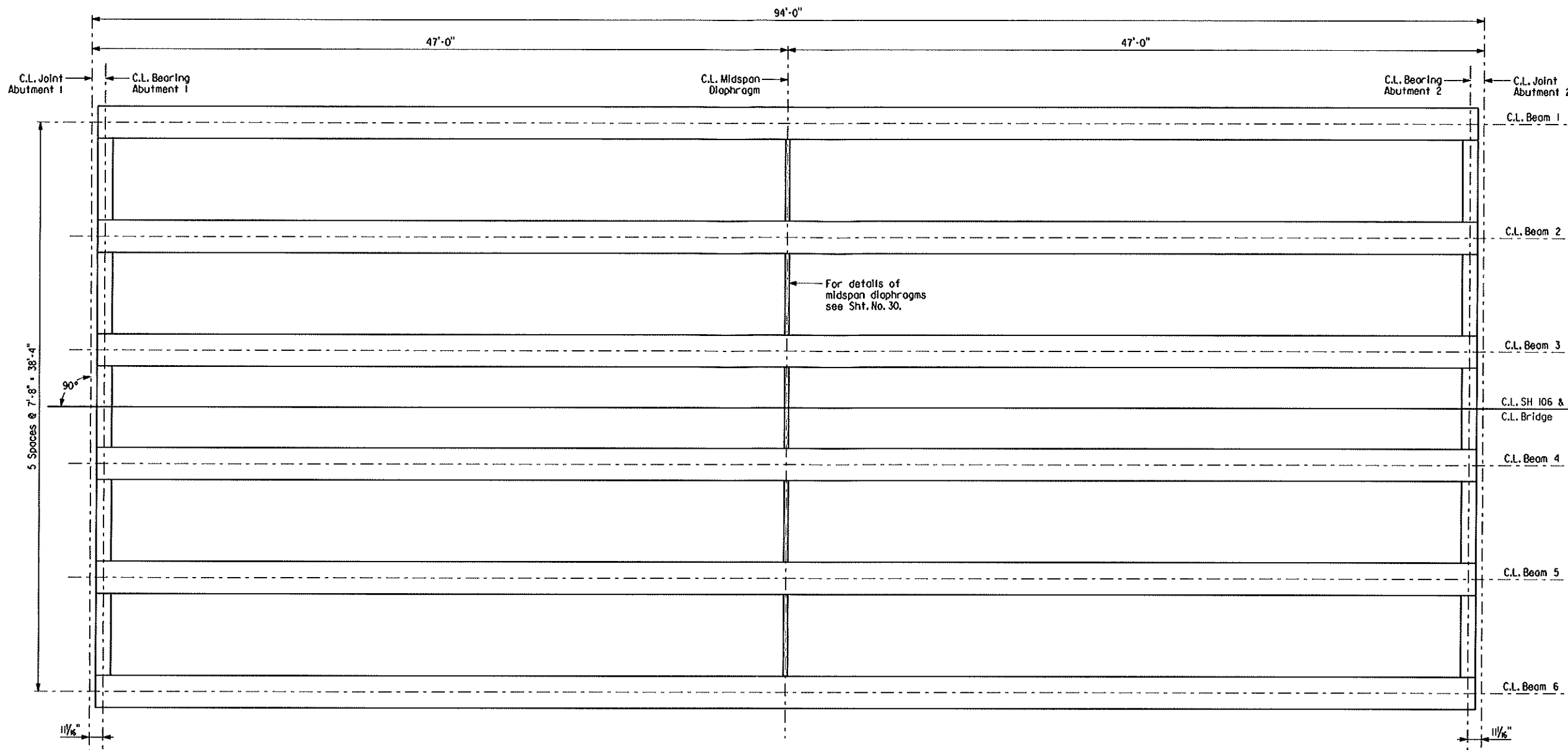
\*\* 1/2" Overtolerance, No Undertolerance



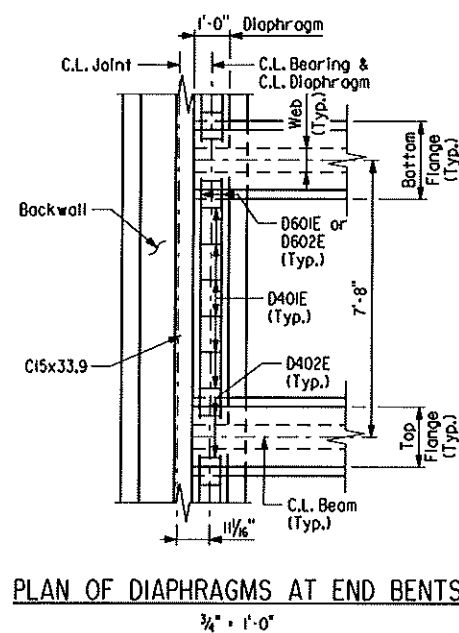
**Florence & Hutcheson, Inc.**  
CONSULTING ENGINEERS

**ARKANSAS LIME COMPANY**  
LIMDALE QUARRY  
SHEET 2 OF 5  
DETAILS OF 94'-0" PRESTRESSED  
CONCRETE BEAM SPAN

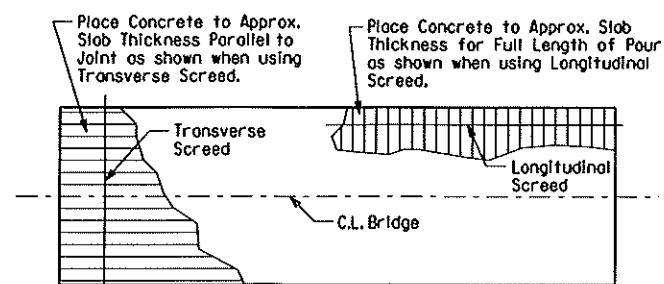
Drawn: JAP	Check: LWS	Structural: LWS	Check: PJS	Project No: 31
Civil: JRP	Project:	Approved:	Date: JULY '08	Scale: As Shown



FRAMING PLAN  
1/4" = 1'-0"



PLAN OF DIAPHRAGMS AT END BENTS



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

CONCRETE PLACEMENT PROCEDURE

No Scale



BRIDGE ENGINEER

**Florence & Hutcheson, Inc.**  
CONSULTING ENGINEERS

ARKANSAS LIME COMPANY  
LIMDALE QUARRY  
SHEET 3 OF 5  
DETAILS OF 94'-0" PRESTRESSED  
CONCRETE BEAM SPAN

Drawn: JAP	Check: LWS	Structural: LWS	Check: PJS	Project Mgr: JAP
Civil: JAP	Project: JAP	Approved: JAP	Date: JULY '08	Scale: As Shown

# GENERAL NOTES - PRESTRESSED BEAMS ONLY

Prestressing steel shall be  $\frac{1}{2}$ "  $\phi$  Low Relaxation strands with a minimum ultimate strength of 270 ksi and shall conform to AASHTO M 203.

All beams shall be AASHTO TYPE IV I-Beams as shown on the details. All beams shall be cast in concrete floor joists and in metal forms. All work and materials shall be as specified in Section 802.22 of the Standard Specifications.

Concrete shall be Class "5" and shall have a minimum 28 day compressive strength  $f'_c = 6,000$  psi.

Dimensions shown are to the center of strands.

The initial tensile force applied to each  $\frac{1}{2}$ "  $\phi$  strand shall be 30,983 pounds. Transfer of this tensioning load to the beam shall not be done until the compressive strength of the concrete is 4,500 psi.

The Contractor shall submit the method and sequence for release of strands to the Engineer for approval prior to casting of the beams.

The first 16" along the top of the beam at each end shall have a smooth finish. The remaining portion shall be rough floated at approximately the time of set and then scrubbed transversely with a coarse wire brush to remove all laitance and to produce a roughened surface for bonding slabs.

Beam lengths shown on the design plans are net lengths measured horizontally along beam centerlines. The beam manufacturer shall make the necessary allowances for grade and shortening due to elastic shortening, creep, and shrinkage.

All exposed steel at ends of beams shall be sawn flush with end of beam and protected against corrosion by a coating of tar or other waterproofing material.

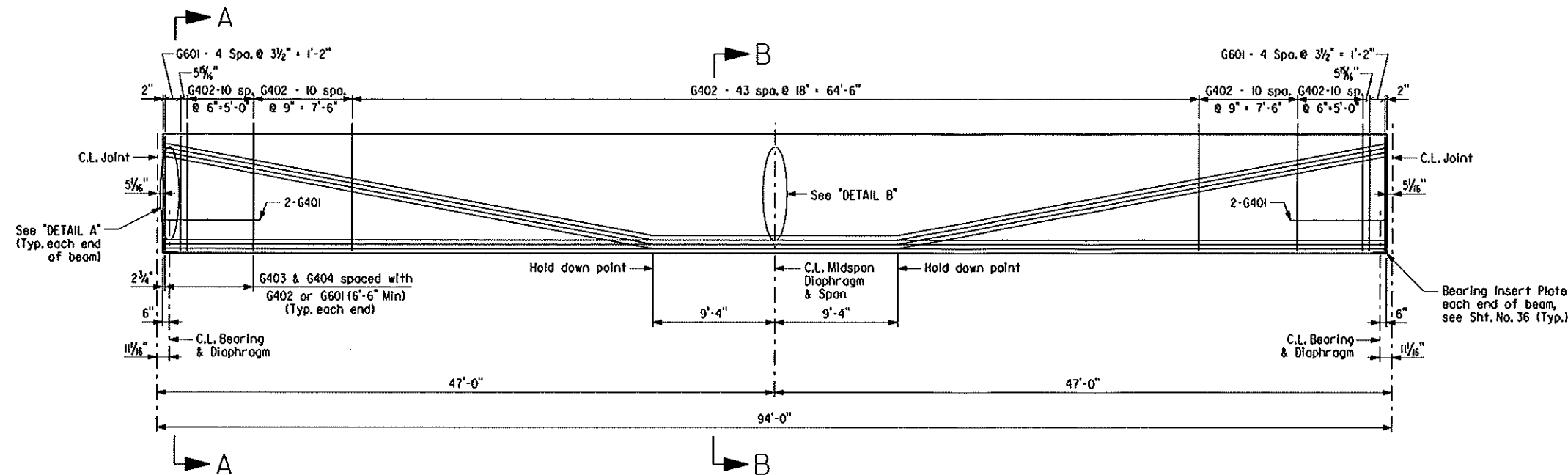
Beams must be maintained in an upright position at all times and must be picked up from points near the beam ends. Disregard of the requirement may lead to collapse of the beam. The Contractor's proposed lifting details shall be submitted on shop drawings to the Engineer for approval. The use of holes for lifting purposes will not be permitted.

The Contractor may submit alternate strand patterns with design calculations for review and approval in accordance with subsection 802.22 except that only  $\frac{1}{2}$ "  $\phi$  strands shall be allowed.

Reinforcing Steel shall be AASHTO M 31 or M 53 Grade 60 ( $f_y = 60,000$  psi).

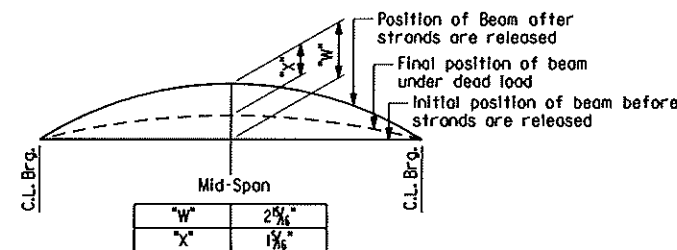
Distances from the forms and spacing of the Prestressing Steel shall be maintained by the stays, ties, hangers, spacers, or other approved supports which shall be shown on the Shop Drawings.

The point of support and direction of the reactions with respect to the member shall be approximately the same during transportation and storage as when the member is in its final position.



TYPICAL BEAM ELEVATION (TYPE IV)

N.T.S.

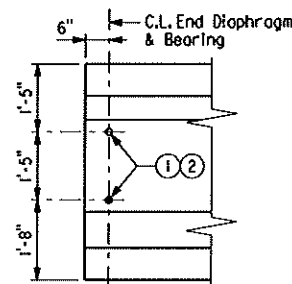


W is expected camber of beam at 90 days after release (Prestress + Dead Load of Beam)

X is Dead Load Deflection of Slab + Diaphragms + Composite Dead Load.

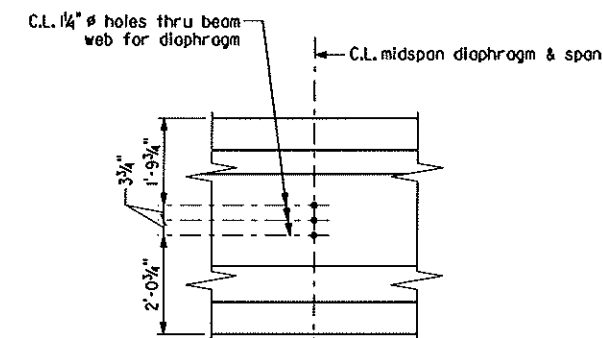
CAMBER & DEFLECTIONS (INCHES)

N.T.S.



DETAIL A

$\frac{1}{2}$ "  $\phi$  = 1'-0"



DETAIL B

$\frac{1}{2}$ "  $\phi$  = 1'-0"

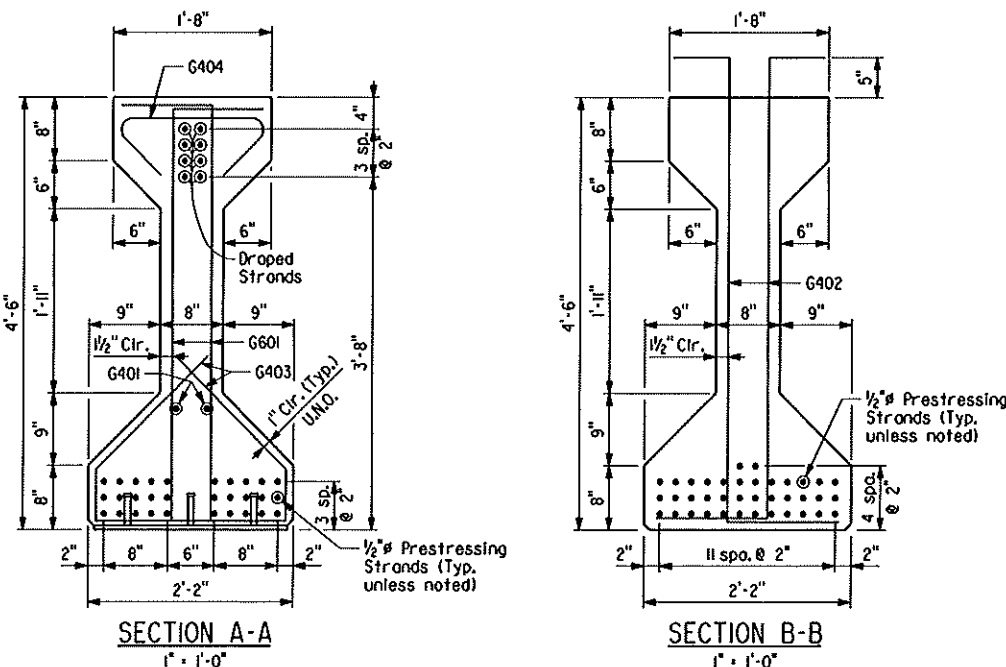
- Galvanized  $\frac{3}{4}$ "  $\phi$  Dayton-Richmond F-42 Loop Ferrule Insert or an approved equal, (omit in exterior face of exterior beams.) These are to be non-Pay Items-subsidary to the Item "PRESTRESSED CONCRETE BEAMS (TYPE IV)".
- Inserts on Inside of Exterior Beams and  $\frac{1}{4}$ "  $\phi$  holes for Interior Beams.

## BAR LIST - PER BEAM

MARK	NO. REQ'D	LENGTH	P.D.	BENDING DIAGRAMS (Dimensions are out to out of bars.)
G401	4	7'-3"	Str.	
G402	168	6'-5"	2"	
G403	64	4'-0"	2"	
G404	32	3'-1"	3"	
G601	20	5'-2"	4 1/2"	

## LOAD DISTRIBUTION TO BEAMS:

	Beams 1 & 6	Beams 2 - 5
Dead Loads: To Beam	696 PLF + Beam + Diaph.	850 PLF + Beam + Diaph.
Dead Loads: To Composite Beam	297 PLF Includes 167 PLF Future Wearing Surface	297 PLF Includes 167 PLF Future Wearing Surface
Live Loads: To Each Composite Beam	0.548 Lanes + Impact	0.683 Lanes + Impact



SECTION A-A

1' x 1'-0"

SECTION B-B

1' x 1'-0"

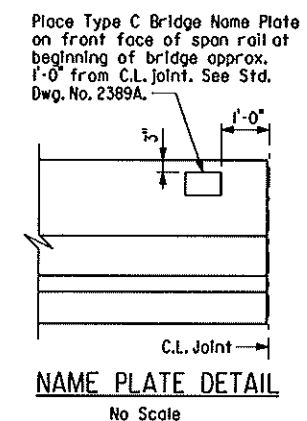
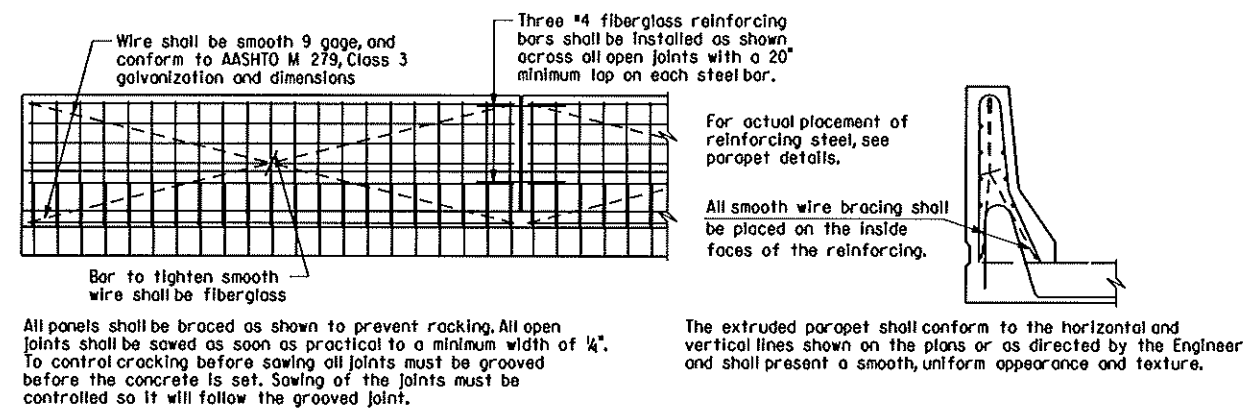
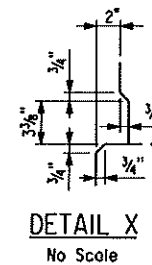
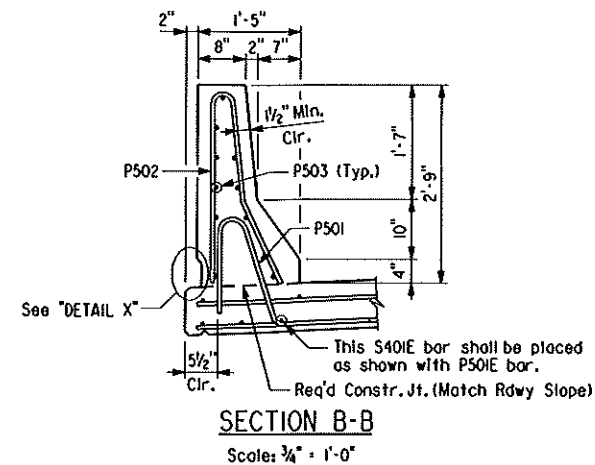
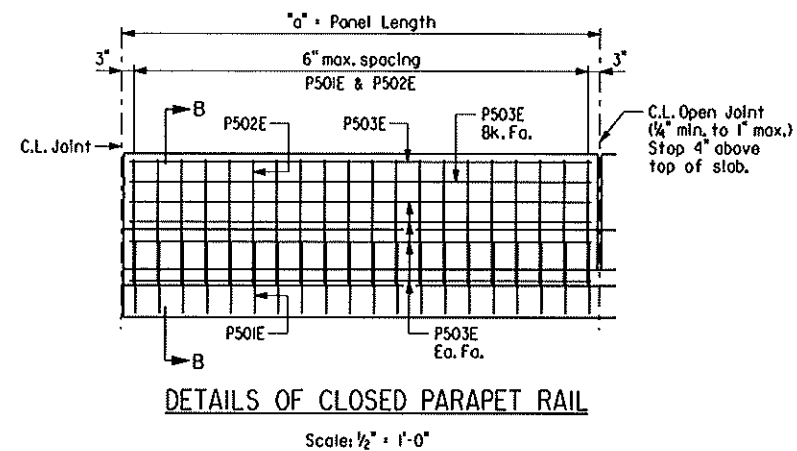


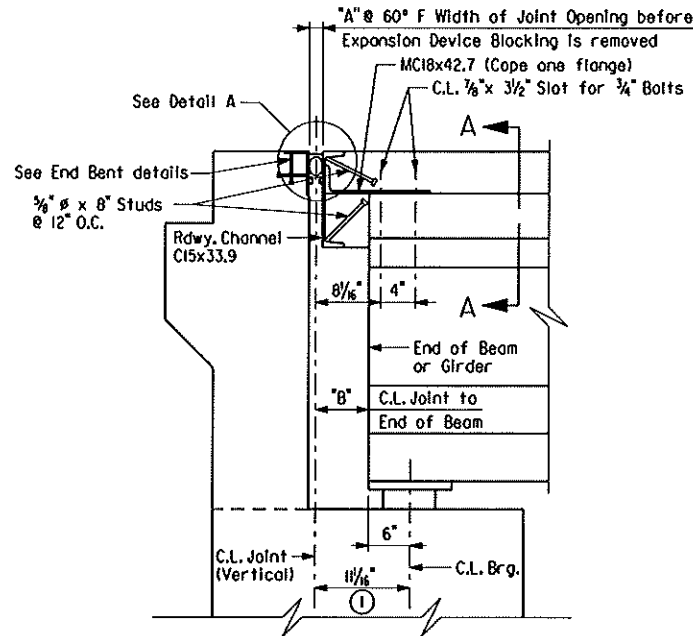
BRIDGE ENGINEER

**Florence & Hutcheson, Inc.**  
CONSULTING ENGINEERS

**ARKANSAS LIME COMPANY**  
LIMDALE QUARRY  
SHEET 4 OF 5  
DETAILS OF 94'-0" PRESTRESSED  
CONCRETE BEAM SPAN

Drawn: JAP	Check: LWS	Structural: LWS	Check: PJS	Project No: 33
Civil: JRP	Project: JRP	Approved: JRP	Date: JULY '08	Scale: As Shown

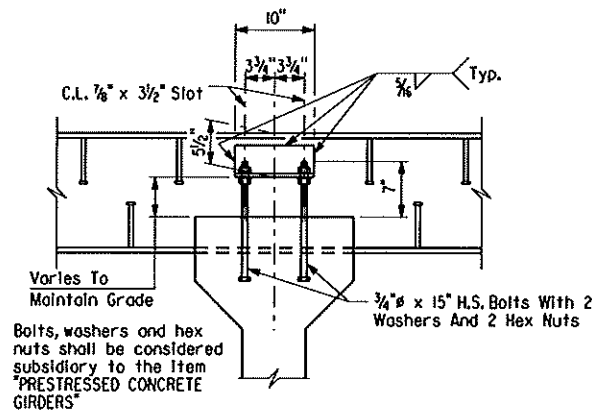




① Measured Along Beam or Girder

### SECTION THRU JOINT AT END BENTS

Note: Sections thru Joints are taken normal to C.L. Joints



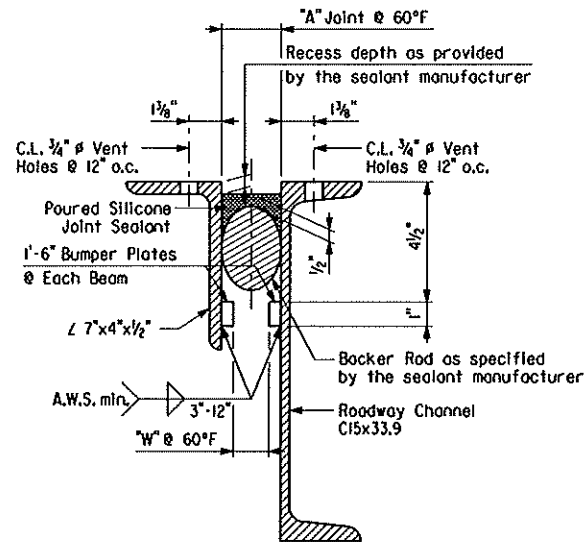
### SECTION A-A

### SILICONE JOINT DATA

"A" Width Perpendicular to Joint at 24 Hour Average Temperature ** of:			"B" Perpendicular to Joint @ 60°F	"W" Width Between Plates @ 60°F	Bumper Plate Size
40° F	60° F	80° F			
2"	1 1/8"	1 1/4"	5/16"	7/8"	1" x 1/2"

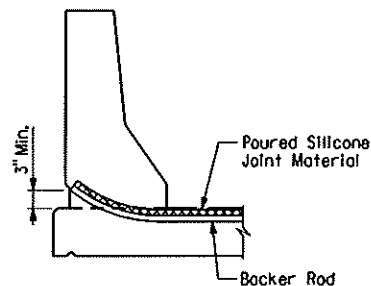
\*\*The temperature used to set the joint opening shall be the approximate average air temperature during the 24 hour period immediately before the bolts are tightened. The Engineer shall establish the temperature.

Note: The temperature limitations recommended by the sealant manufacturer shall be observed. Interpolation of the table may be necessary.

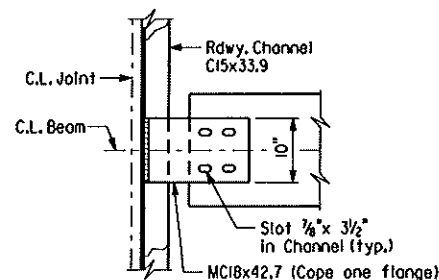


Note: Concrete shall be hand packed under the joint armor. Care shall be taken to ensure that concrete completely fills the areas below the top channel flange and the horizontal leg of the angle.

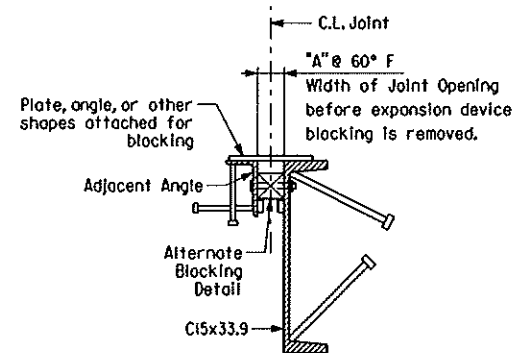
### DETAIL A



### JOINT SEAL PLACEMENT AT CURB



### ROADWAY CHANNEL CONNECTION DETAIL



### DETAILS FOR BLOCKING EXPANSION JOINT DEVICE

Note:

Each Expansion Joint device shall be blocked in the shop by the Fabricator to the dimension 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.

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

### EXPANSION DEVICE INSTALLATION AT END BENTS:

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

1) 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, the opening adjusted for temperature, and the backwall constructed.

2) 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. No backfill may be placed behind the backwall (above top of cap seat) until the deck concrete has been placed.

### SUPERSTRUCTURE GENERAL NOTES:

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

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications (2007 edition) with current interim specifications.

LIVE LOADING: HL93

CONCRETE: Concrete shall be poured in the dry and all exposed corners to be chamfered 3/4" unless otherwise noted. All concrete shall be Class (SAE) with a minimum 28 day compressive strength  $f'_c = 4,000$  psi. All end of unit diaphragms shall be cast in place and poured a minimum of 48 hours before the slab is poured, unless otherwise noted.

The superstructure details shown are for use when removable deck forming is used and are the basis for measurement of Class (SAE) Concrete. See Standard Drawing No. 14991 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 Fined 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 girder. If a longitudinal strike-off is used a vertical camber adjustment must be made in the strike-off to account for the future dead load deflection due to the rolling. A minimum of 72 hours shall elapse between completion of the slab and the pouring of the parapet rolling.

REINFORCING STEEL: All reinforcing steel shall conform to AASHTO M 31 or M 53, Grade 60 (Yield Strength = 60,000 psi). 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 - BRIDGE (GRADE 60)".

STRUCTURAL STEEL: All structural steel shall be AASHTO M 270, Gr. 50 unless otherwise noted and shall be paid for as "STRUCTURAL STEEL IN BEAM SPANS (M 270, GR. 50)". All structural steel except galvanized steel and steel which is completely encased in concrete shall be painted in accordance with subsection 807.75. The color of paint shall be Aluminum and shall conform to Federal Standard 595B, Color Chip No. 17200. Cleaning and painting will not be paid for directly, but will be considered subsidiary to the item "STRUCTURAL STEEL IN BEAM SPANS (M 270, GR. 50)". All exposed surfaces shall be cleaned in accordance with subsection 807.84(b). Structural steel completely embedded in concrete may be AASHTO M 270, Grade 36. See Std. No. 36 for cleaning requirements of external load plates of elastomeric bearings.

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. Shapes and materials shown in the plans will be the basis of payment and no additional compensation will be made for any adjustments due to substitutions.

Anchor bolts shall be galvanized according to section 807.07

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.

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.



Florence & Hutcherson, Inc.  
CONSULTING ENGINEERS

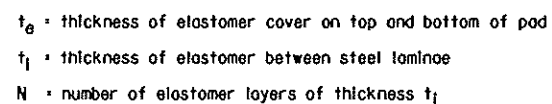
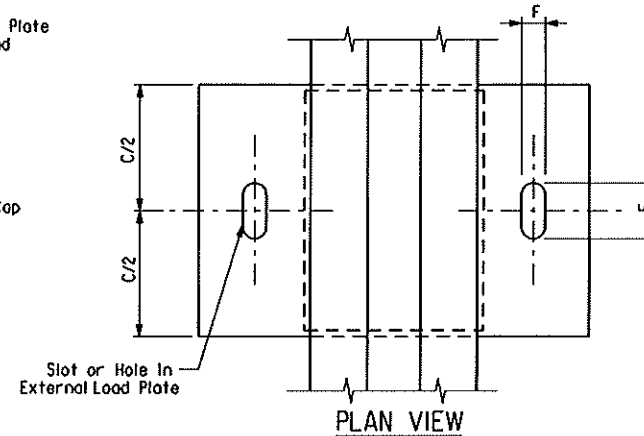
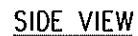
ARKANSAS LIME COMPANY  
LIMDALE QUARRY  
DETAILS OF ARMORED JOINT  
WITH POURED SILICONE JOINT

Drawn: JAP	Check: LWS	Structural: LWS	Check: PJS	Project No.:	35
Chf'd: JRP	Project:	Approved:	Date: JULY '08	Scale: None	



- 
- The diagram illustrates a pipe sleeve repair. A horizontal pipe is shown with a section removed and replaced by a sleeve. The sleeve is labeled "Sheet Metal Sleeve" and has a "Swaged" end. A "Steel Washer" is placed between the sleeve and the pipe. The "Pipe Sleeve" is the section of the original pipe that remains. The "Top of Cop" is indicated at the top of the sleeve. The "Thread" is shown on the left end of the sleeve, with a dimension of  $4\frac{1}{2}''$  from the top of the cop to the start of the thread. A dimension of  $3''$  is shown from the end of the sleeve to the start of the swaged section.

ANCHOR BOLT DETAIL



### ELASTOMERIC BEARING

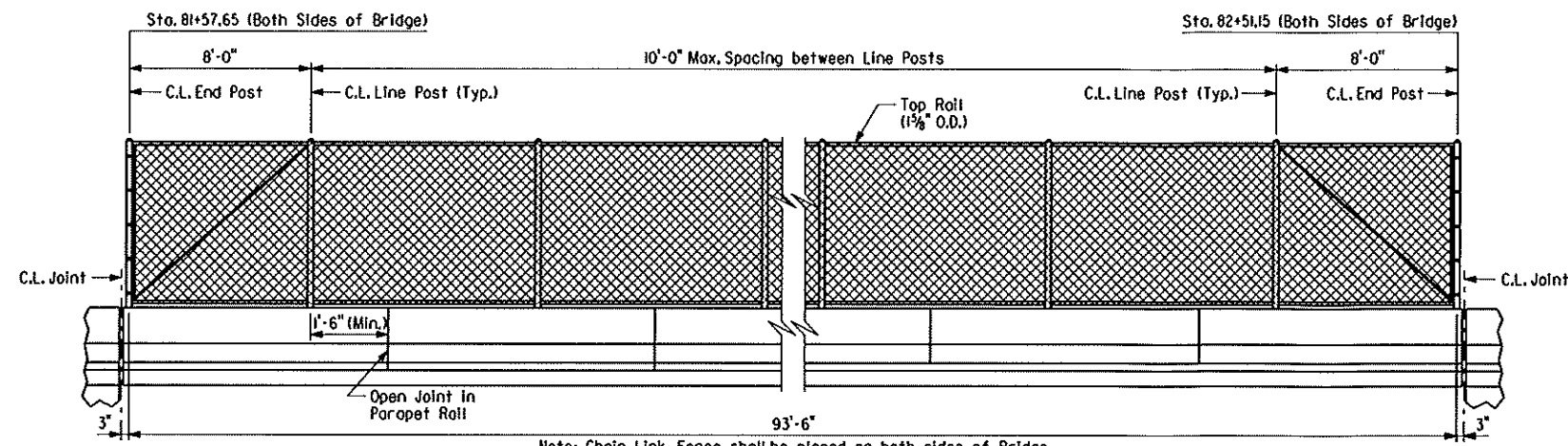
\* Maximum Design Load + Service Load

[illegible]

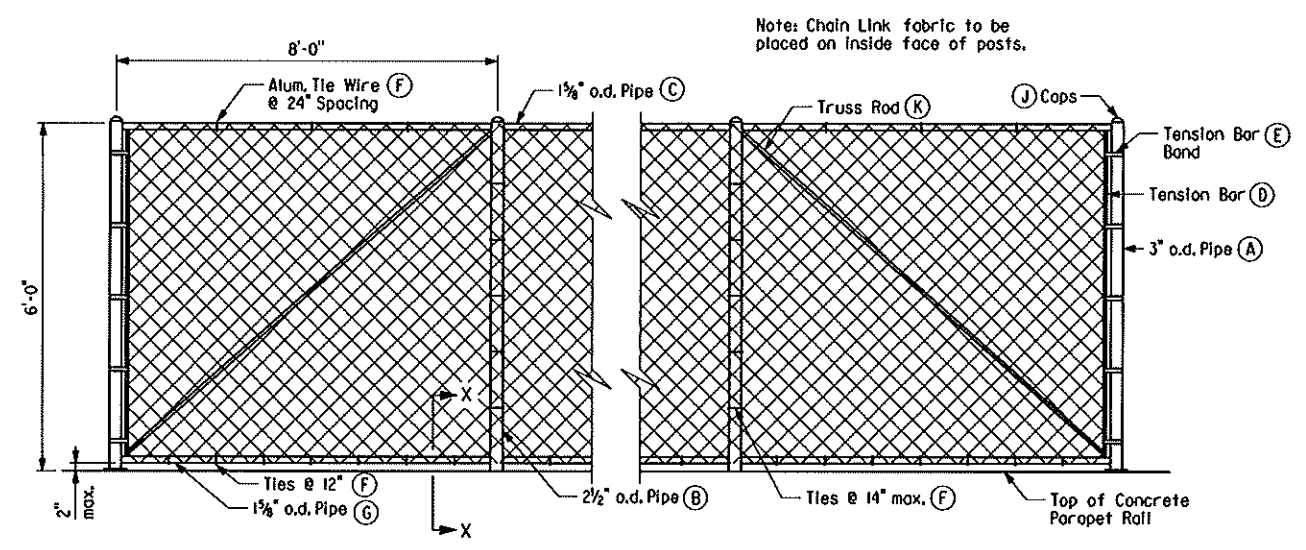
Unless otherwise approved by the Engineer, welding of the external load plate to the bearing insert plate of expansion bearings will be allowed only when 1) the approximate average air temperature during the 24 hour period immediately preceding welding is between 40°F and 80°F; and 2) the slots in the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

ARKANSAS LIME COMPANY  
LIMEDALE QUARRY  
DETAILS OF  
ELASTOMERIC BEARINGS

Drawn: JAP	Check: LMS	Structural: LMS	Check: PJS	Project No.:
Civil: JRP	Project:	Approved:	Date: JULY '08	Scale: AS SHOWN



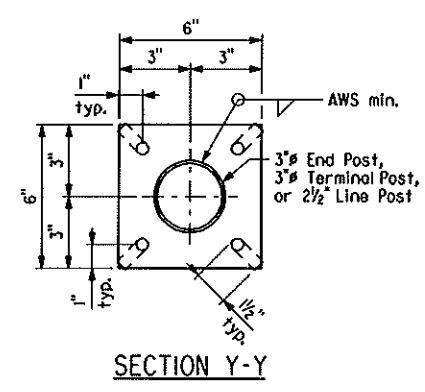
LONGITUDINAL VIEW OF CHAIN LINK FENCE



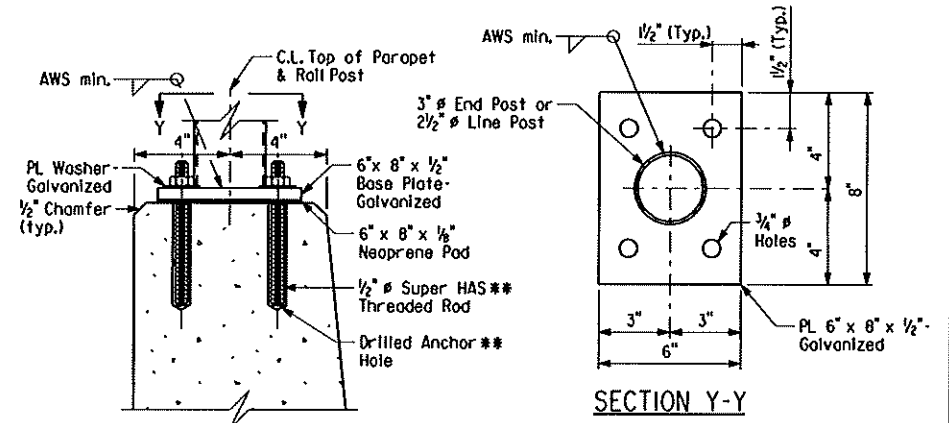
DETAIL OF CHAIN LINK FENCE

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

Note: 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.



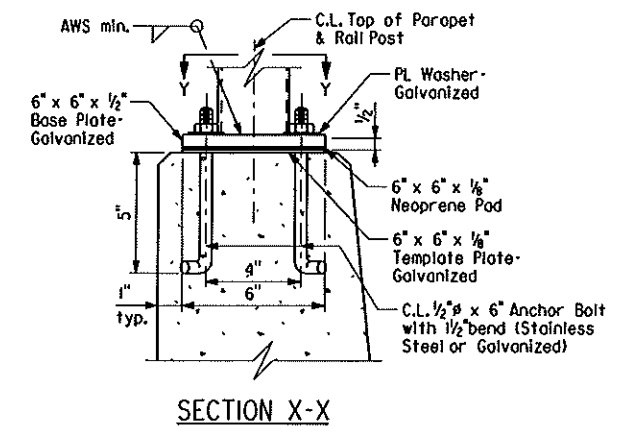
SECTION Y-Y



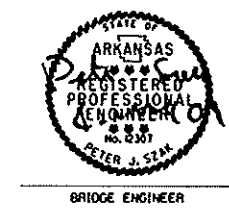
SECTION X-X

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

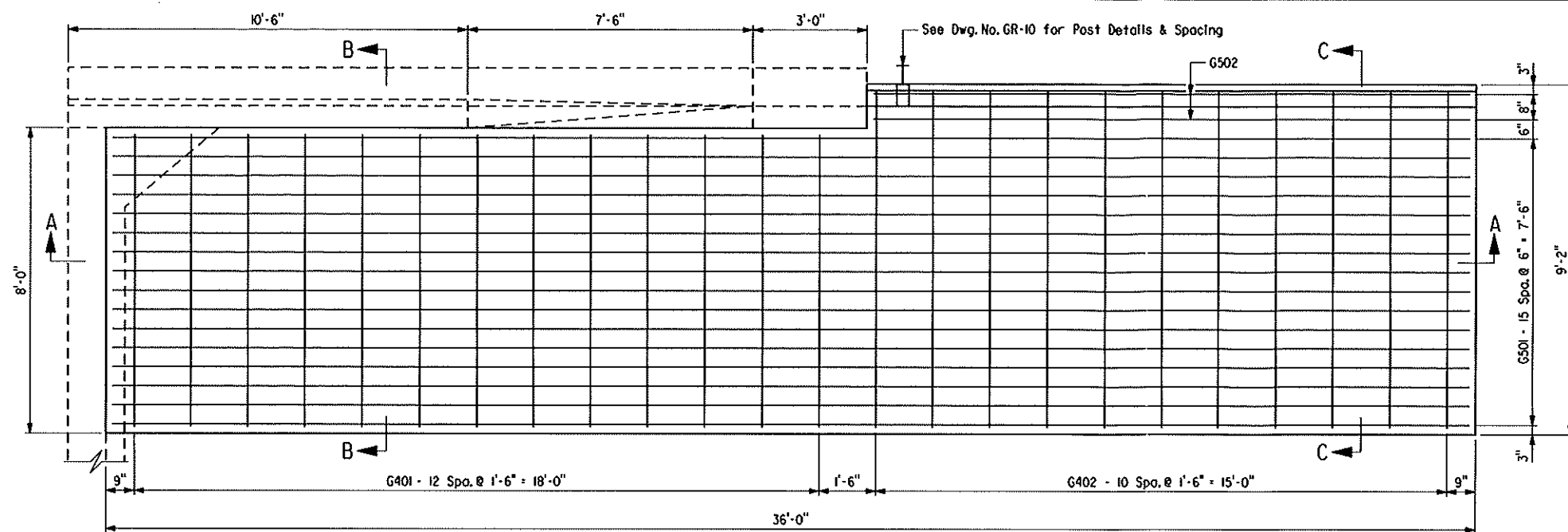
DETAILS OF ALTERNATE POST ANCHOR SYSTEM  
(EPOXY ADHESIVE ANCHORS)



SECTION X-X

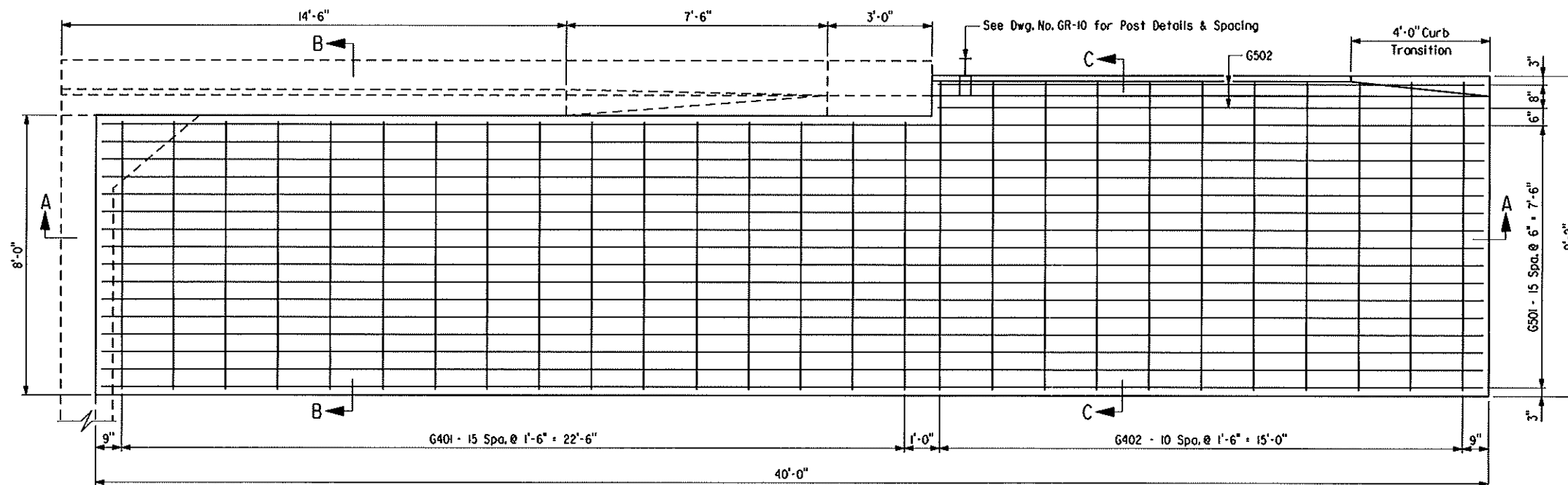


<b>ARKANSAS LIME COMPANY LIMDALE QUARRY DETAILS OF CHAIN LINK FENCE</b>	
Drawn: JAP Check: LMS Structural: LMS Check: PJS Project: Approved: Date: JULY '08 Scale: As Shown	37



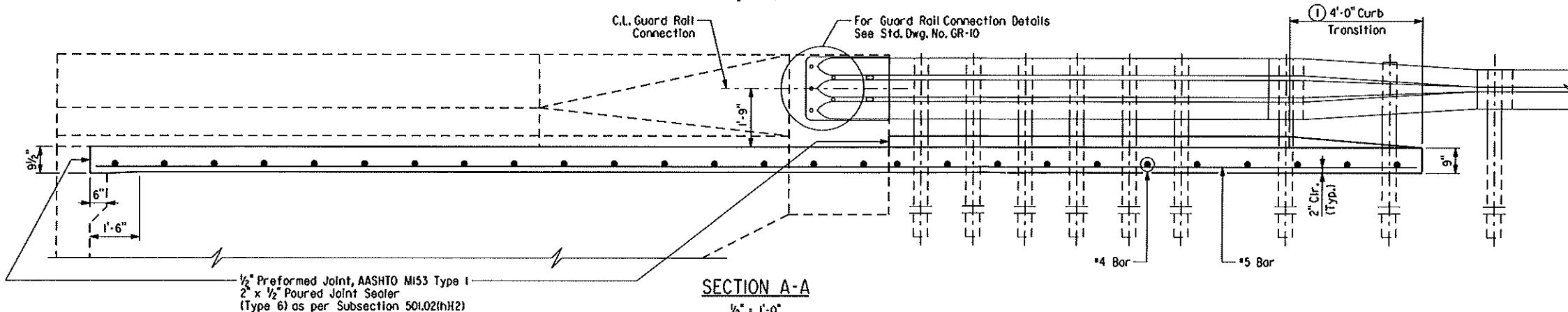
PLAN OF 36'-0" APPROACH GUTTER

$\frac{1}{2}" \times 1'-0"$



PLAN OF 40'-0" APPROACH GUTTER

$\frac{1}{2}" \times 1'-0"$



SECTION A-A

$\frac{1}{2}" \times 1'-0"$

GENERAL NOTES:

Concrete shall be Class S or Class S(AE) or mixture used for Portland Cement Concrete Pavement.

Reinforcement Steel shall conform to AASHTO M 31 or M 53, Grade 60 (fy = 60,000 psi).

Approach Gutters will be measured and paid for in accordance with Section 504 of the Standard Specifications.

QUANTITIES

ONE APPROACH GUTTER

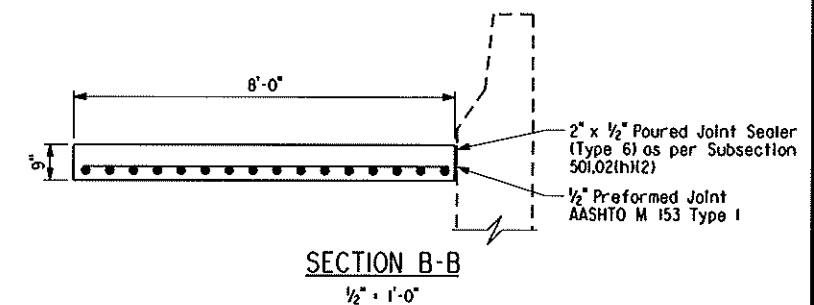
Approach Gutter Length	Reinforcing Steel (lbs.)	Concrete (cubic yard)
36'-0"	760	8.60
40'-0"	845	9.49

BAR LIST - ONE  
40'-0" APPROACH GUTTER

Mark	No. Req'd.	Length	Pin Dia.
G401	16	7'-8"	Str.
G402	11	8'-10"	Str.
G501	16	39'-8"	Str.
G502	2	15'-8"	Str.

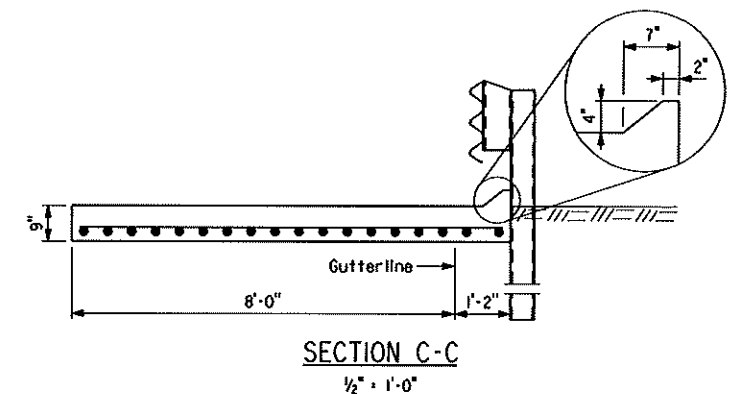
BAR LIST - ONE  
36'-0" APPROACH GUTTER

Mark	No. Req'd.	Length	Pin Dia.
G401	13	7'-8"	Str.
G402	11	8'-10"	Str.
G501	16	35'-8"	Str.
G502	2	15'-8"	Str.



SECTION B-B

$\frac{1}{2}" \times 1'-0"$



SECTION C-C

$\frac{1}{2}" \times 1'-0"$

- ① Construct gutter curb with height-transition as shown if drop inlet is not placed at end of gutter.

Construct gutter curb full height (no height-transition) if drop inlet is placed at end of gutter. Curb height transition placed on drop inlet. See drop inlet details.






















Florence & Hutcheson, Inc.  
CONSULTING ENGINEERS


ARKANSAS LIME COMPANY  
LIMDALE QUARRY  
DETAILS OF TYPE SPECIAL  
APPROACH GUTTER

Drawn: JAP	Check: LWS	Structural: LWS	Check: PJS	Project No: Date: AUG '08	Scale: As Shown
Chili: JRP	Project:	Approved:			

SCHEDULE OF BRIDGE QUANTITIES

BRIDGE NUMBER	CODE NUMBER	NAME PLATE TITLE	UNIT OF STRUCTURE	ITEM NUMBER	619	801	802	802	802	803	804	804	805	805 	SS & 807	SP & 808	SP	812	816
				ITEM	6' STEEL CHAIN LINK FENCE	UNCLASSIFIED EXCAVATION FOR STRUCTURES - BRIDGE	CLASS S CONCRETE - BRIDGE	CLASS S (AE) CONCRETE - BRIDGE	PRESTRESSED CONCRETE GIRDERS (TYPE IV)	CLASS I PROTECTIVE SURFACE TREATMENT	REINFORCING STEEL - BRIDGE (GRADE 60)	EPOXY COATED REINFORCING STEEL - BRIDGE (GRADE 60)	STEEL PILING (HP 12x53)	PREBORING 	STRUCTURAL STEEL IN BEAM SPANS (M 270, GR. 50)	ELASTOMERIC BEARINGS	SILICONE JOINT SEALANT	BRIDGE NAME PLATE (TYPE C)	CONCRETE RIPRAP
				UNIT	LINEAR FOOT	CUBIC YARD	CUBIC YARD	CUBIC YARD	LINEAR FOOT	GALLON	POUND	POUND	LINEAR FOOT	LINEAR FOOT	POUND	CUBIC INCH	LINEAR FOOT	EACH	CUBIC YARD
07142	X281	SH 106	ABUTMENT 1			249.16 	185.73 			0.8	16,185 		490 	436 	4,330				9
			ABUTMENT 2			233.67 	169.72 			0.7	14,465 		505 	457 	4,330				8
			94' PRES. CONC. BEAM SPAN	188				137.51	558.9	19.7		30,170			1,510	9,828.0	86	1	
			TOTALS FOR JOB	188	1 	482.83 	355.45 	137.51	558.9	21.2	30,650 	30,170	995 	893 	10,170	9,828.0	86	1	17

 Includes approximately 56.36 CY of rock excavation.

Revision No.:  Date: NOV. '08



BRIDGE ENGINEER

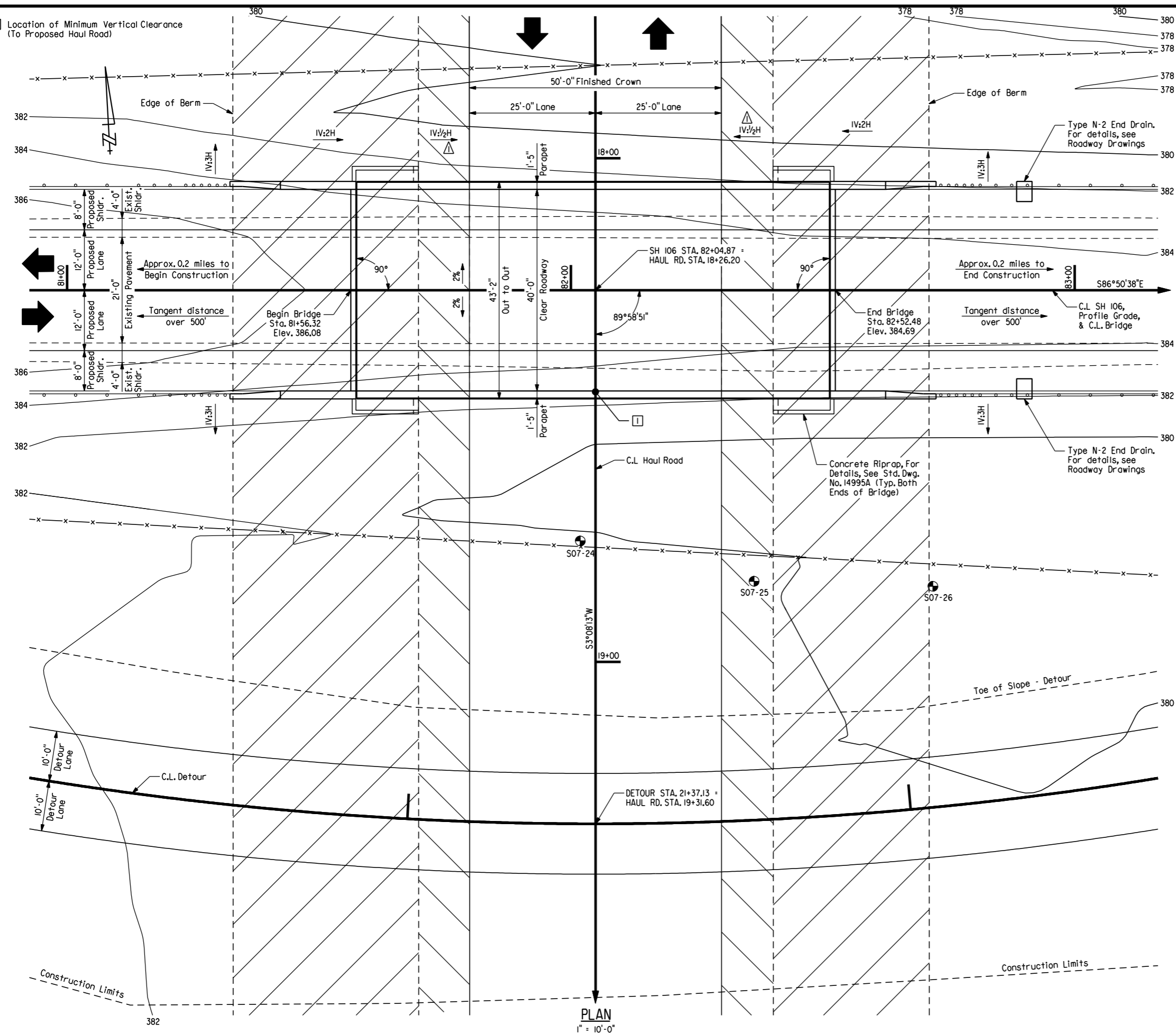


Florence & Hutcheson, Inc.  
CONSULTING ENGINEERS

ARKANSAS LIME COMPANY  
LIMEDALE QUARRY  
SCHEDULE OF BRIDGE QUANTITIES  
SH 106 OVER U.S. LIME HAUL ROAD

Drawn: JAP	Check: LMS	Structural: PJS	Check: LMS	Project No.:	11
Civil: JRP	Project:	Approved:	Date: JULY '08	Scale: 1" = 10'-0"	

1 Location of Minimum Vertical Clearance  
(To Proposed Haul Road)



BENCH MARK: PK Nail at Sta. 77+94.89, 18.80' Left  
(N=18803.0138, E=20003.4655) Elevation = 400.80

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2003 edition), with applicable supplemental specifications and special provisions. Unless otherwise noted on the plans, section and subsection refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications (2007 edition) with current interim specifications.

LIVE LOADING: HL93

SEISMIC ZONE: I

MATERIALS AND STRENGTHS:  
Class S(AE) Concrete (Slab, Parapets, Diaphragms)  $f'_c = 4,000$  psi  
Class S Concrete (Prestressed Girders)  $f'_c = 6,000$  psi  
Class S Concrete (Substructure)  $f'_c = 3,500$  psi  
Reinforcing Steel (AASHTO M 31 or M 53, Gr. 60)  $f_y = 60,000$  psi  
Structural Steel (AASHTO M 270, Gr. 50)  $F_y = 50,000$  psi  
Structural Steel (AASHTO M 270, Gr. 36)  $F_y = 36,000$  psi

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

PREBORING: Preboring will be required at all piles to obtain minimum penetration requirement to an elevation of 344.0 or as directed by the Engineer. Once the piles are in place, the prebored hole shall be filled with Class S Concrete. The Contractor shall be responsible for keeping prebored holes free from debris prior to backfilling which may require the use of temporary casings or other methods. Temporary casing, if necessary, and backfilling will not be paid for directly but will be considered subsidiary to the pay item "PREBORING".

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

STEEL PILING: All piling shall be HP12x53 and shall be driven with an approved air, steam, or diesel hammer to a minimum safe bearing capacity of 70 tons per pile and to the elevation shown on the plans. Lengths shown are for estimating quantities and for use in determining payment for cut-off and build-up in accordance with the Standard Specifications. Piles in end bents to be driven after embankment to bottom of cap is in place.

MAINTENANCE OF TRAFFIC: See Roadway plans.

DETAIL DRAWINGS: SHEET NO.  
End Bents 22 - 29  
94'-0" Cont. Pres. Conc. Beam Span 30 - 35  
Elastomeric Bearings 36  
Type Special Approach Gutter 38  
Steel Piling 14995A

Revision No.: 1 Date: NOV. '08

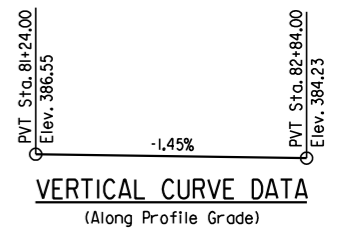
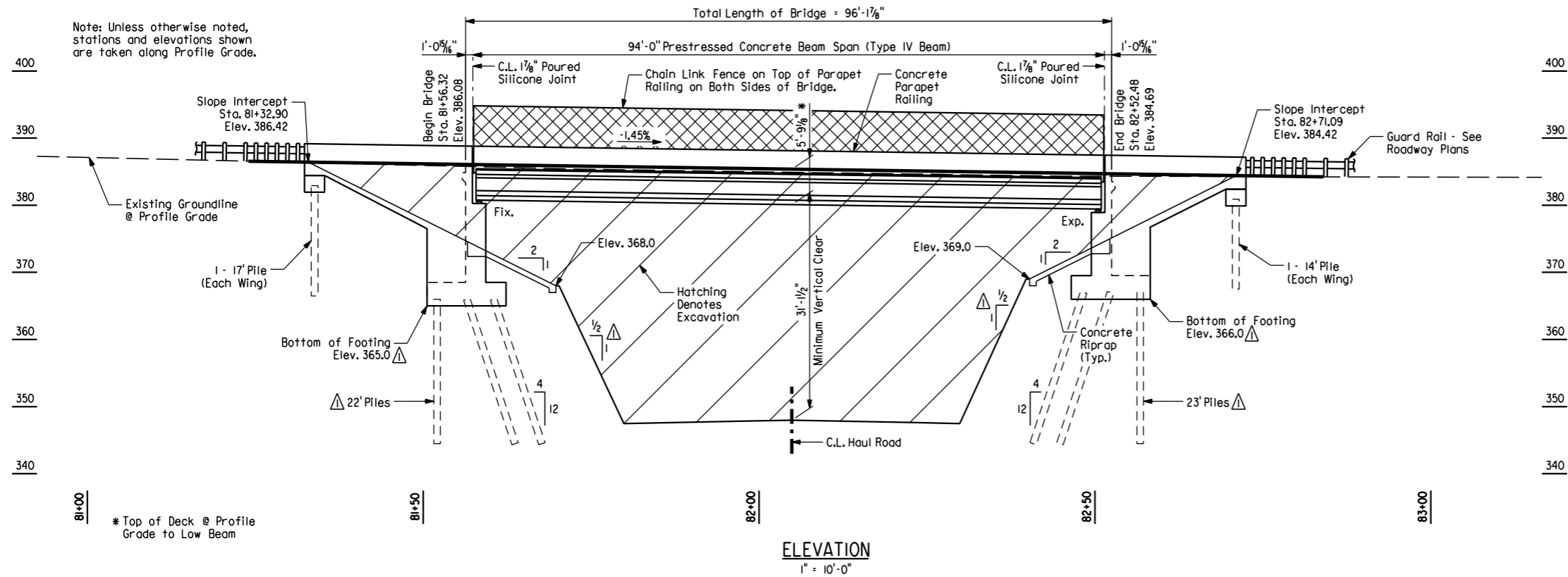




BRIDGE ENGINEER

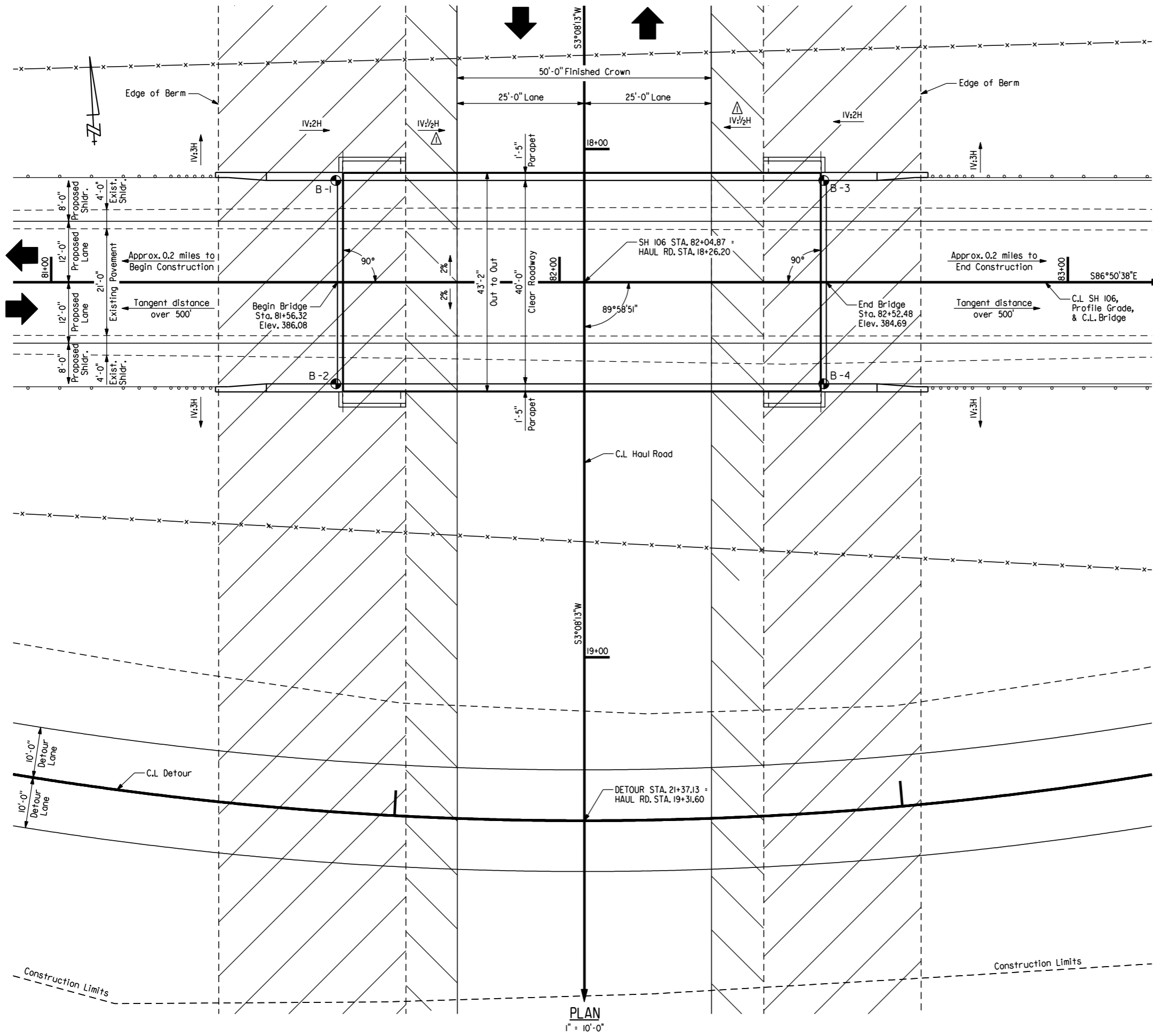
**Florence & Hutcheson, Inc.**  
CONSULTING ENGINEERS

ARKANSAS LIME COMPANY  
LIMDALE QUARRY  
SHEET 1 OF 4  
LAYOUT OF SH 106 BRIDGE  
OVER U.S. LIME HAUL ROAD

Drawn:	Check:	Structural:	Check:	Project No.:
JAP	LMS	PJS	LMS	18
Civil:	Project:	Approved:	Date:	Scale:
JRP			JUNE '08	1" = 10'-0"



Revision No.: 		Date: NOV. '08	
 <b>Florence &amp; Hutcheson, Inc.</b> CONSULTING ENGINEERS			
ARKANSAS LIME COMPANY LIMDALE QUARRY SHEET 2 OF 4 LAYOUT OF SH 106 BRIDGE OVER U.S. LIME HAUL ROAD			
Drawn: JAP	Check: LMS	Structural: PJS	Check: LMS
Civil: JRP	Project: JRP	Approved: JUNE '08	Scale: 1" = 10'-0"
Project No.: 19			



Boring Legend

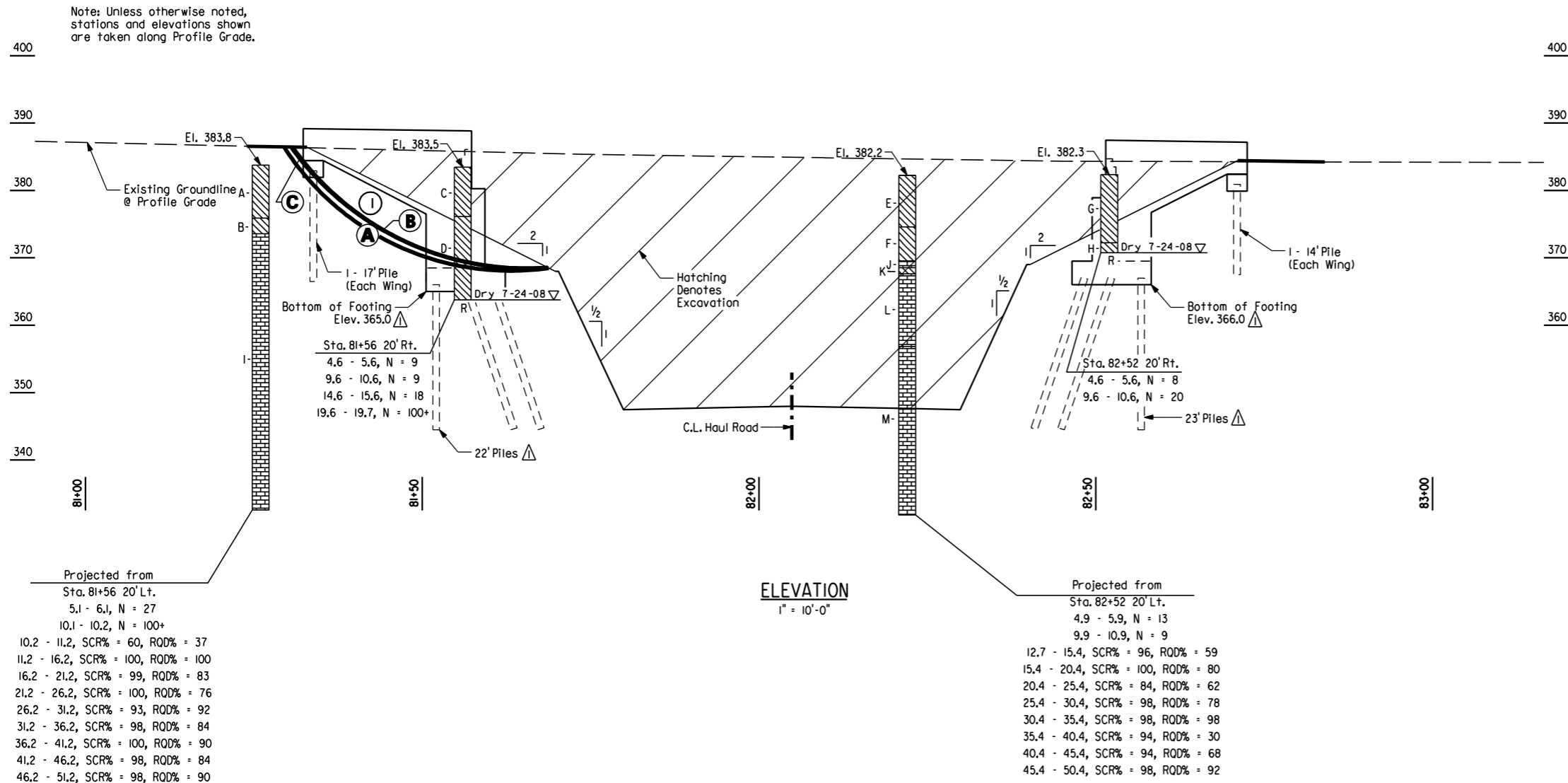
- A - Red, Very Stiff, Sandy Lean Clay.
- B - Red, Very Hard, Fat Clay.
- C - Dark Brown, Stiff, Sandy, Silty Clay with Gravel.
- D - Dark Brown, Stiff to Very Hard, Lean Clay with Sand.
- E - Brown, Stiff, Sandy, Silty Clay with Gravel.
- F - Red, Stiff, Fat Clay.
- G - Brown, Medium stiff to Stiff, Sandy, Silty Clay with Gravel.
- H - Red, Very Stiff, Fat Clay.
- I - Limestone: Lt. Brown, Lt. Gray, White, Predominately Fresh with Slight Weathering.
- J - Limestone: Gray, Slight to Moderately Weathered Fine Grain.
- K - Clay: Dark Brown, Medium Plastic, Severly Weathered Limestone.
- L - Limestone: Lt. Gray, Lt. Brown, Fresh with Slight to Moderate Weathering, Fine Grain.
- M - Limestone: Lt. Gray, Lt. Brown, White, Fresh with Slight to Moderate Weathering, Fine Grain.

Note:  
This sheet is provided for subsurface and soils information only, and is not intended for bridge construction. Soil descriptions and indicated boundaries are based on engineering interpretation of available subsurface information obtained at selected locations and may not necessarily reflect the actual variations in subsurface conditions between borings and samples.



<b>Florence &amp; Hutcheson, Inc.</b> CONSULTING ENGINEERS					
ARKANSAS LIME COMPANY LIMDALE QUARRY SHEET 3 OF 4 LAYOUT OF SH 106 BRIDGE OVER U.S. LIME HAUL ROAD					
Drawn: WDS	Check: DLC	Structural: Check:	Date: AUG '08	Project No.:	20
Civil:	Project:	Approved:	Date:	Scale: 1" = 10'-0"	

Revision No.:  
NOV. '08



Revision No.:   
Date: NOV. '08

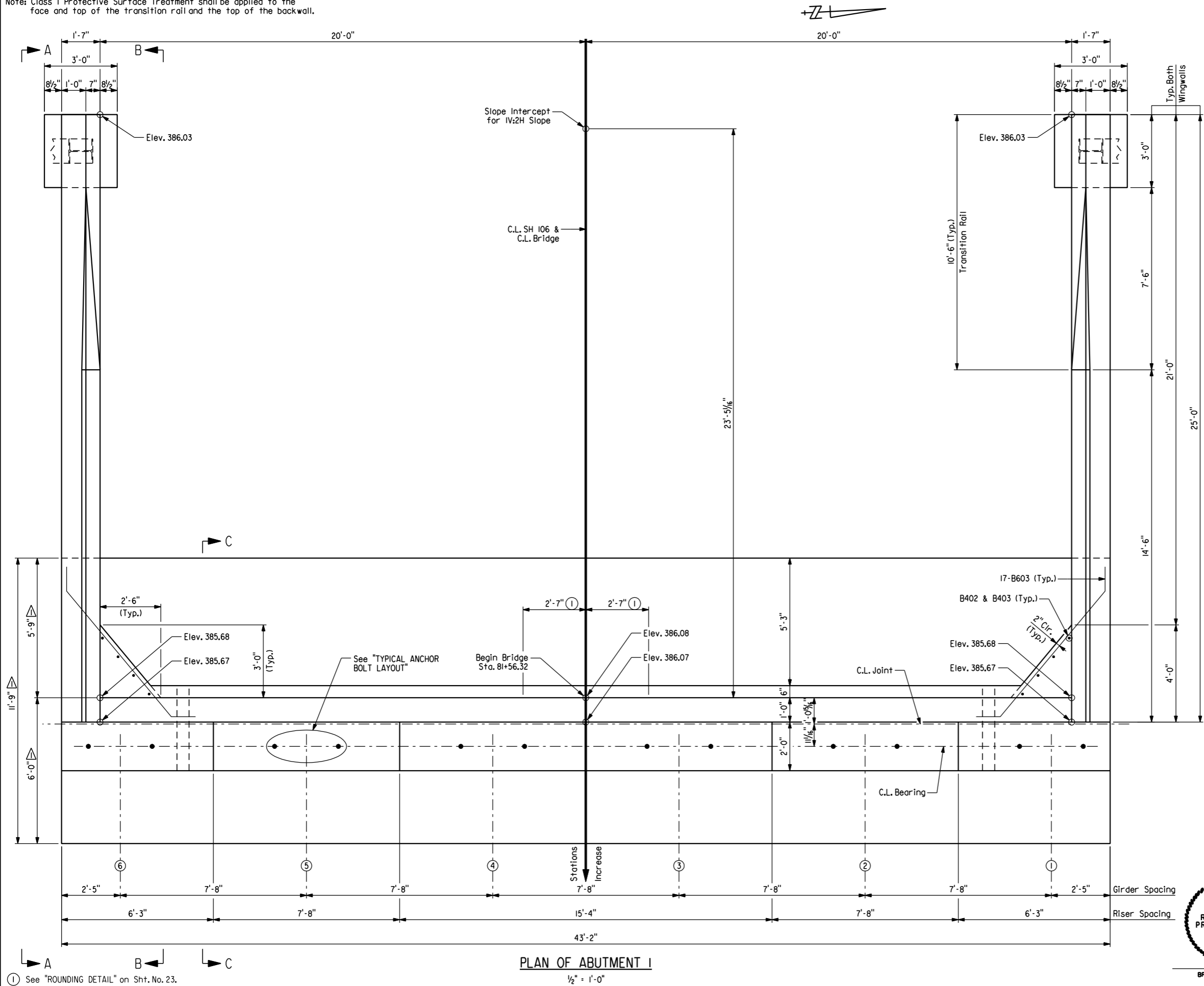
**Florence & Hutcheson, Inc.**  
CONSULTING ENGINEERS

ARKANSAS LIME COMPANY  
LIMEDALE QUARRY  
SHEET 4 OF 4  
LAYOUT OF SH 106 BRIDGE  
OVER U.S. LIME HAUL ROAD

Drawn:	Check:	Structural:	Check:	Project No.:
WDS	DLC			
Civil:	Project:	Approved:	Date:	Scale:
			AUG. '08	1" = 10'-0"

21

Note: Class I Protective Surface Treatment shall be applied to the face and top of the transition rail and the top of the backwall.



# GENERAL NOTES FOR SUBSTRUCTURE

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

All reinforcing steel shall conform to AASHTO M 31 or M 53, Grade 60 (yield strength = 60,000 psi).

Backwall shall not be poured before beams are erected. See Sht. No. 35 for expansion device installation at end bents.

All structural steel shall be AASHTO M 270, Grade 50 unless otherwise noted. All exposed surfaces shall be cleaned and painted in accordance with Section 807 & 55. The color of paint shall be Aluminum and shall conform to Federal Standard 595B, Color Chip No. 17200. Cleaning and painting will not be paid for directly, but will be considered subsidiary to the item "STRUCTURAL STEEL IN BEAM SPANS (M 270, GR. 50)".

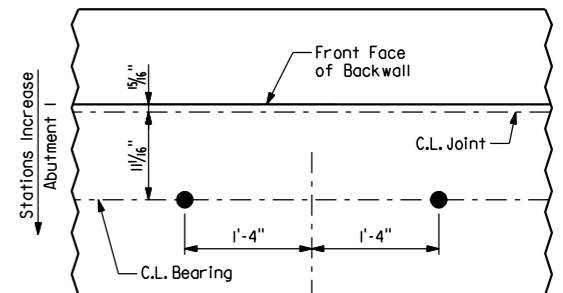
Top reinforcing bars in cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

For additional information, see LAYOUT on Sht. No. 18 & 19.


For VIEW A-A and VIEW B-B, see Sht. No. 24.

For SECTION C-C, see Sht. No. 25.

For Details of Wing and Rail, see Sht. No. 25.



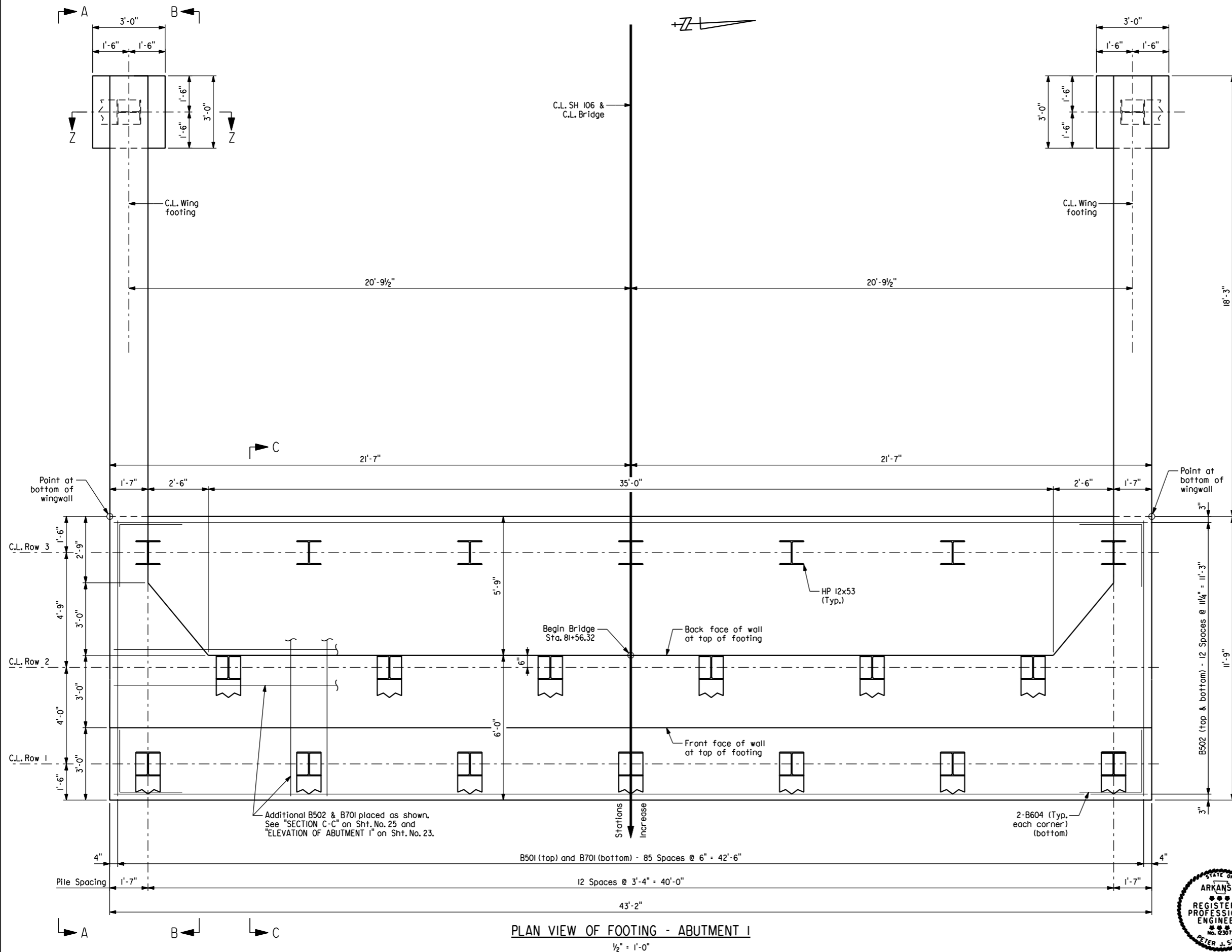
BRIDGE ENGINEER

						<b>Florence &amp; Hutcheson, Inc.</b>					
						<b>CONSULTING ENGINEERS</b>					
<b>ARKANSAS LIME COMPANY</b>											
<b>LIMEDALE QUARRY</b>											
<b>SHEET 1 OF 5</b>											
<b>DETAILS OF ABUTMENT I</b>											
<b>Drawn:</b> JAP		<b>Check:</b> LMS		<b>Structural:</b> LMS		<b>Check:</b> PJS		<b>Project No.:</b>		22	
<b>Civil:</b> JRP		<b>Project:</b>		<b>Approved:</b>		<b>Date:</b> JULY '08		<b>Scale:</b> As Shown			

For additional information, see LAYOUT on Sht. No. 18 & 19.

For VIEW A-A and VIEW B-B, see Sht. No. 24.

For SECTION C-C and SECTION Z-Z, see Sht. No. 25.



PLAN VIEW OF FOOTING - ABUTMENT I

1/2" = 1'-0"



BRIDGE ENGINEER



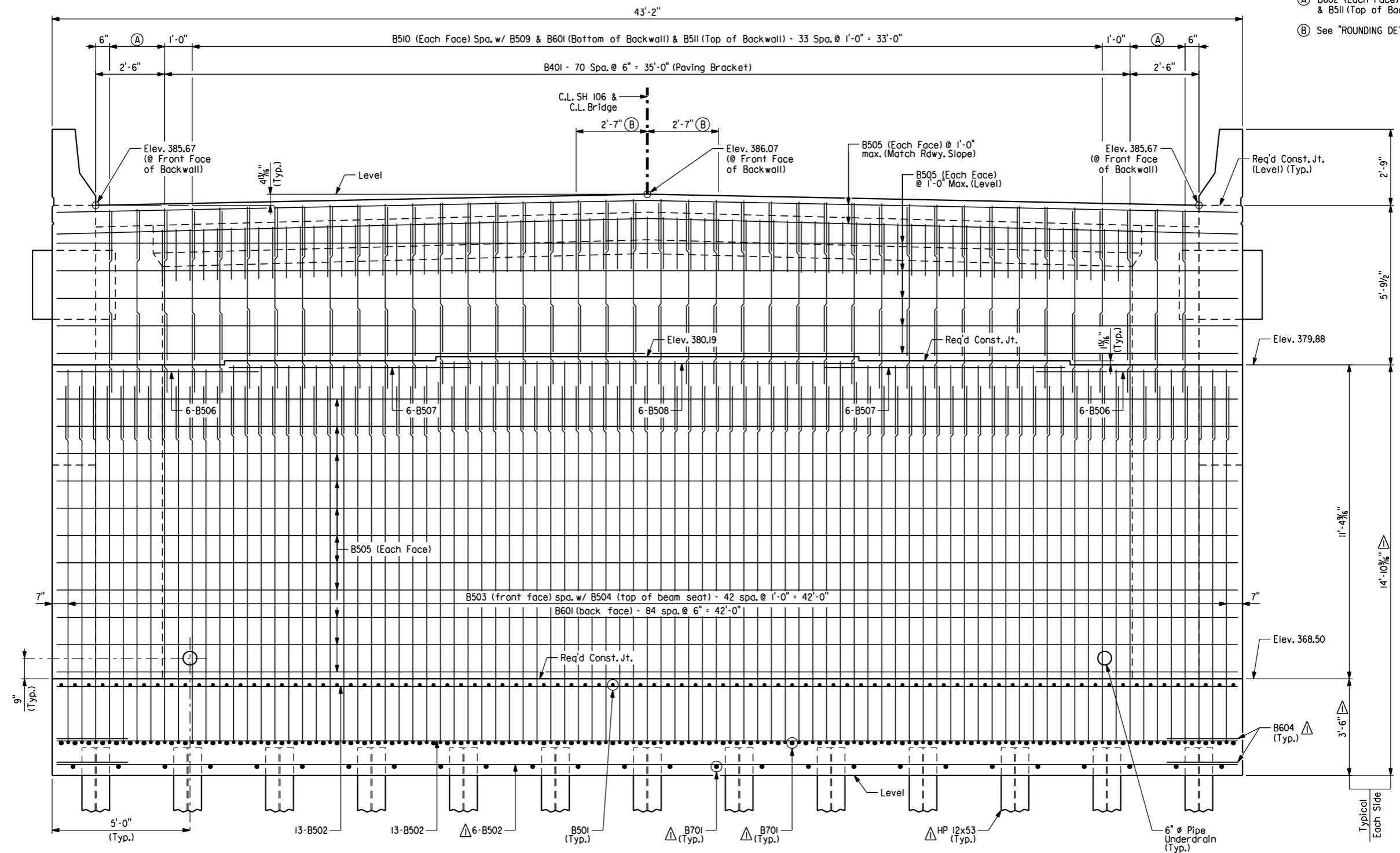
ARKANSAS LIME COMPANY  
LIMEDALE QUARRY  
SHEET 2 OF 5  
DETAILS OF ABUTMENT I

Drawn:	Check:	Structural:	Check:	Project No.:
JAP	LMS	LMS	PJS	
Civil:	Project:	Approved:	Date:	Scale:
JRP			NOV. '08	As Shown

22A

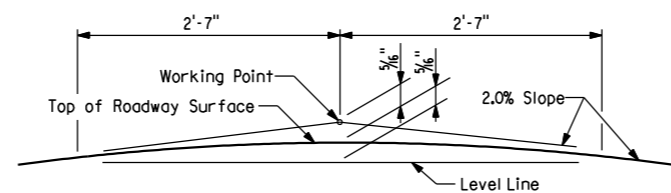


- Ⓐ B602 (Each Face) Spa. w/ B509 & B601 (Bottom of Backwall) & B511 (Top of Backwall) - 2 Spa. @ 1'-0" = 2'-0".
- Ⓑ See "ROUNDING DETAIL"



ELEVATION OF ABUTMENT I

1/2" = 1'-0"



NOTE: Working Point matches Theoretical Roadway Grade.

ROUNDING DETAIL

No Scale

Revision No.:   
 Date: NOV. '08

**Florence & Hutcheson, Inc.**  
CONSULTING ENGINEERS

ARKANSAS LIME COMPANY  
LIMEDALE QUARRY  
SHEET 3 OF 5  
DETAILS OF ABUTMENT I

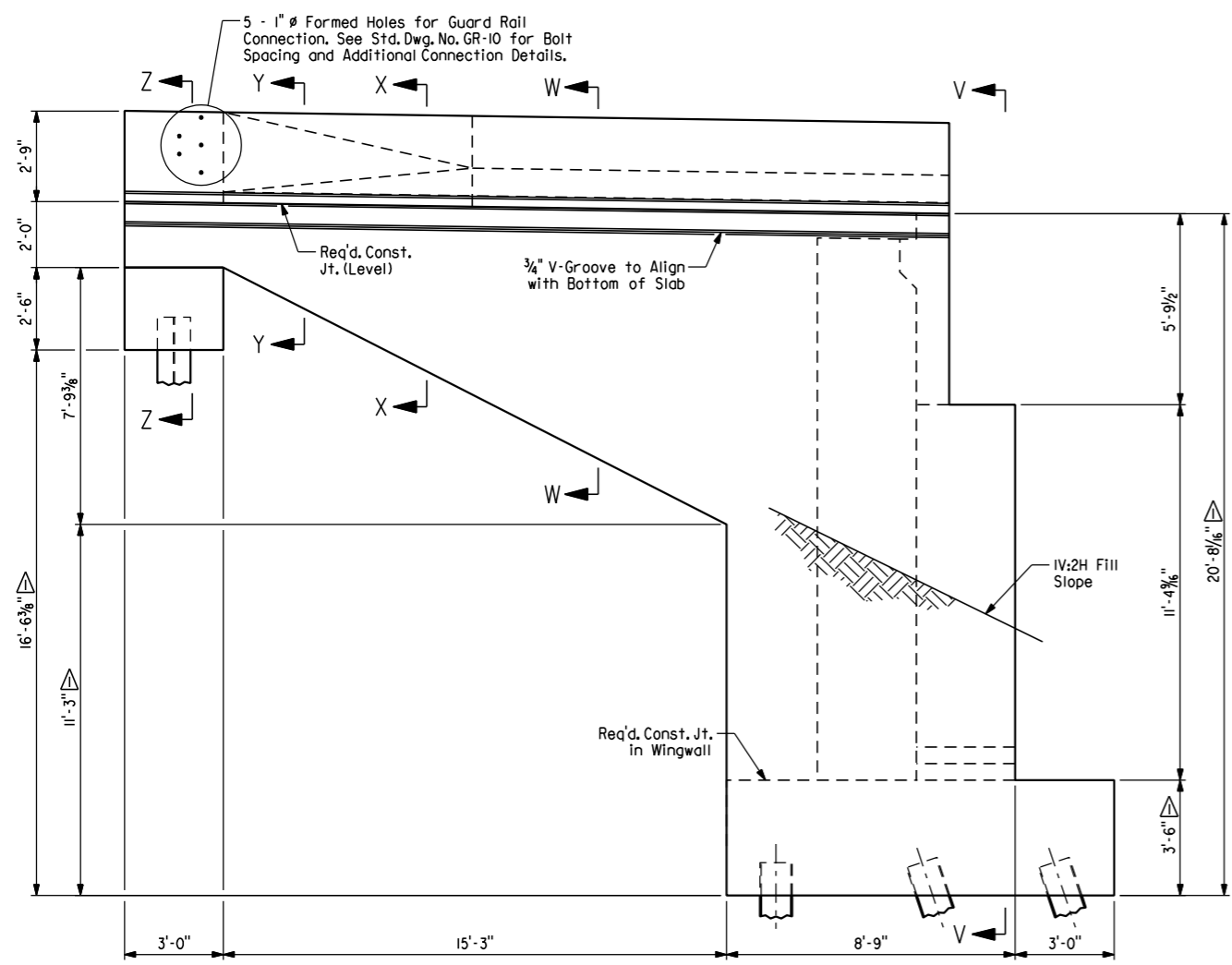
Drawn: JAP	Check: LMS	Structural: LMS	Check: PJS	Project No.:
Civil: JRP	Project:	Approved:	Date: JULY '08	Scale: As Shown

23

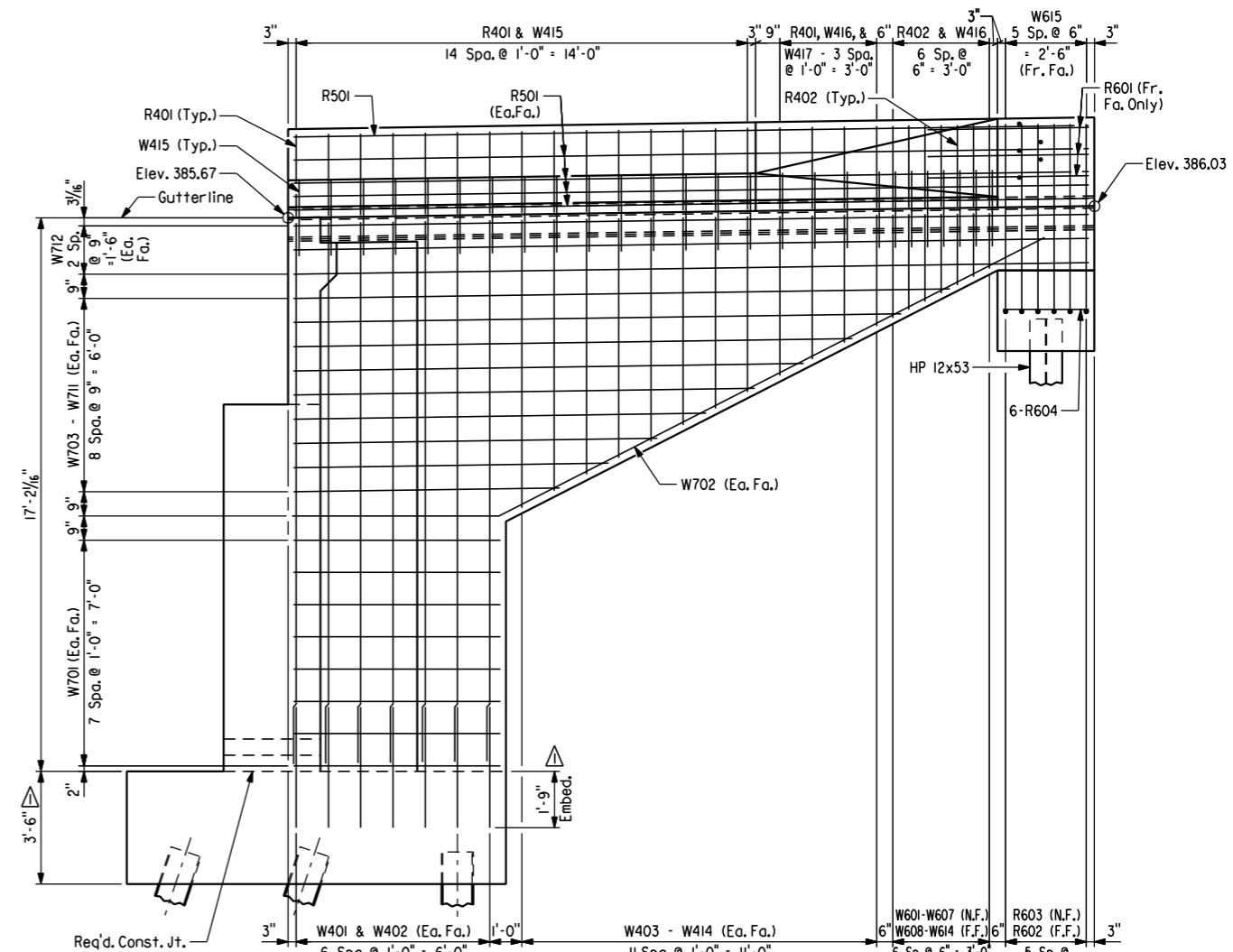


BRIDGE ENGINEER

11/14/2008 140809401.dgn 200809411.BLD04



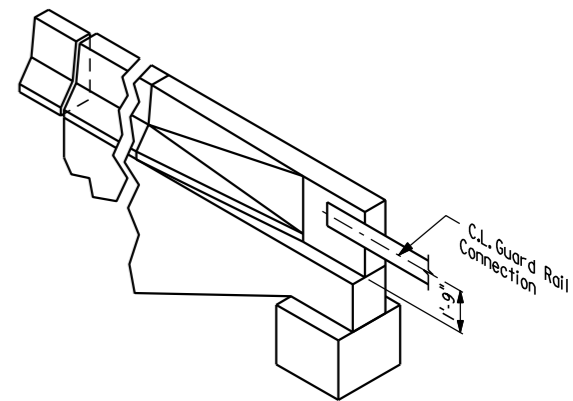
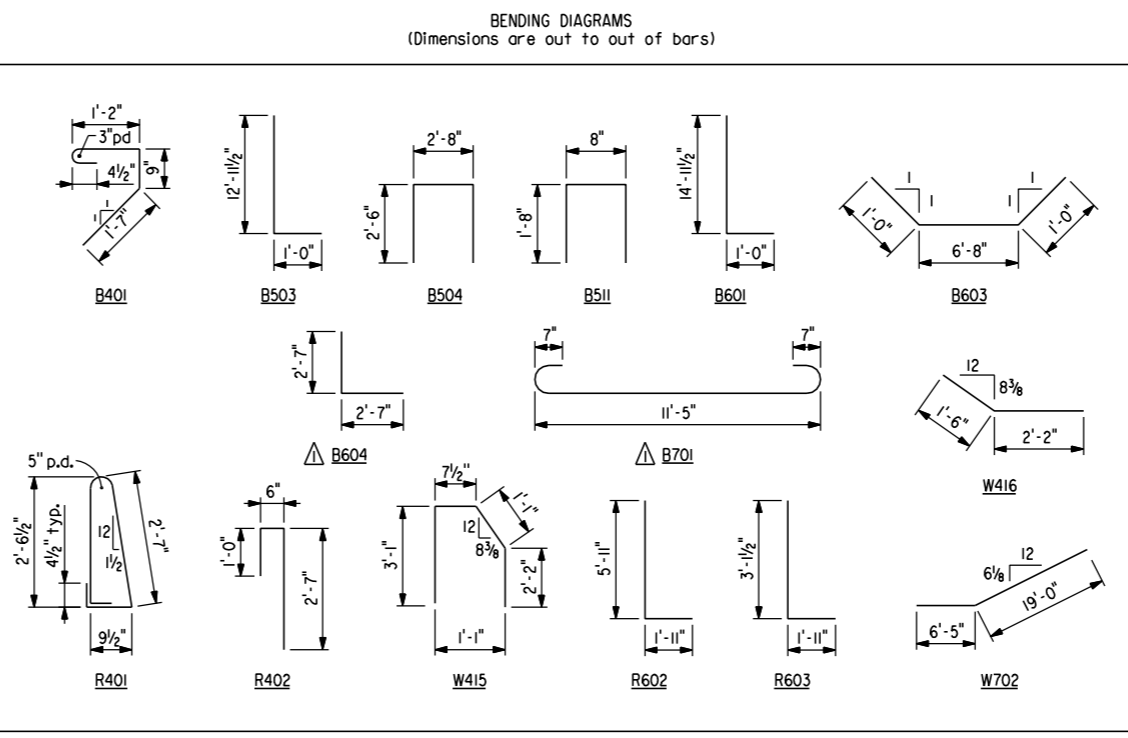
VIEW A-A  
3/8" = 1'-0"



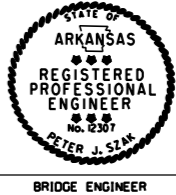
VIEW B-B  
3/8" = 1'-0"

BAR LIST - ABUTMENT ONE

Mark	Number Required	Length	Pin Dia.	Mark	Number Required	Length	Pin Dia.	Mark	Number Required	Length	Pin Dia.
B401	71	3'-11"	3"	R601	6	5'-0"	Str.	W606	2	1'-11"	Str.
B402	8	2'-10"	Str.	R602	12	7'-8"	4 1/2"	W607	2	1'-8"	Str.
B403	8	16'-0"	Str.	R603	12	4'-11"	4 1/2"	W608	2	5'-11"	Str.
B501	86	11'-5"	Str.	R604	12	2'-8"	Str.	W609	2	5'-8"	Str.
B502	32	42'-10"	Str.	W401	28	3'-9"	Str.	W610	2	5'-5"	Str.
B503	43	13'-10"	3 3/4"	W402	28	16'-9"	Str.	W611	2	5'-2"	Str.
B504	43	7'-6"	2 1/2"	W403	4	8'-11"	Str.	W612	2	4'-11"	Str.
B505	36	42'-10"	Str.	W404	4	8'-5"	Str.	W613	2	4'-8"	Str.
B506	12	7'-4"	Str.	W405	4	7'-11"	Str.	W614	2	4'-5"	Str.
B507	12	8'-9"	Str.	W406	4	7'-5"	Str.	W615	12	4'-1"	Str.
B508	6	15'-0"	Str.	W407	4	6'-11"	Str.	W701	32	6'-5"	Str.
B509	40	3'-7"	Str.	W408	4	6'-5"	Str.	W702	4	25'-5"	5/8"
B510	68	5'-5"	Str.	W409	4	5'-11"	Str.	W703	4	8'-3"	Str.
B511	40	3'-10"	2 1/2"	W410	4	5'-5"	Str.	W704	4	9'-9"	Str.
B601	85	15'-8"	4 1/2"	W411	4	4'-11"	Str.	W705	4	11'-3"	Str.
B602	12	5'-5"	Str.	W412	4	4'-5"	Str.	W706	4	12'-9"	Str.
B603	34	8'-8"	4 1/2"	W413	4	3'-11"	Str.	W707	4	14'-3"	Str.
B604	8	5'-1"	4 1/2"	W414	4	3'-5"	Str.	W708	4	15'-9"	Str.
B701	112	13'-1"	5/4"	W415	30	6'-10"	2"	W709	4	17'-4"	Str.
R401	38	6'-6"	2"	W416	22	3'-8"	3"	W710	4	18'-10"	Str.
R402	14	4'-0"	2"	W417	8	3'-8"	Str.	W711	4	20'-4"	Str.
R501	18	24'-8"	Str.	W601	2	3'-2"	Str.	W712	12	24'-8"	Str.
				W602	2	2'-11"	Str.				
				W603	2	2'-8"	Str.				
				W604	2	2'-5"	Str.				
				W605	2	2'-2"	Str.				



THREE DIMENSIONAL VIEW  
WING RAIL & PARAPET  
1/4" = 1'-0"

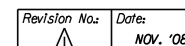


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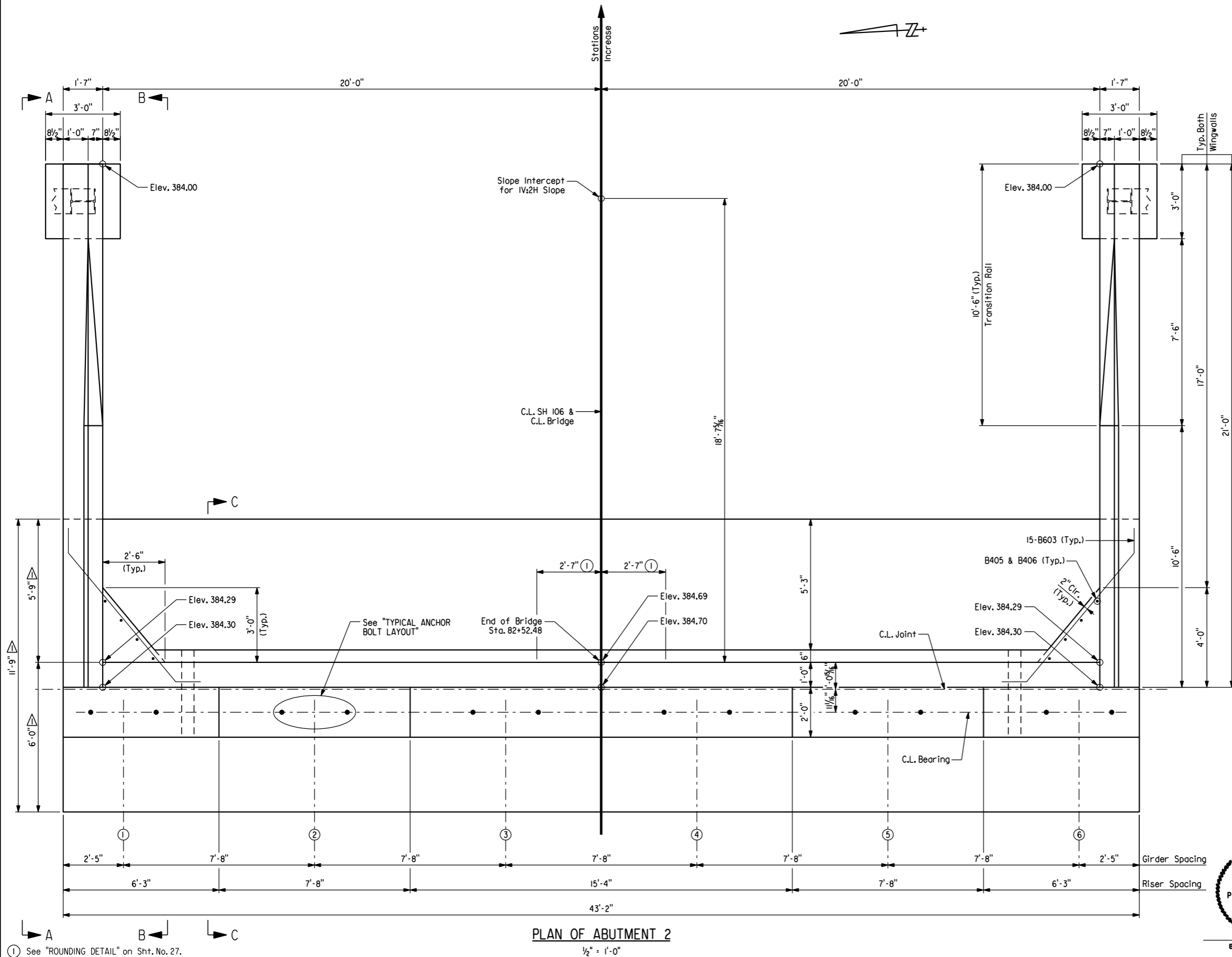
**ARKANSAS LIME COMPANY  
LIMEDALE QUARRY  
SHEET 4 OF 5  
DETAILS OF ABUTMENT I**

Drawn: JAP	Check: LMS	Structural: LMS	Check: PJS	Project No.:
Civil: JRP	Project:	Approved:	Date: JULY '08	Scale: As Shown

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Note: Class I Protective Surface Treatment shall be applied to the face and top of the transition rail and the top of the backwall.



#### GENERAL NOTES FOR SUBSTRUCTURE

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

All reinforcing steel shall conform to AASHTO M 31 or M 53, Grade 60 (yield strength = 60,000 psi).

Backwall shall not be poured before beams are erected. See Sht. No. 35 for expansion device installation at end bents.

All structural steel shall be AASHTO M 270, Grade 50 unless otherwise noted. All exposed surfaces shall be cleaned and painted in accordance with Section 807 & 55. The color of paint shall be Aluminum and shall conform to Federal Standard 595B, Color Chip No. 17200. Cleaning and painting will not be paid for directly, but will be considered subsidiary to the item "STRUCTURAL STEEL IN BEAM SPANS (M 270, GR. 50)".

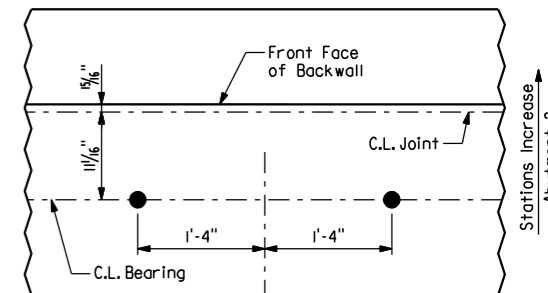
Top reinforcing bars in cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

For additional information, see LAYOUT on Sht. No. 18 & 19.

For VIEW A-A and VIEW B-B, see Sht. No. 28.

For SECTION C-C, see Sht. No. 29.

For Details of Wing and Rail, see Sht. No. 29.



#### TYPICAL ANCHOR BOLT LAYOUT

1" = 1'-0"

Revision No.:   
 Date: NOV. '08

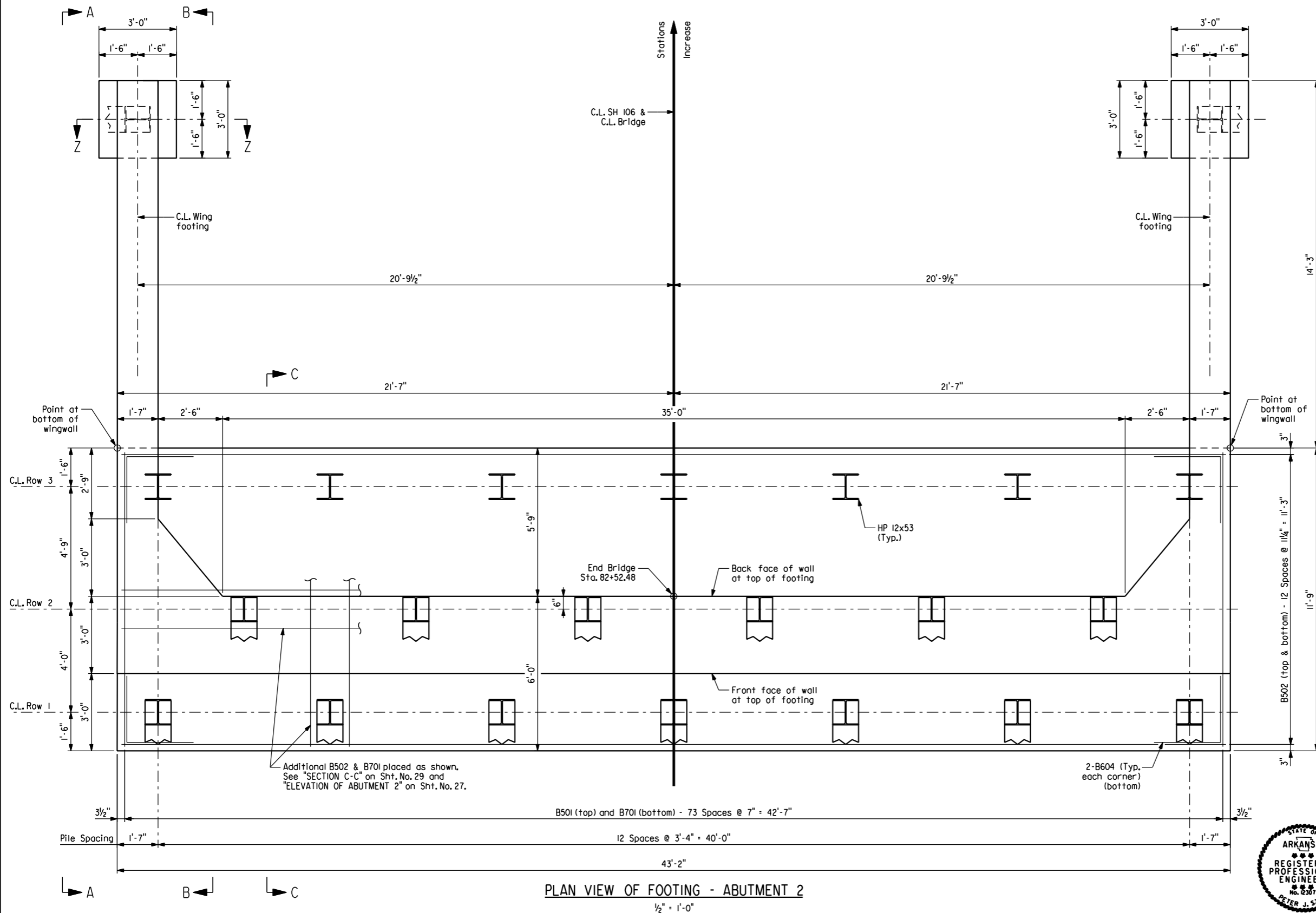
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ARKANSAS LIME COMPANY  
LIMEDALE QUARRY  
SHEET 1 OF 5  
DETAILS OF ABUTMENT 2

Drawn: JAP	Check: LMS	Structural: LMS	Check: PJS	Project No.:
Civil: JRP	Project:	Approved:	Date: JULY '08	Scale: As Shown



For additional information, see LAYOUT on Sht. No. 18 & 19.  
For VIEW A-A and VIEW B-B, see Sht. No. 24.  
For SECTION C-C and SECTION Z-Z, see Sht. No. 25.



PLAN VIEW OF FOOTING - ABUTMENT 2

1/2" = 1'-0"



BRIDGE ENGINEER

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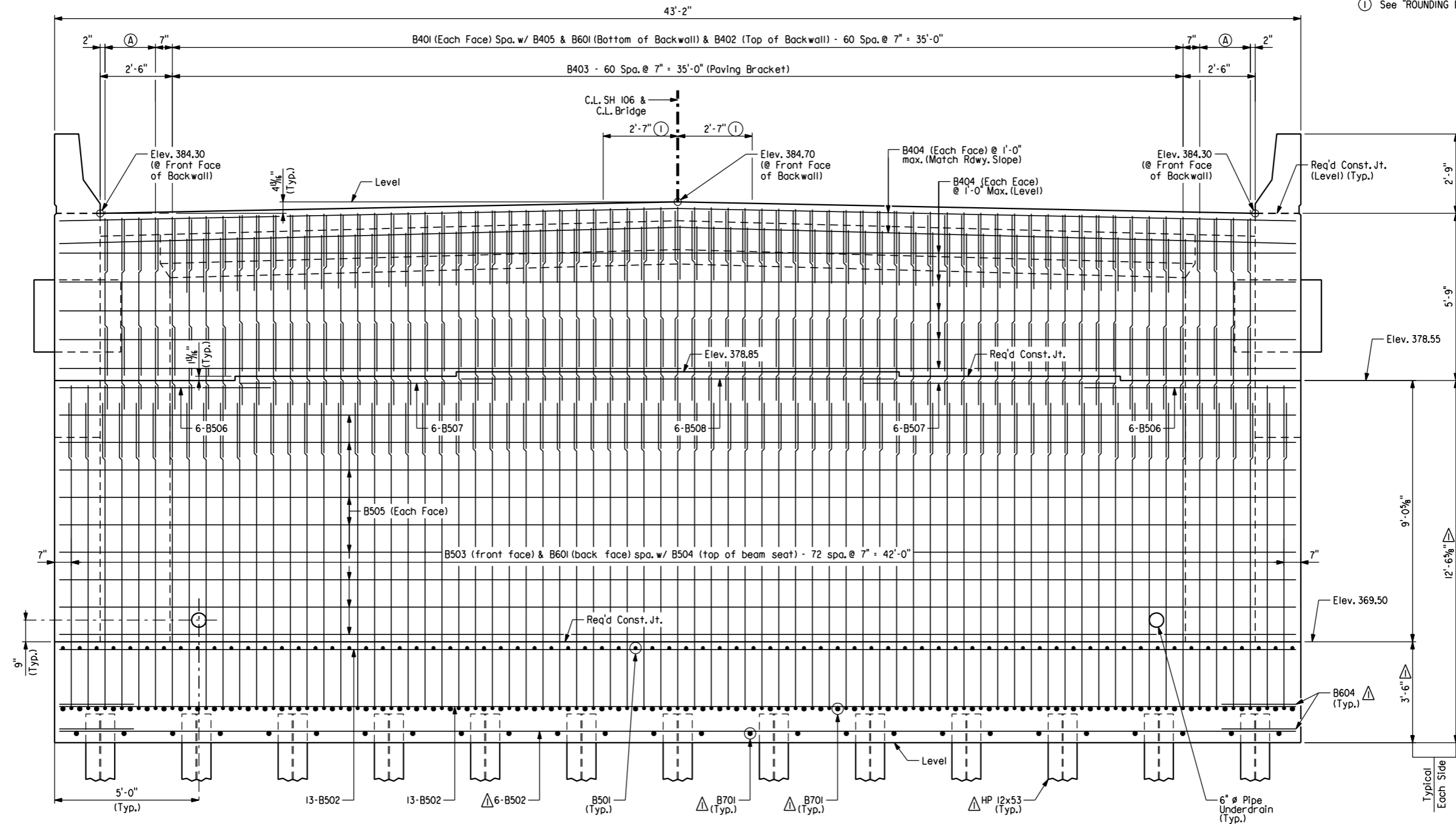
ARKANSAS LIME COMPANY  
LIMEDALE QUARRY  
SHEET 2 OF 5  
DETAILS OF ABUTMENT 2

Drawn: JAP	Check: LMS	Structural: LMS	Check: PJS	Project No.:
Civil: JRP	Project:	Approved:	Date: NOV. '08	Scale: As Shown

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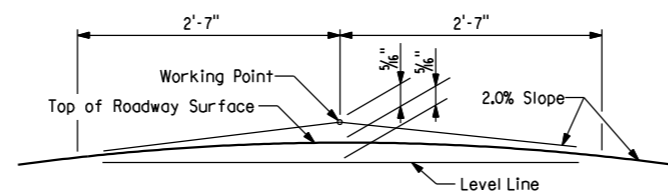


- Ⓐ B602 (Each Face) Spa. w/ B405 & B601 (Bottom of Backwall) & B402 (Top of Backwall) - 3 Spa. @ 7" = 1'-9".
- Ⓛ See "ROUNDING DETAIL"



**ELEVATION OF ABUTMENT 2**

1/2" = 1'-0"



NOTE: Working Point matches Theoretical Roadway Grade.

**ROUNDING DETAIL**

No Scale

Revision No.:   
 Date: NOV. '08

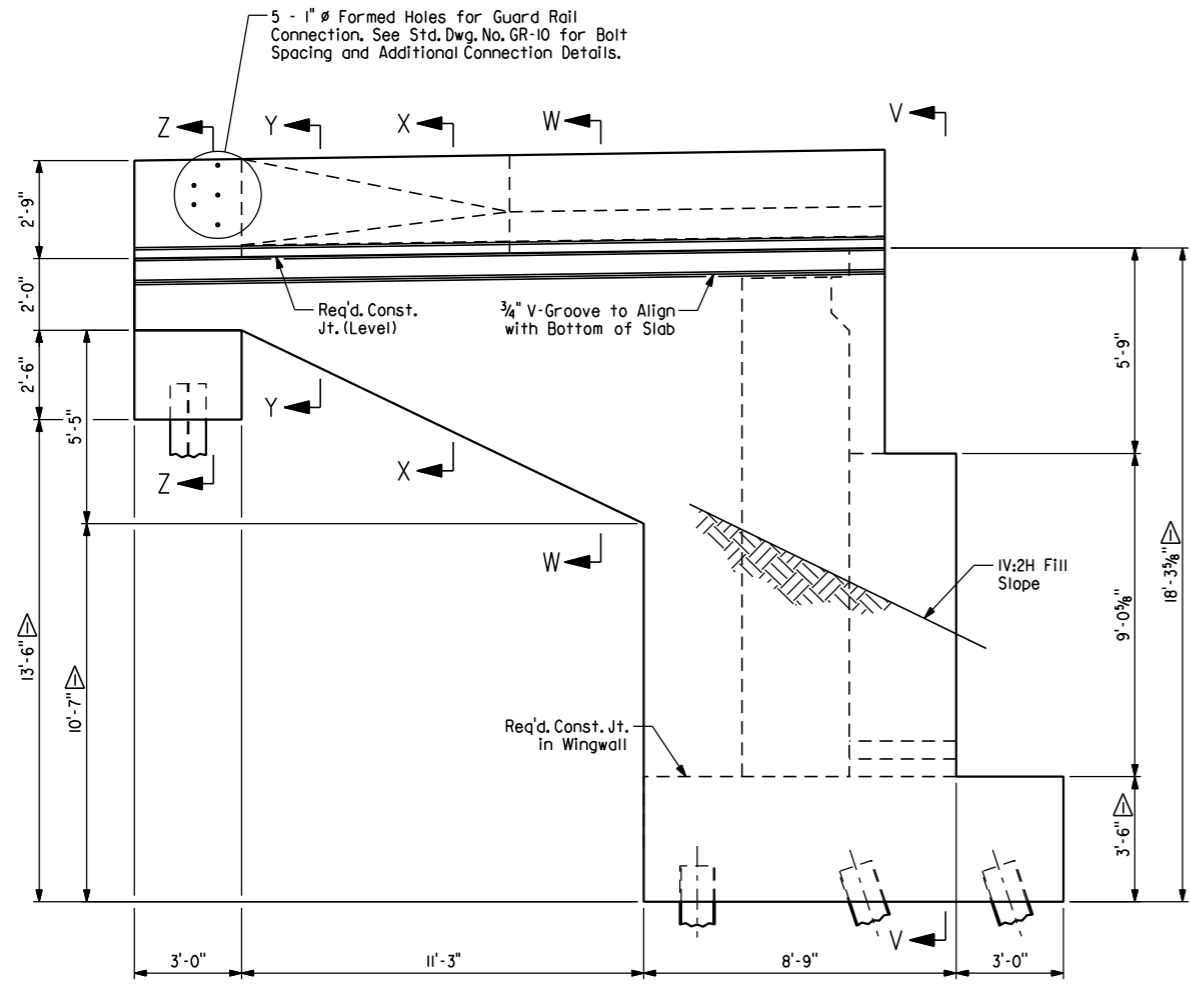
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ARKANSAS LIME COMPANY  
LIMDALE QUARRY  
SHEET 3 OF 5  
DETAILS OF ABUTMENT 2

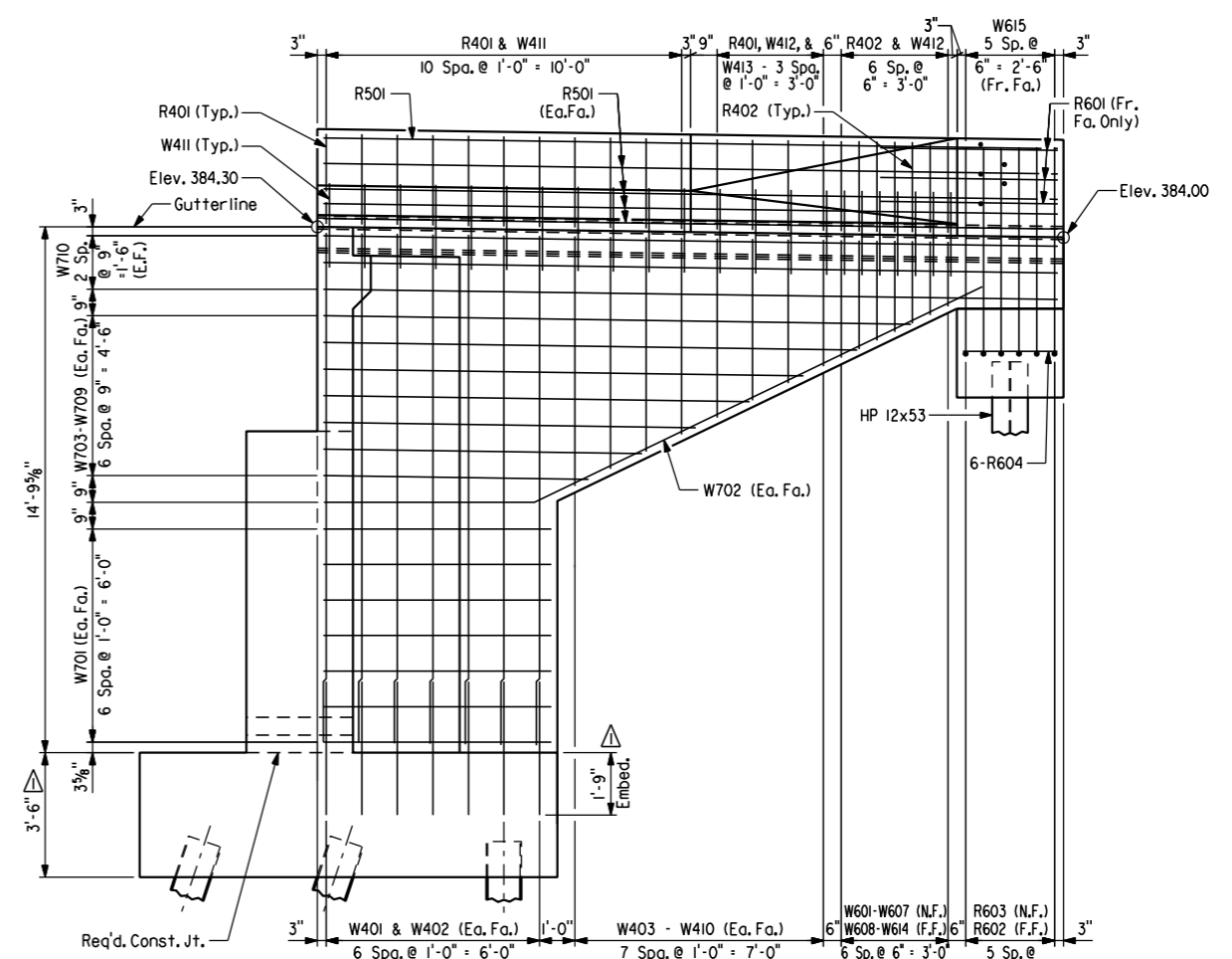
Drawn: JAP	Check: LMS	Structural: LMS	Check: PJS	Project No.:
Civil: JRP	Project:	Approved:	Date: JULY '08	Scale: As Shown



BRIDGE ENGINEER



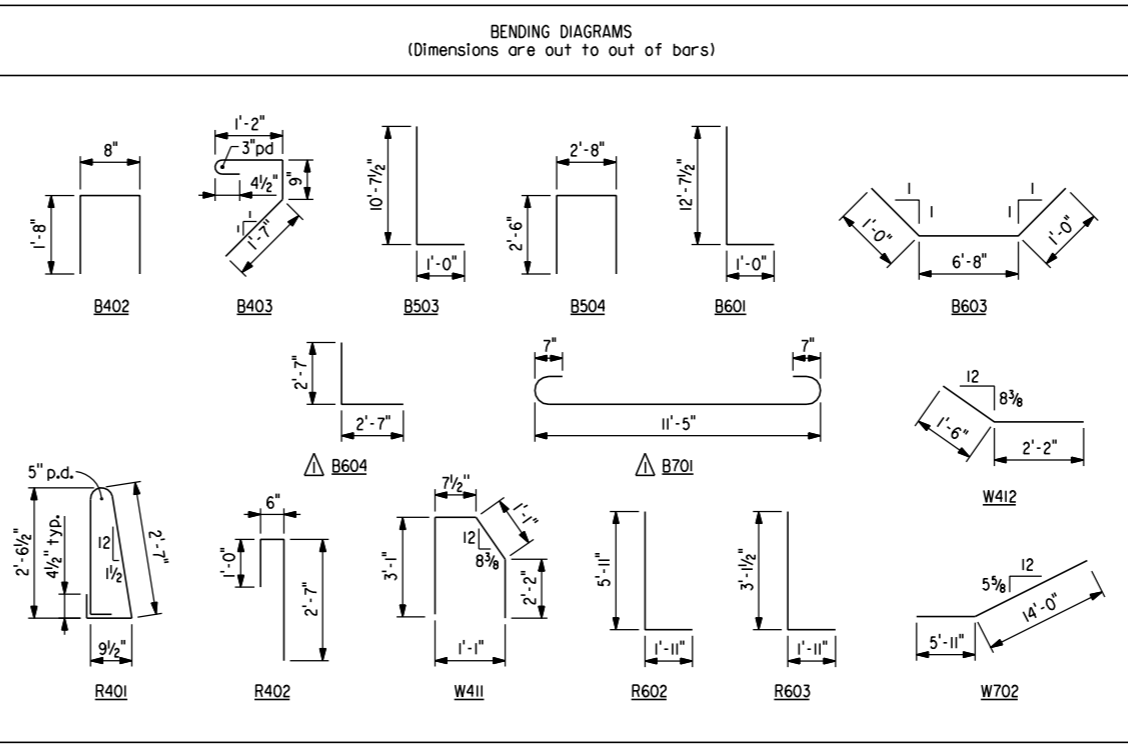
VIEW A-A  
3/8" = 1'-0"



VIEW B-B  
3/8" = 1'-0"

BAR LIST - ABUTMENT TWO

Mark	Number Required	Length	Pin Dia.	Mark	Number Required	Length	Pin Dia.	Mark	Number Required	Length	Pin Dia.
B401	122	5'-5"	Str.	R601	6	5'-0"	Str.	W610	2	5'-7"	Str.
B402	69	3'-10"	2"	R602	12	7'-8"	4 1/2"	W611	2	5'-4"	Str.
B403	61	3'-11"	3"	R603	12	4'-11"	4 1/2"	W612	2	5'-1"	Str.
B404	14	42'-10"	Str.	R604	12	2'-8"	Str.	W613	2	4'-10"	Str.
B405	77	2'-10"	Str.					W614	2	4'-8"	Str.
B406	8	13'-8"	Str.	W401	28	3'-9"	Str.	W615	12	4'-10"	Str.
				W402	28	14'-4"	Str.				
B501	74	11'-5"	Str.	W403	4	7'-0"	Str.	W701	28	6'-5"	Str.
B502	32	42'-10"	Str.	W404	4	6'-6"	Str.	W702	4	19'-11"	5 1/4"
B503	73	11'-6"	3 3/4"	W405	4	6'-0"	Str.	W703	4	7'-5"	Str.
B504	73	7'-6"	2 1/2"	W406	4	5'-6"	Str.	W704	4	8'-11"	Str.
B505	18	42'-10"	Str.	W407	4	5'-0"	Str.	W705	4	10'-6"	Str.
B506	12	7'-4"	Str.	W408	4	4'-6"	Str.	W706	4	12'-0"	Str.
B507	12	8'-9"	Str.	W409	4	4'-0"	Str.	W707	4	13'-6"	Str.
B508	6	15'-0"	Str.	W410	4	3'-6"	Str.	W708	4	15'-0"	Str.
				W411	22	6'-10"	2"	W709	4	16'-6"	Str.
B601	73	13'-6"	4 1/2"	W412	22	3'-8"	3"	W710	12	20'-8"	Str.
B602	16	5'-5"	Str.	W413	8	3'-8"	Str.				
B603	30	8'-8"	4 1/2"								
B604	8	5'-1"	4 1/2"	W601	2	3'-3"	Str.				
				W602	2	3'-0"	Str.				
B701	100	13'-1"	5 1/4"	W603	2	2'-9"	Str.				
				W604	2	2'-6"	Str.				
R401	30	6'-6"	2"	W605	2	2'-3"	Str.				
R402	14	4'-0"	2"	W606	2	2'-0"	Str.				
				W607	2	1'-10"	Str.				
R501	18	20'-8"	Str.	W608	2	6'-1"	Str.				
				W609	2	5'-10"	Str.				



Revision No.:  
NOV. '08

Date:

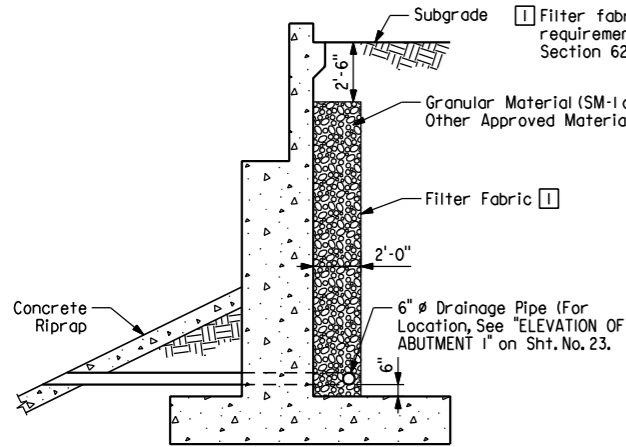
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LIMEDALE QUARRY  
SHEET 4 OF 5  
DETAILS OF ABUTMENT 2

Drawn: JAP	Check: LMS	Structural: LMS	Check: PJS	Project No.:
Civil: JRP	Project:	Approved:	Date: JULY '08	Scale: As Shown

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11/14/2008 140809Auridge.dgn 20080411 LB4204

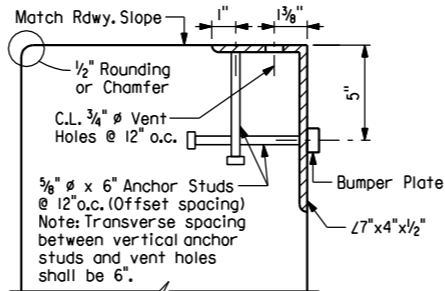


TYPICAL DRAINAGE DETAILS  
1/4" = 1'-0"

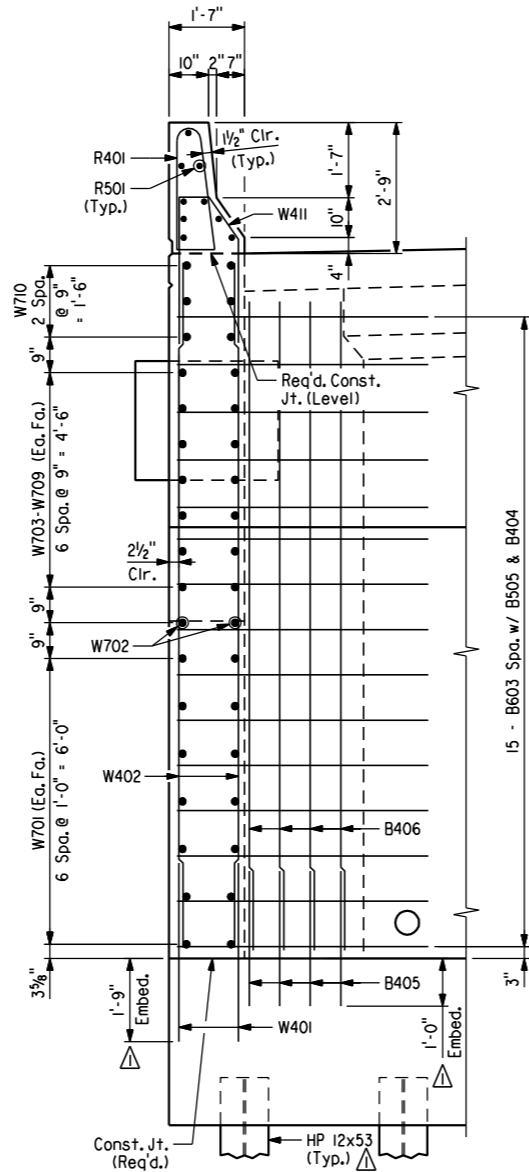
Notes:  
For additional details of pipe underdrain see Std. Dwg. No. PU-1 and Section 611 of the Standard Specifications. Pipe underdrains will not be measured or paid for separately, but will be considered subsidiary to the unit price bid for "UNCLASSIFIED EXCAVATION FOR STRUCTURES - BRIDGE".

Filter Fabric and Granular Material shall not be paid for directly, but shall be considered subsidiary to the various bid items.

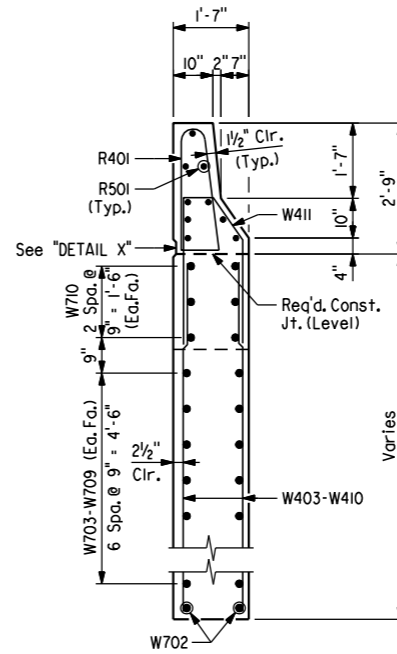
Extend 6"  $\phi$  drainage pipe out thru riprap to daylight. Slope pipe to drain.



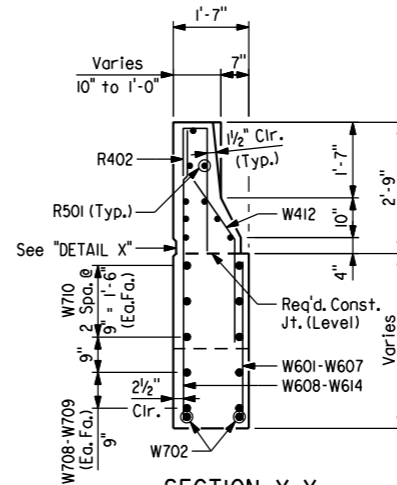
DETAIL Z  
3/8" = 1'-0"



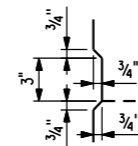
VIEW V-V  
1/2" = 1'-0"



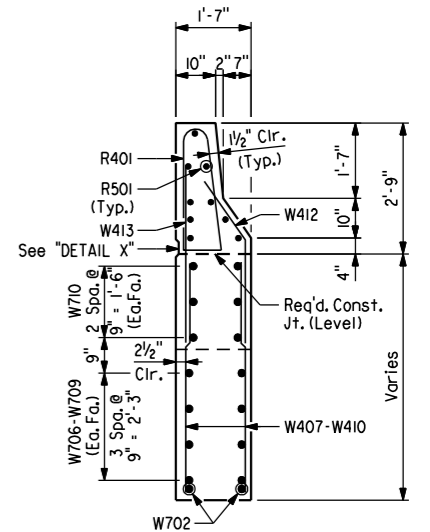
SECTION W-W  
1/2" = 1'-0"



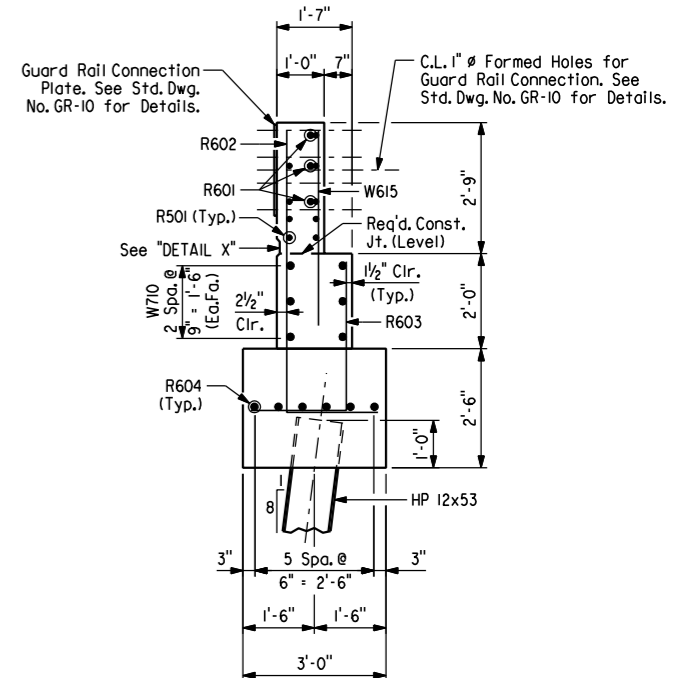
SECTION Y-Y  
1/2" = 1'-0"



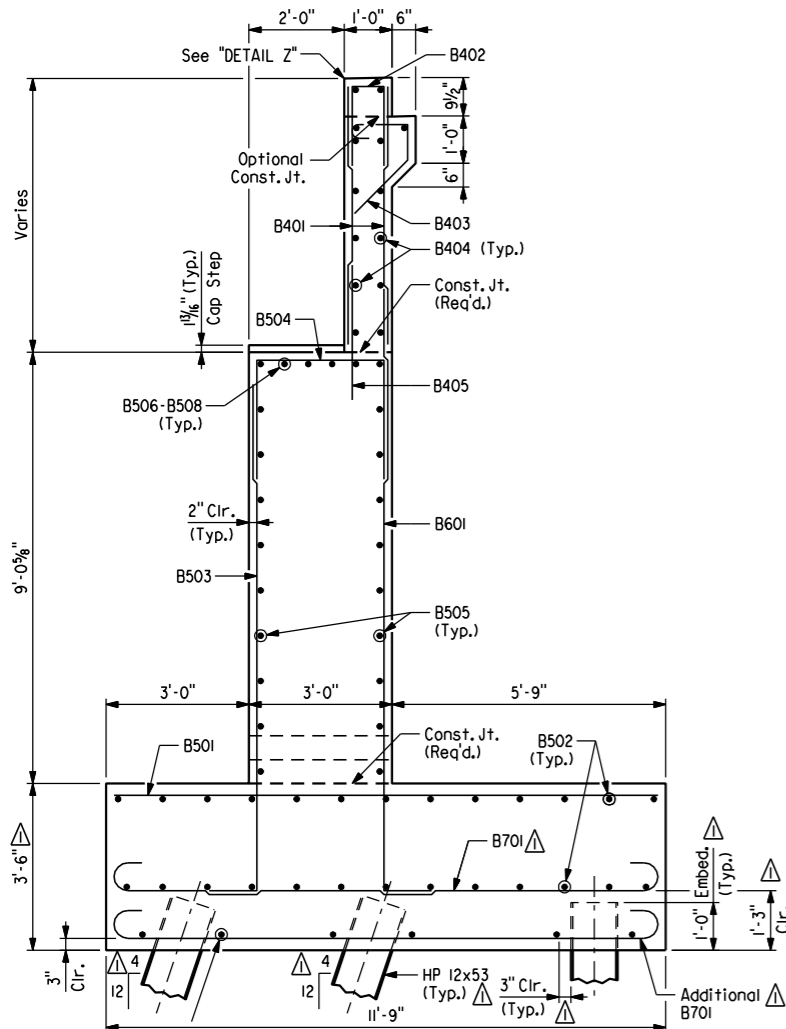
DETAIL X  
No Scale



SECTION X-X  
1/2" = 1'-0"



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



SECTION C-C  
1/2" = 1'-0"

Revision No.: Date:  
NOV. '08



BRIDGE ENGINEER

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ARKANSAS LIME COMPANY  
LIMDALE QUARRY  
SHEET 5 OF 5  
DETAILS OF ABUTMENT 2

Drawn: JAP	Check: LMS	Structural: LMS	Check: PJS	Project No.:
Civil: JRP	Project: JRP	Approved: JRP	Date: JULY '08	Scale: As Shown

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