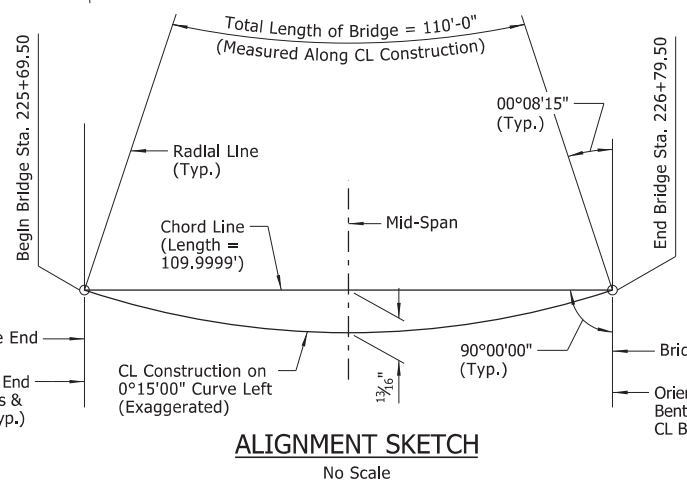
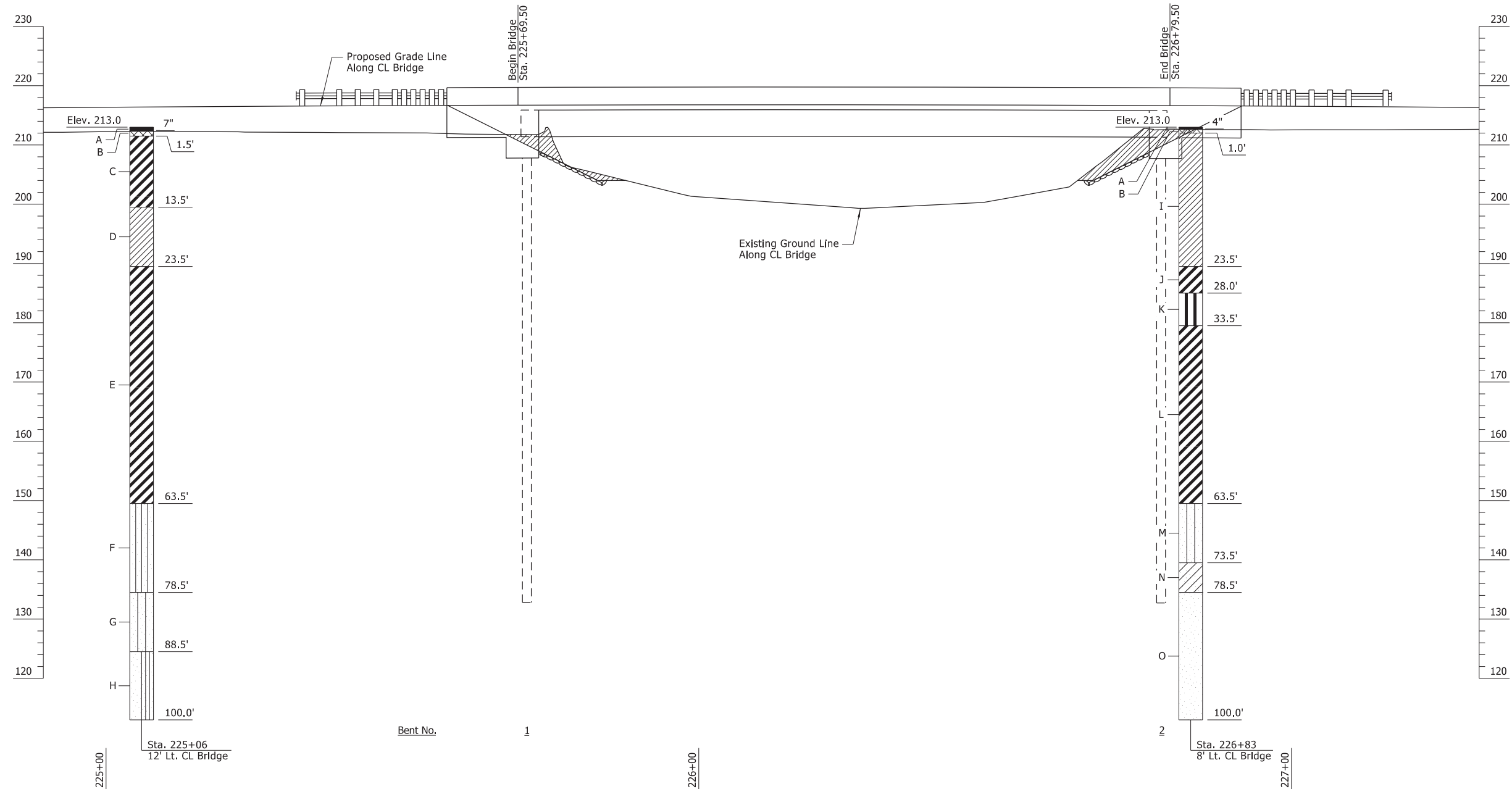




DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	061615	90	136
		07637		LAYOUT		66519



ELEVATION OF SOIL BORINGS

BORING LEGEND

- A - Asphalt
- B - Base Materials
- C - Medium stiff to very soft, gray to tan and red, FAT CLAY
- D - Stiff to very stiff, tan and red, LEAN CLAY
- E - Medium stiff to stiff, tan and red, FAT CLAY
- F - Stiff to very stiff, gray, sandy SILT
- G - Dense, gray, SILTY SAND
- H - Medium dense to very dense, gray SAND, trace silt and gravel
- I - Soft to very stiff, gray to tan and red, LEAN CLAY
- J - Medium stiff, tan and red, FAT CLAY
- K - Stiff, tan and red, sandy, ELASTIC SILT
- L - Very stiff to soft, tan and red, FAT CLAY
- M - Medium dense to dense, gray, SILTY SAND
- N - Medium dense, gray, CLAYEY SAND
- O - Dense to very dense, gray SAND

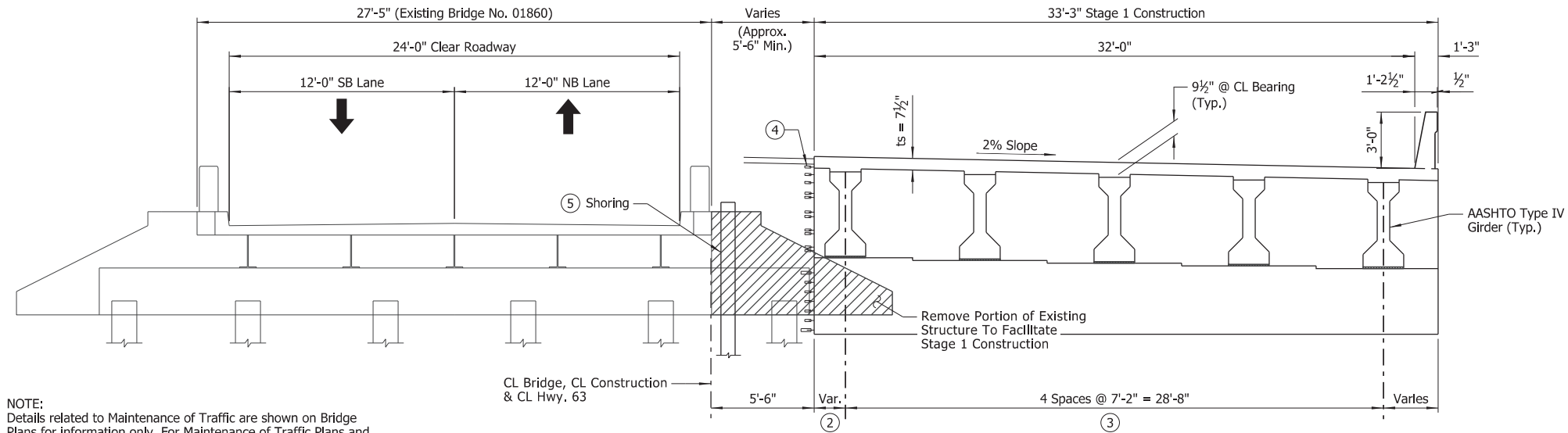
N-VALUES

Sta. 225+06 Offset 12' Lt.	Sta. 226+83 Offset 8' Lt.
3.5-5.0, N=5	1.0-2.5, N=4
6.0-7.5, N=1	6.0-7.5, N=2
8.5-10.0, N=0	13.5-15.0, N=18
13.5-15.0, N=15	23.5-25.0, N=7
23.5-25.0, N=7	33.5-35.0, N=7
28.5-30.0, N=7	38.5-40.0, N=8
33.5-35.0, N=7	48.5-50.0, N=7
38.5-40.0, N=7	53.5-55.0, N=7
48.5-50.0, N=7	58.5-60.0, N=3
63.5-65.0, N=9	63.5-65.0, N=12
68.5-70.0, N=20	68.5-70.0, N=49
78.5-80.0, N=35	73.5-75.0, N=20
88.5-90.0, N=25	78.5-80.0, N=36
98.5-100.0, N=53	83.5-85.0, N=62
	88.5-90.0, N=50/0"
	93.5-95.0, N=92
	98.5-100.0, N=91



SHEET 2 OF 2  
LAYOUT OF BRIDGE  
HIGHWAY 63 OVER LA GRUE BAYOU NORTH  
LA GRUE BAYOU, WOLF ISLAND SLASH  
& HONEY CREEK STRS. & APPRS. (S)  
PRAIRIE COUNTY  
ROUTE 63 SEC. 11  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.  
DRAWN BY: HEW DATE: JUNE 2020 FILENAME: b061615x3\_l2.dgn  
CHECKED BY: ABH DATE: SEP. 2020 SCALE: 1" = 10'-0"  
DESIGNED BY: JME DATE: JUNE 2020  
BRIDGE NO. 07637 DRAWING NO. 66519

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	061615	91	136
		07637	STAGED CONSTRUCTION			66520



NOTE:  
Details related to Maintenance of Traffic are shown on Bridge Plans for information only. For Maintenance of Traffic Plans and additional information, see Roadway Plans.

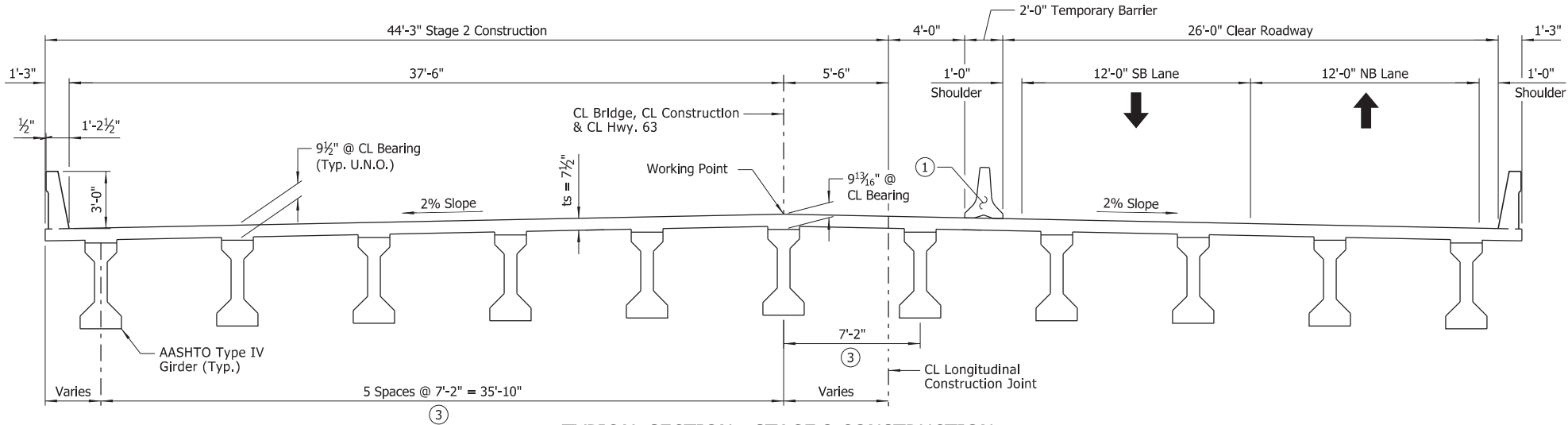
**TYPICAL SECTION - STAGE 1 CONSTRUCTION**

(Showing At End Bent; Looking Ahead)  
Scale: 1/4" = 1'-0"

NOTE:  
New End Bent Piling not shown for clarity.

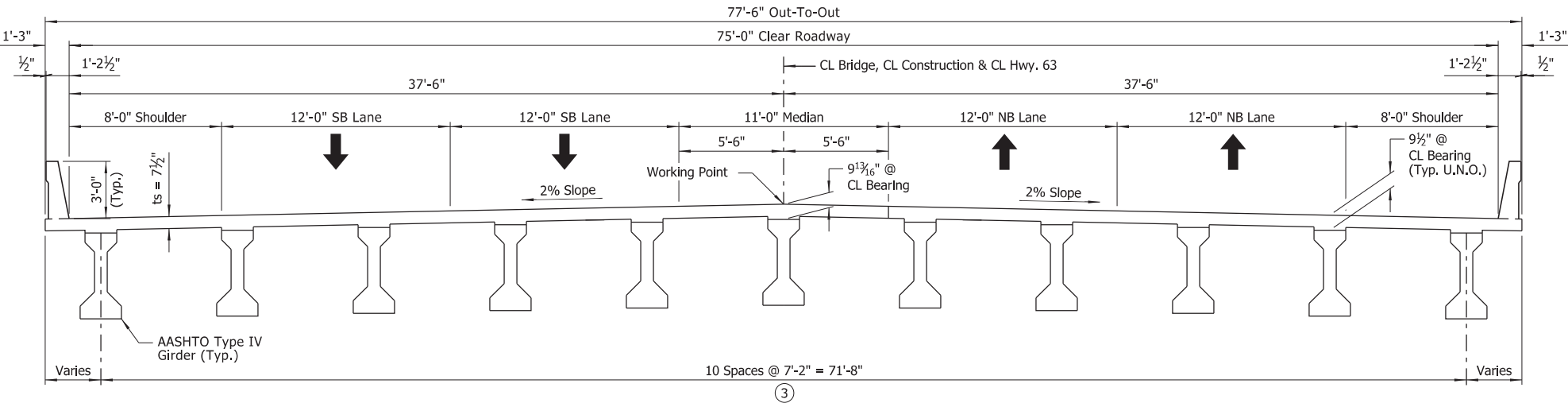
- ① Temporary construction barrier. Do not connect to new deck (See Dwg. No. TC-4).
- ② Construction vehicles shall not travel on cantilever portion of deck.
- ③ Measured perpendicular to chord line extending between bridge ends. See "ALIGNMENT SKETCH" on Dwg. No. 66519.
- ④ Mechanical bar couplers
- ⑤ Shoring shall be required to retain existing and new embankment during construction.

NOTE:  
Unless noted otherwise, horizontal dimensions shown are measured along a line radial to CL Construction.



**TYPICAL SECTION - STAGE 2 CONSTRUCTION**

(Shown In Span; Looking Ahead)  
Scale: 1/4" = 1'-0"



**TYPICAL SECTION - FINAL CONDITION**

(Shown In Span; Looking Ahead)  
Scale: 1/4" = 1'-0"

**LEGEND**

U.N.O. = Unless Noted Otherwise



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DETAILS OF STAGED CONSTRUCTION  
HIGHWAY 63 OVER LA GRUE BAYOU NORTH  
LA GRUE BAYOU, WOLF ISLAND SLASH  
& HONEY CREEK STRS. & APPRS. (S)  
PRAIRIE COUNTY

ROUTE 63 SEC. 11  
ARKANSAS STATE HIGHWAY COMMISSION

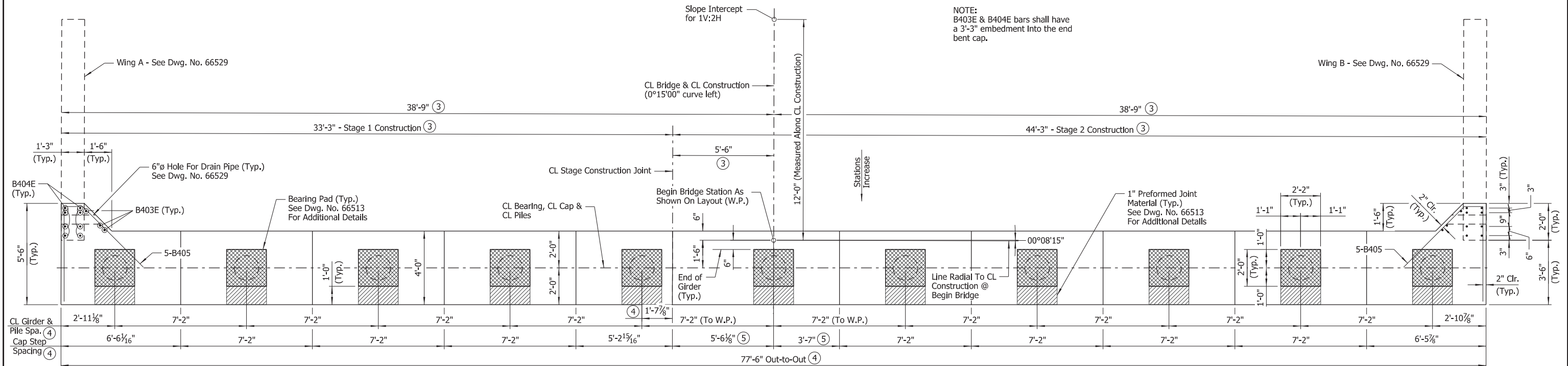
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: AUG. 2020 FILENAME: b061615x3\_sc.dgn  
CHECKED BY: ABH DATE: SEP. 2020 SCALE: As Shown

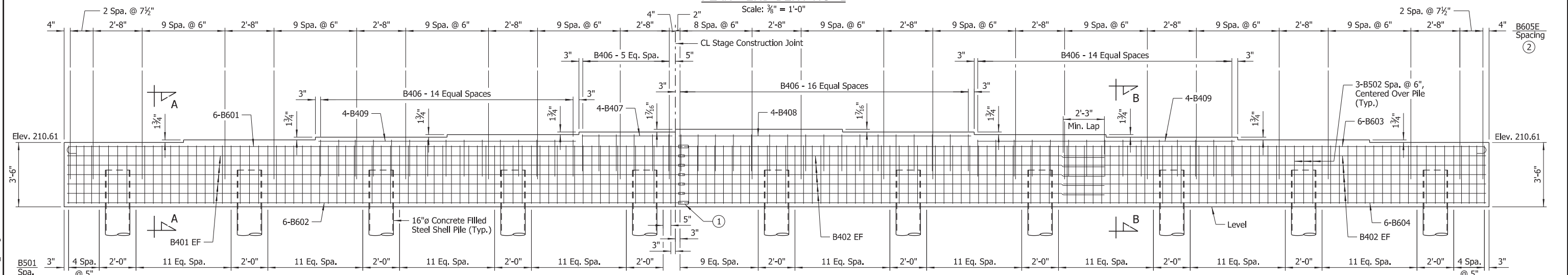
DESIGNED BY: JME DATE: JUNE 2020  
BRIDGE NO. 07637 DRAWING NO. 66520



DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	061615	92	136
		07637	END BENTS		66521	



PLAN - END BENT NO. 1



ELEVATION - END BENT NO. 1

(Looking Back)  
Scale:  $\frac{3}{8}" = 1'-0"$

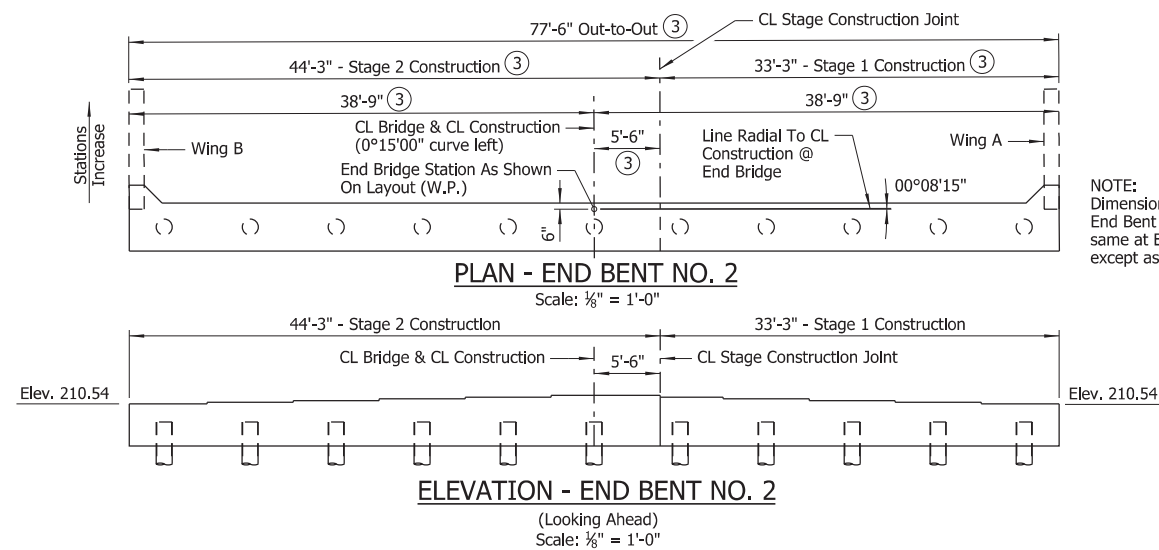
- ① The mechanical bar couplers shall be Dayton Superior D250SCA Bar Lock Couplers or an alternate approved type in accordance with the ARDOT Qualified Products List (QPL). Couplers shall develop at least 125% of the specified yield strength of the bar and shall be installed according to the Manufacturer's recommendations. The cost of mechanical couplers shall not be measured for separate payment but shall be considered subsidiary to the item "CLASS 5 CONCRETE - BRIDGE". Couplers shall be installed with minimal projection beyond the longitudinal construction joint and shall be adequately protected from damage until the Stage 2 reinforcing is installed.
- ② Top of B605E bars shall maintain 2" clear of bottom of paving bracket in the end bent diaphragm.
- ③ Measured Radial to CL Construction
- ④ Measured at front face of cap and perpendicular to Chord Line extending between bridge ends. See "ALIGNMENT SKETCH" on Dwg. No. 66519.
- ⑤ To W.P.

NOTES:  
CL Construction Is on a 0°15'00" curve left.

Wings and ends of caps shall be constructed on curves concentric with CL Construction.

CL Bearing, CL Cap, CL Piles, and cap edges shall be oriented perpendicular to Chord Line extending between bridge ends. See "ALIGNMENT SKETCH" on Dwg. No. 66519.

For "GENERAL NOTES", "SECTION A-A", "SECTION B-B", "BAR LIST"  
and "BAR BENDING DIAPHRAGMS", see Dwg. No. 66522.



ELEVATION - END BENT NO. 2

(Looking Ahead)  
Scale:  $\frac{1}{8}" = 1'-0"$

## LEGEND

EF = Each Face



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SHEET 1 OF 2  
DETAILS OF END BENTS  
LA GRUE BAYOU NORTH  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION

DRAWN BY: JJB DATE: DEC. 2020 FILENAME: b061615x3\_a1.dgn  
CHECKED BY: NVW DATE: MAR. 2021 SCALE: As Shown

CHECKED BY: JJB DATE: DEC. 2020 SCALE: 1:1  
DESIGNED BY: JJB DATE: DEC. 2020

BRIDGE NO. 07637 DRAWING NO. 66521

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	061615	93	136
		07637		END BENTS		66522

BAR LIST (EACH BENT)						BAR BENDING DIAGRAMS	
MARK	NO. REQ'D	LENGTH	"A"	"B"	P.D.		
B401	10	33'-5"			Str.		
B402	20	23'-1"			Str.		
B403E	6	7'-4"			Str.		
B404E	16	8'-7"			Str.		
B405	10	10'-9"			2"		
B406	53	7'-6"	3'-8"	2'-0"	2"		
B407	4	4'-11"			Str.		
B408	4	15'-11"			Str.		
B409	8	14'-0"			Str.		
B501	130	14'-0"			2½"		
B502	33	9'-8"	3'-8"	3'-1"	2½"		
B601	6	34'-2"	33'-6"		4½"		
B602	6	33'-6"			Str.		
B603	6	44'-3"	43'-7"		4½"		
B604	6	43'-7"			Str.		
B605E	106	17'-6"	3'-8"	7'-1"	4½"		

NOTES:  
Number of bars shown is for one end bent only.  
Dimensions of bars are out-to-out.  
Bar designations ending in "E" indicate epoxy coated bars.

Length of bars shown shall be adjusted as required to accommodate length of mechanical coupler.

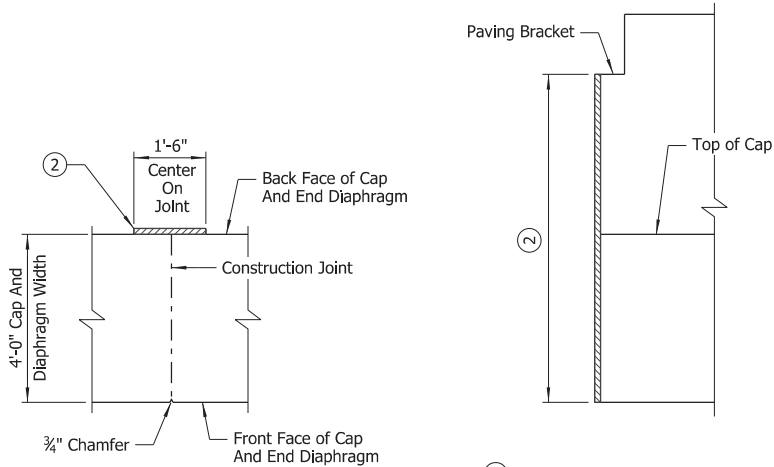
#### GENERAL NOTES

All concrete shall be Class "S" with a minimum 28 day compressive strength  $f'_c = 3500$  psi and shall be poured in the dry. All exposed corners shall 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.

Granular backfill and pipe underdrain required behind end bent caps. See Dwg. No. 66513 for details.

For additional information, see Layout.

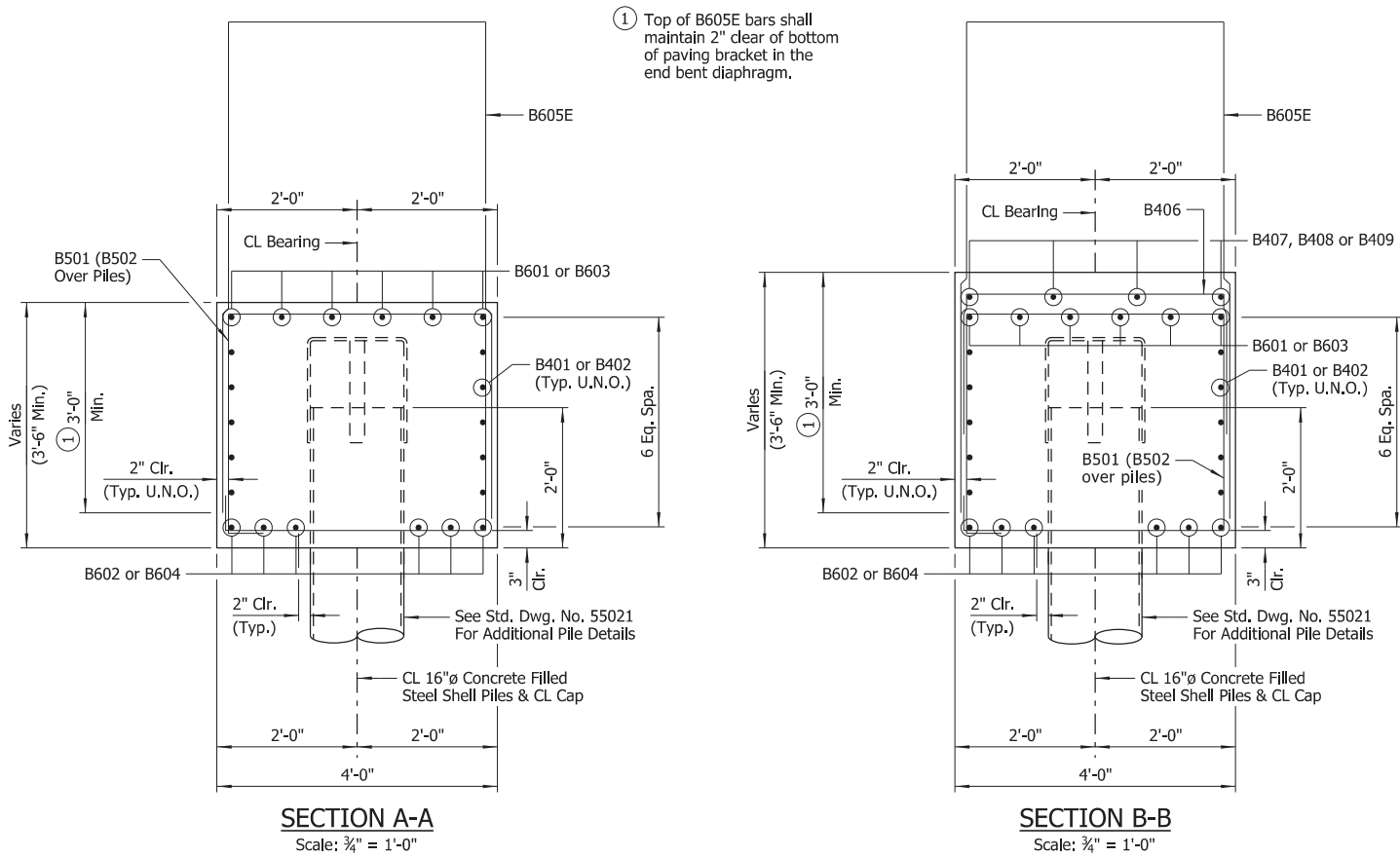


NOTE:  
Payment for this work and material shall be considered subsidiary to other pay items.

Membrane waterproofing Type "C" or approved equal, see Section 815. Membrane waterproofing shall extend from the bottom of the cap to the paving bracket.

#### CONSTRUCTION JOINT DETAIL

No Scale



#### LEGEND

U.N.O. = Unless Noted Otherwise



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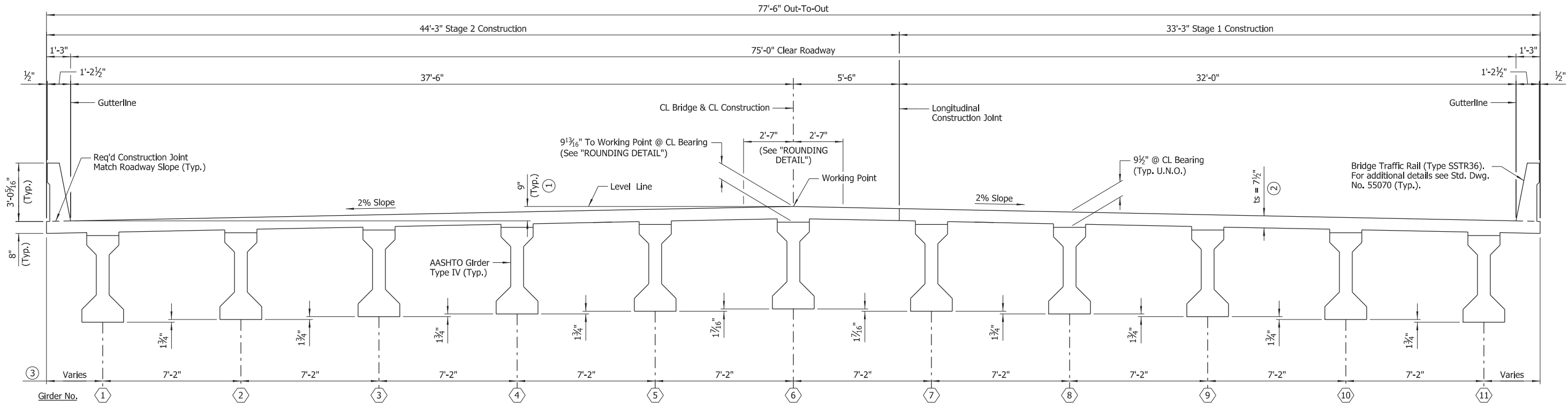
SHEET 2 OF 2  
DETAILS OF END BENTS  
LA GRUE BAYOU NORTH  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: JJB DATE: DEC. 2020 FILENAME: b061615x3\_a2.dgn  
CHECKED BY: NVW DATE: MAR. 2021 SCALE: As Shown

DESIGNED BY: JJB DATE: DEC. 2020  
BRIDGE NO. 07637 DRAWING NO. 66522

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	061615	94	136
		07637		109'-0" SPAN		66523

- ① Working Point to Gutterline  
② See "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE"



**TYPICAL ROADWAY SECTION - FINAL CONDITION**

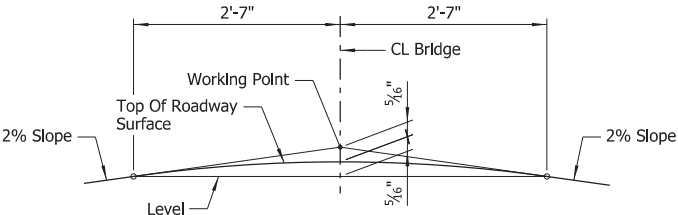
(Looking Ahead)  
Scale:  $\frac{3}{8}$ " = 1'-0"

**LEGEND**

U.N.O. = Unless Noted Otherwise

NOTE:  
Unless noted otherwise, horizontal dimensions shown are measured along a line radial to CL Construction.

- ③ Measured perpendicular to chord line extending between bridge ends. See "ALIGNMENT SKETCH" on Dwg. No. 66519.



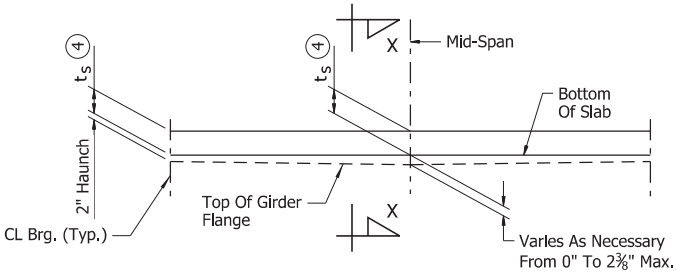
**ROUNDING DETAIL**

No Scale

NOTE:  
Working Point matches Theoretical Roadway Grade.

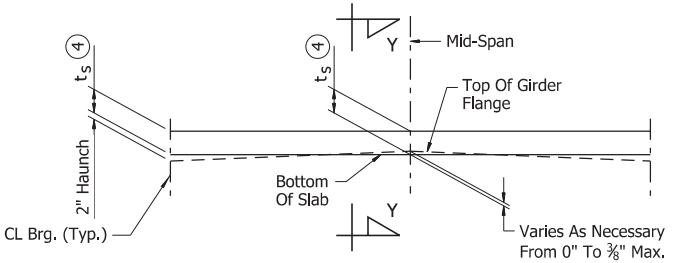
**GIRDER ELEVATION**

No Scale



**GIRDER ELEVATION**

No Scale



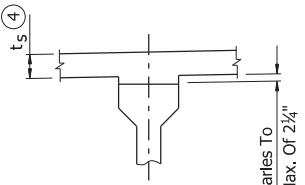
$t_s$  = slab thickness as shown on superstructure details.  
See "TYPICAL ROADWAY SECTION - FINAL CONDITION".

- ④ Tolerance when removable deck forming is used is  $+\frac{1}{2}$ ",  $-\frac{1}{4}$ ". Haunch forming is required and shall be adjusted to maintain slab thickness tolerance. See Std. Dwg. No. 55005 for tolerances when permanent steel deck forms are used.

"GIRDER ELEVATION" sketches show the range of acceptability of the top of girder relative to bottom of slab after the placement of the slab. When the top of the girder projects more than  $\frac{3}{8}$ " into the slab, a raise in grade will be necessary. Girders shall be set in a sufficient number of spans over suitable increments so the revised grade line will produce a smooth riding surface. Variation of haunch height will be at the Contractor's expense.

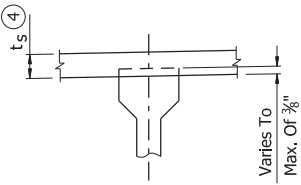
**SECTION X-X**

No Scale



**SECTION Y-Y**

No Scale



**ADJUSTMENT FOR SLAB THICKNESS TOLERANCE**



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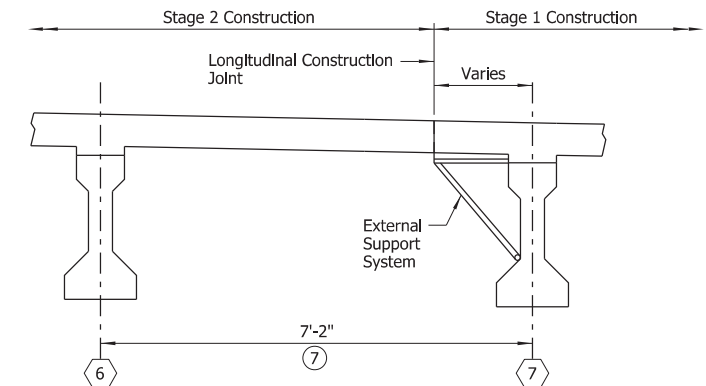
SHEET 1 OF 5  
DETAILS OF 109'-0" INTEGRAL  
PRESTRESSED CONCRETE GIRDER SPAN  
LA GRUE BAYOU NORTH  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: JJB DATE: DEC. 2020 FILENAME: b061615x3\_s1.dgn  
CHECKED BY: NVW DATE: MAR. 2021 SCALE: As Shown  
DESIGNED BY: JJB DATE: DEC. 2020  
BRIDGE NO. 07637 DRAWING NO. 66523

⑥ See "TYPICAL GIRDER ELEVATION (TYPE IV) - 109'-0\" on Dwg. No. 66516 for number and location. Galvanized Threaded Inserts shall be Dayton-Richmond F-42 Loop Ferule or approved equal. 3/4\"  $\phi$  Galvanized Threaded Inserts Rods shall be ASTM A709, Grade 36 or AASHTO M 31 or M 322 Type A, Grade 60. Galvanizing shall be in accordance with AASHTO M 232, Class C or ASTM B695, Class 50. These items will not be paid for directly but shall be considered subsidiary to the item "PRESTRESSED CONCRETE GIRDERS (TYPE IV)".

Longitudinal: Stage 1 & Stage 2:  
S401E in Top as Shown  
S501E in Bottom as Shown  
S601E in Top as Shown At End Bents, See "REINFORCING PLAN & SLAB POURING SEQUENCE"  
on Dwg. No. 66526

- ⑥ See "TYPICAL GIRDER ELEVATION (TYPE IV) - 109'-0\" on Dwg. No. 66516 for number and location. Galvanized Threaded Inserts shall be Dayton-Richmond F-42 Loop Ferule or approved equal. 3/4\"  $\phi$  Galvanized Threaded Inserts Rods shall be ASTM A709, Grade 36 or AASHTO M 31 or M 322 Type A, Grade 60. Galvanizing shall be in accordance with AASHTO M 232, Class C or ASTM B695, Class 50. These items will not be paid for directly but shall be considered subsidiary to the item "PRESTRESSED CONCRETE GIRDERS (TYPE IV)".



### DECK SUPPORT AT LONGITUDINAL CONSTRUCTION JOINT

### TYPICAL ROADWAY SECTION - STAGE 1 CONSTRUCTION

[illegible]

NOTES:  
Class 2 Protective Surface Treatment shall be applied to the roadway surface and to the roadway face and top of the concrete bridge rail.

Bar positions and clearances from the forms shall be maintained by means of stays, ties, hangers or other approved devices sufficient in size and number to prevent displacement during construction, per Subsection 804.06. Placement of slab bolsters or hi-chairs with full-length lower runners directly on removable deck forms will not be allowed.

TYPICAL ROADWAY SECTION - STAGE 2 CONSTRUCTION

A circular professional engineer seal for the State of Arkansas. The outer ring contains the text "STATE OF ARKANSAS" at the top and "ADAM B. HALL" at the bottom. Inside the ring, the text "LICENSED PROFESSIONAL ENGINEER" is centered, with "No. 14498" below it. Three stars are positioned between the license number and the name. A blue ink signature, "Adam B. Hall", is written across the seal.

SHEET 2 OF 5  
DETAILS OF 109'-0" INTEGRAL  
PRESTRESSED CONCRETE GIRDER SPAN  
LA GRUE BAYOU NORTH

ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK

DESIGNED BY: JJB DATE: DEC. 2020

BRIDGE NO. 07637 DRAWING NO. 66524

DRAWING NO. 66524

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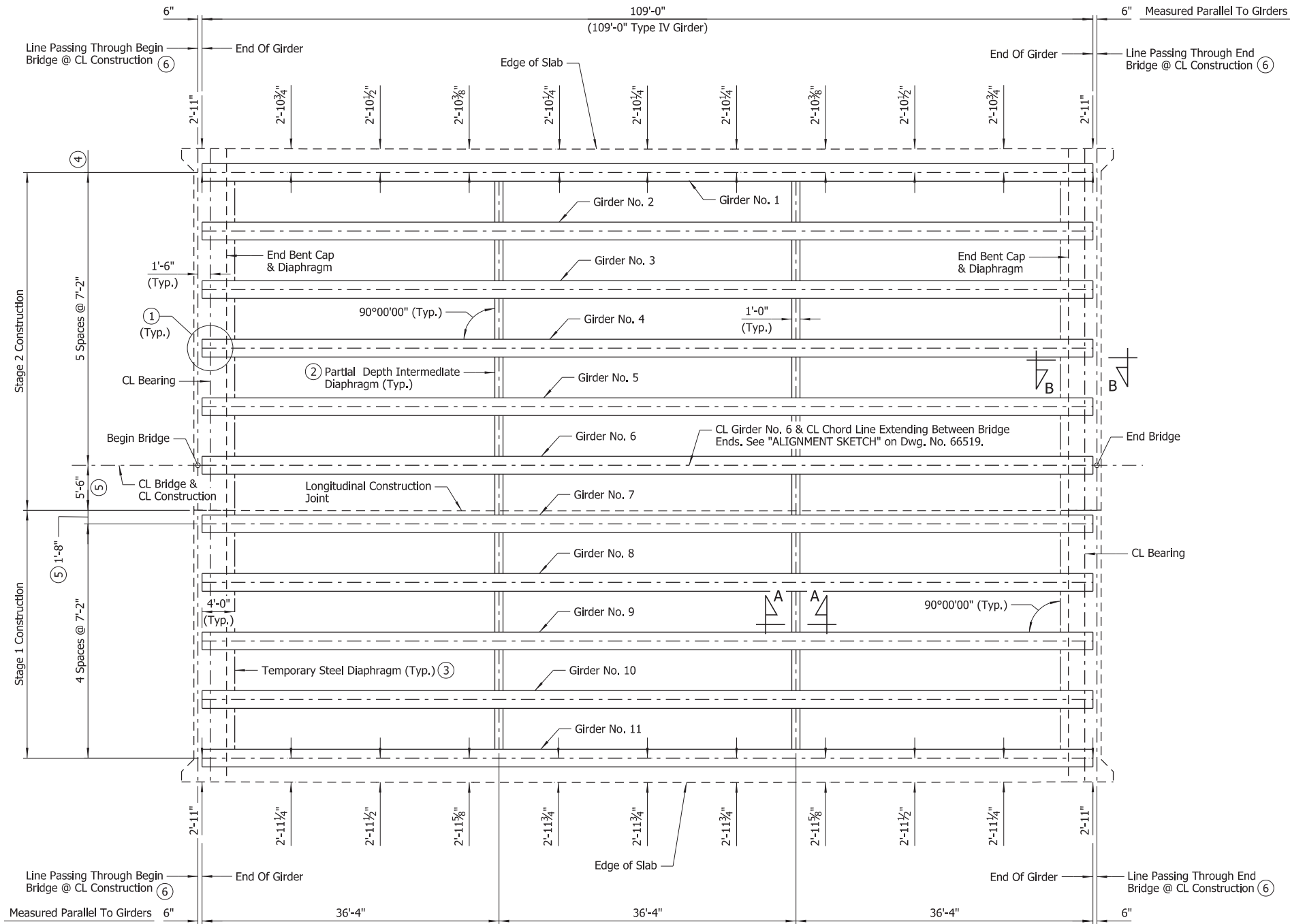
11/3/2023

11/3/2023

11/3/2023



DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	061615	96	136
		07637		109'-0" SPAN		66525



### FRAMING PLAN

Scale:  $\frac{1}{8}$ " = 1'-0"

NOTES:  
For "SECTION B-B" and additional details of End Bent Diaphragms, see Dwg. No. 66513.

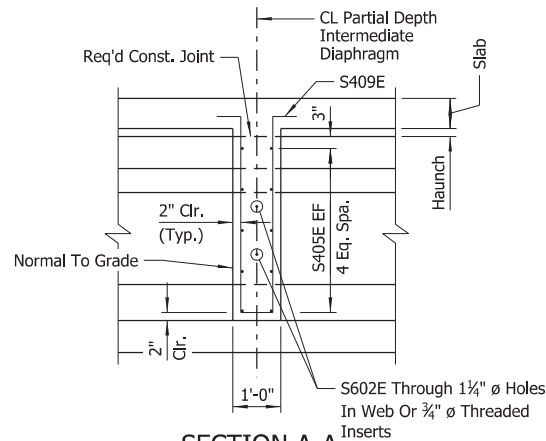
For additional details of Partial Depth Intermediate Diaphragms, see Dwg. No. 66528.

For girder details, see Dwg. No. 66516.

All cantilever dimensions are measured at girder tenth points along edges of slab and normal to exterior girders.

- After erection, the ends of girders at all bents shall be blocked using temporary blocking to maintain proper location on bent caps. The ends of girders shall remain blocked until after the temporary steel diaphragms are in place.
- For details of alternate steel diaphragm, see "DETAILS OF STEEL DIAPHRAGM".
- After the concrete deck construction and curing are complete, the temporary steel diaphragm and connecting elements may remain in place or be removed and become the property of the Contractor and the holes in the girder webs filled with a QPL approved non-shrink epoxy grout. For additional diaphragm details, see "DETAILS OF STEEL DIAPHRAGM".

- Measured perpendicular to chord line extending between bridge ends. See "ALIGNMENT SKETCH" on Dwg. No. 66519.
- Measured to Longitudinal Construction Joint at Begin Bridge
- Line is perpendicular to chord line extending between bridge ends. See "ALIGNMENT SKETCH" on Dwg. No. 66519.



### SECTION A-A

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

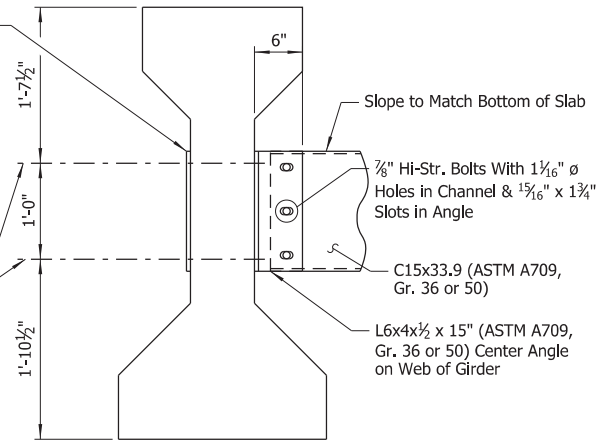
### LEGEND

EF = Each Face

PL  $\frac{1}{2}$ " x 4" x 15" (ASTM A709, Gr. 36 or 50) At Exterior Girders

NOTE:  
A standard washer shall be supplied under both the nut and the head of the  $\frac{7}{8}$ " ø Hi-Str. Bolts. An additional plate washer shall cover the angle slots.

CL  $\frac{7}{8}$ " ø Hi-Str. Bolts with  $1\frac{1}{16}$ " ø Holes in PL & Angle &  $1\frac{1}{4}$ " ø Holes in Girder Web. (Snug Tightened)



### DETAILS OF STEEL DIAPHRAGM

Scale: 1" = 1'-0"

Steel Diaphragms shall be used at locations noted as "Temporary Steel Diaphragm". The Temporary Steel Diaphragm and components will not be paid for directly, but shall be considered subsidiary to the item "PRESTRESSED CONCRETE GIRDERS (TYPE IV)".

Permanent Steel Diaphragms may be used in lieu of concrete diaphragms at locations noted as "Partial Depth Intermediate Diaphragm". Payment will be based on concrete diaphragms.

All components of Steel Diaphragms (Permanent and Temporary) shall be galvanized in accordance with AASHTO M111.



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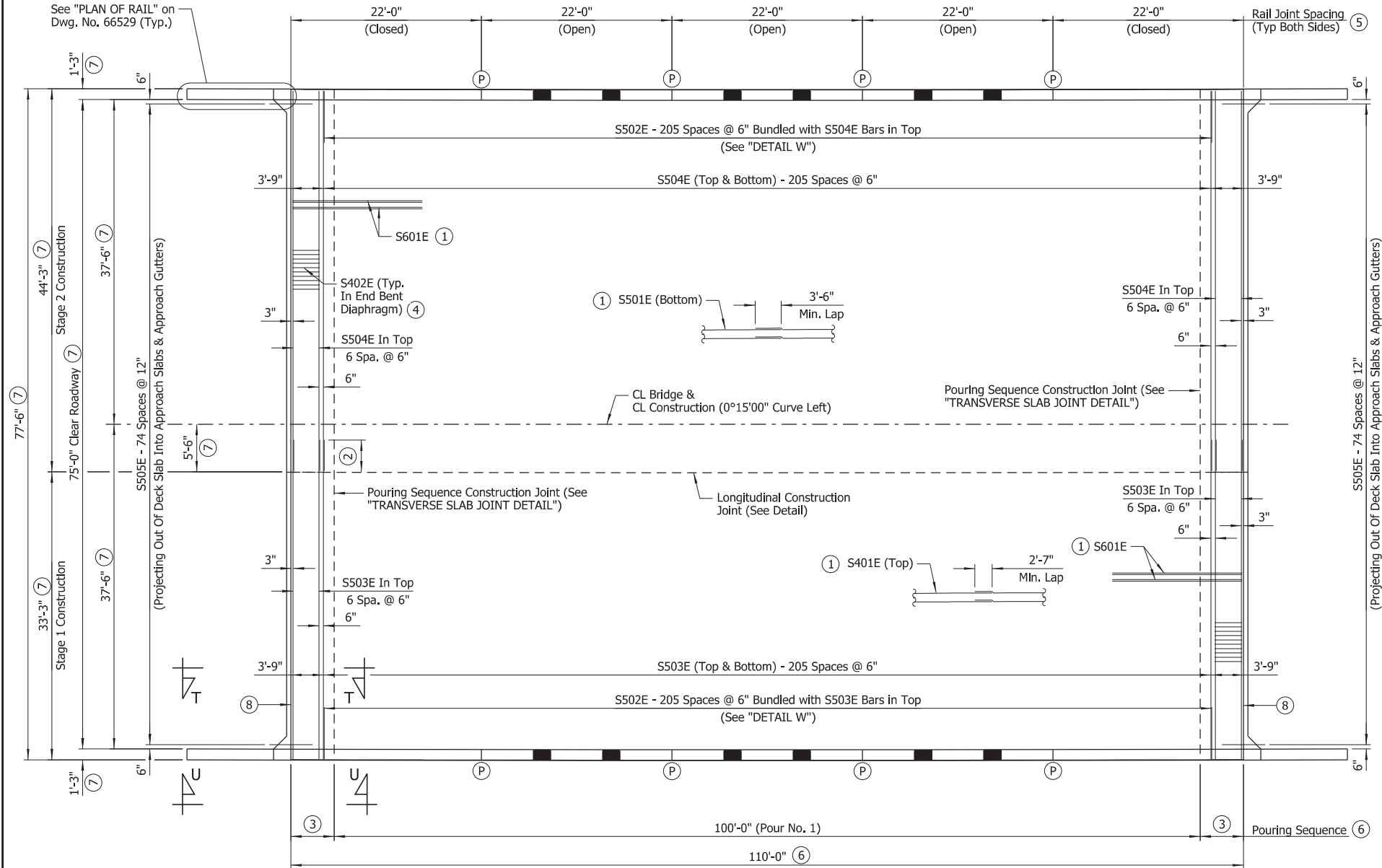
SHEET 3 OF 5  
DETAILS OF 109'-0" INTEGRAL  
PRESTRESSED CONCRETE GIRDER SPAN  
LA GRUE BAYOU NORTH  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: RAK DATE: DEC. 2020 FILENAME: b061615x3\_s3.dgn  
CHECKED BY: NVW DATE: MAR. 2021 SCALE: As Shown

DESIGNED BY: RAK DATE: DEC. 2020  
BRIDGE NO. 07637 DRAWING NO. 66525



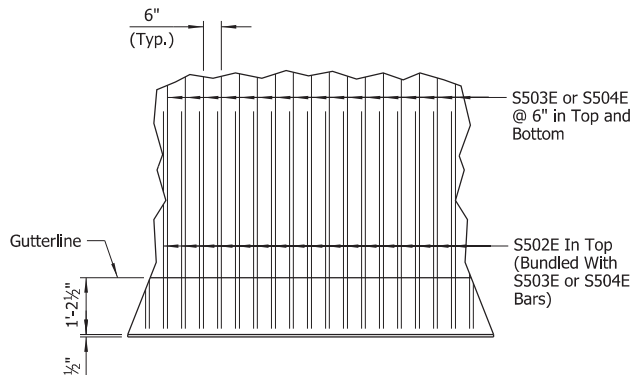
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WORKSPACE: ARDOT Bridge (2019)  
L:\2017\17017628 - 061615 Wolf Bayou Honey-La Grue Creeks\Drawings\061615x3\_S304\_SB.dgn



### REINFORCING PLAN & SLAB POURING SEQUENCE

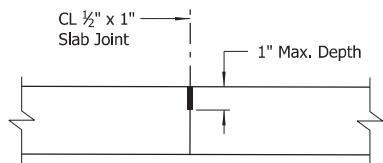
Scale:  $\frac{1}{8}$ " = 1'-0"

⑧ End of Deck Along Line Passing Through Begin or End Bridge @ CL Construction. This line is perpendicular to chord line extending between bridge ends. See "ALIGNMENT SKETCH" on Dwg. No. 66519.



### DETAIL W

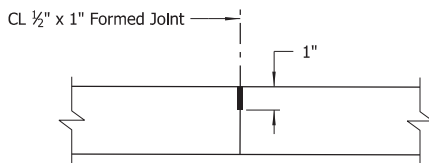
No Scale



### TRANSVERSE SLAB JOINT DETAIL

No Scale

NOTE:  
Use Type 3 or 4 Joint Sealer. See Subsections 501.02(h) and 501.05(j). Backer Rod filler will not be required. Joint Sealer shall be measured and paid for as Class S(AE) Concrete-Bridge. Transverse Slab Joints shall extend to the outside edge of the deck slab. Slab joints shall be installed before the railing is poured. If slab joints are to be sawed, they shall be sawed as soon as the concrete has sufficiently set to allow sawing of the joint without damage to the slab. Slab joints shall be placed at all pouring sequence construction joints and required slab joint locations. The joint sealer shall extend across the deck from gutterline to gutterline.



### LONGITUDINAL CONSTRUCTION JOINT

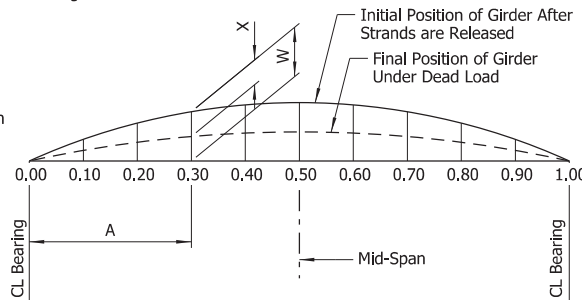
No Scale

NOTE:  
Use  $\frac{1}{2}$ " x 1" Type 3 or 4 Joint Sealer. See Subsections 501.02(h) and 501.05(j). Backer Rod filler will not be required. Joint Sealer shall be measured and paid for as Class S(AE) Concrete-Bridge. This joint shall be formed. Seal color shall be gray or other color similar to concrete.

- Placed as shown in "TYPICAL ROADWAY SECTION - STAGE 1 CONSTRUCTION" and "TYPICAL ROADWAY SECTION - STAGE 2 CONSTRUCTION" on Dwg. No. 66524.
- 3'-9" bar projection
- 5'-0" (Pour No. 2)
- See Dwg. No. 66499 for additional details of reinforcing in concrete end bent diaphragms.
- Measured along gutterline
- Measured along CL Construction
- Measured along line radial to CL Construction

SPAN PT.	INCHES	
	W	X
0.00	0.000	0.000
0.10	1.052	0.506
0.20	1.792	1.134
0.30	2.255	1.576
0.40	2.507	1.859
0.50	2.587	1.956

Table symmetric about mid-span



"W" is Camber of Girder (Prestress + Dead Load of Girder @ 90 Days After Release)

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

### ⑨ CAMBER & DEFLECTION (INCHES) - 109'-0" GIRDER

No Scale

TABLE OF VARIABLES						
CLOSED RAIL PANELS			OPEN RAIL PANELS			
PANEL LENGTH	A	R4XXE	PANEL LENGTH	B	C	D
22'-0"	43	06	22'-0"	17	6'-0"	11
						E
						R4XXE
						06

SLAB POURING SEQUENCE NOTES:  
Pours with the same number may be placed simultaneously or separately. All Pour(s) 1 must be placed before Pour(s) 2 can be placed. A minimum of 48 hours shall elapse between the end of a pour and the start of the next pour. A minimum of 72 hours shall elapse between adjacent pours.

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.

A minimum of 72 hours shall elapse between completion of the slab and the pouring of the bridge railing. Any railing pours made before the entire slab unit has been placed must be approved by the Engineer. Deviations from the pouring sequence(s) shown on this drawing are not permitted.

Concrete diaphragms at end bents shall be poured monolithically with the slab.

All partial depth diaphragms shall be cast in place and poured a minimum of 48 hours before the slab is poured.

Removable forms shall be used when pouring diaphragms.

The slab and diaphragms shall not be poured prior to 90 days following release of the prestressed girder strands.

NOTES:  
All longitudinal lines and longitudinal slab reinforcing shall be placed along curves concentric with CL bridge.

All transverse lines and transverse slab reinforcing shall be placed on lines perpendicular to chord line extending between bridge ends. See "ALIGNMENT SKETCH" on Dwg. No. 66519. Spacing of transverse slab reinforcing shown is measured along chord line.

For reinforcing details of rail, see Std. Dwg. No. 55070.

Rails and wings are included in span construction and are included in span quantities. Rail and wing concrete shall be Class S(AE) with a minimum 28 day compressive strength  $f'_c = 4,000$  psi.

For "GENERAL NOTES," see Dwg. No. 66528.

For "VIEW T-T" & "VIEW U-U", see Dwg. No. 66529.

For bar list and bar bending diagrams, see Dwg. No. 66527.

Ⓟ Partial Depth Rail Joint at this location

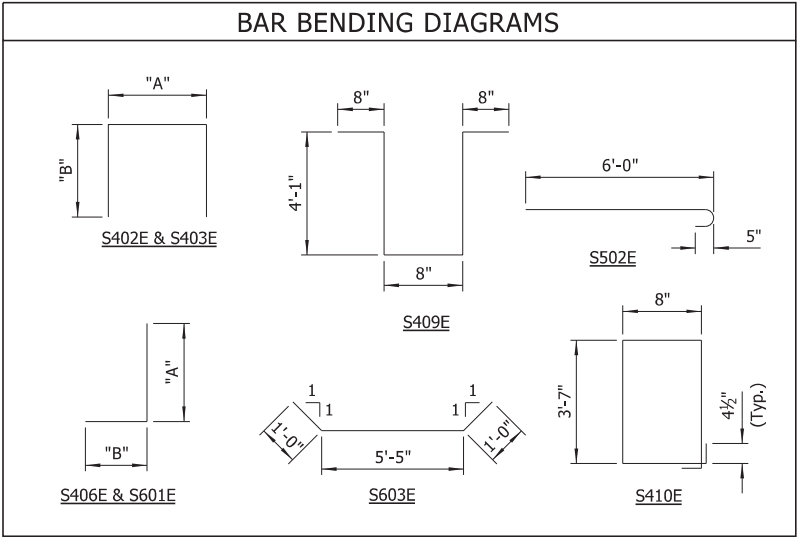


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BRIDGE ENGINEER

SHEET 4 OF 5  
DETAILS OF 109'-0" INTEGRAL  
PRESTRESSED CONCRETE GIRDER SPAN  
LA GRUE BAYOU NORTH  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: JJB DATE: DEC. 2020 FILENAME: b061615x3\_s4.dgn  
CHECKED BY: NVW DATE: MAR. 2021 SCALE: As Shown  
DESIGNED BY: JJB DATE: DEC. 2020  
BRIDGE NO. 07637 DRAWING NO. 66526

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WORKSPACE: ARDOT Bridge (2019)  
L:\2017\17017628 - 061615 Wolf Bayou Honey-La Grue Creeks\Drawings\061615x3\_S305\_SD.dgn



NOTES:  
Dimensions of bars are out-to-out.  
Bar designations ending with "E" indicate epoxy coated bars.  
For bar bending diagrams of R400E, R401E, R403E and W401E, see Std. Dwg. No. 55070

BAR LIST					
MARK	NO. REQ'D	LENGTH	"A"	"B"	P.D.
S401E	237	38'-4"			Str.
S402E	212	12'-6"	3'-2"	4'-9"	2"
S403E	20	5'-10"	3'-0"	1'-6"	2"
S404E	12	33'-5"			Str.
S405E	290	4'-8"			Str.
S406E	10	1'-7"	10"	10"	3"
S407E	10	3'-11"			Str.
S408E	24	23'-3"			Str.
S409E	118	9'-10"			2"
S410E	2	8'-10"			2"
S501E	154	56'-7"			Str.
S502E	412	6'-7"			3 3/4"
S503E	426	36'-10"			Str.
S504E	426	43'-11"			Str.
S505E	150	5'-0"			Str.
S601E	308	15'-11"	15'-0"	1'-0"	4 1/2"
S602E	72	6'-0"			Str.
S603E	24	7'-5"			4 1/2"
R400E	48	5'-3"			2 1/2"
R401E	560	6'-4"			2 1/2"
R402E	48	5'-6"			Str.
R403E	464	3'-6"			3", 3 3/4"
R404E	32	11'-8"			Str.
R405E	32	4'-0"			Str.
R406E	80	21'-8"			Str.
W401E	96	3'-11"			3 3/4"
W402E	160	4'-11"			Str.
W701E	64	15'-2"			Str.

① Length of bars shown shall be adjusted as required to accommodate length of mechanical coupler.

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	061615	98	136
		07637		109'-0" SPAN		66527



SHEET 5 OF 5  
DETAILS OF 109'-0" INTEGRAL  
PRESTRESSED CONCRETE GIRDER SPAN  
LA GRUE BAYOU NORTH  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.  
DRAWN BY: JJB DATE: DEC. 2020 FILENAME: b061615x3\_s5.dgn  
CHECKED BY: NVW DATE: MAR. 2021 SCALE: As Shown  
DESIGNED BY: JJB DATE: DEC. 2020  
BRIDGE NO. 07637 DRAWING NO. 66527

GENERAL NOTES

PRESTRESSED CONCRETE GIRDERS:

Pretensioning steel shall be 0.6" dia. low relaxatlon strands with a minimum ultimate strength of 270 ksi and shall conform to AASHTO M 203.

Distances from the forms and spacing of the prestressing steel shall be maintained by stays, ties, hangers, spacers, or other approved supports which shall be shown on the shop drawings.

All girders shall be of the type noted on the details and shall be the standard prestressing sections adopted by the Joint Committee of AASHTO and the Prestressed Concrete Institute. All girders shall be cast in floored pallets and in metal forms. All work and materials shall be as specified in Subsection 802.22.

Concrete shall be Class S and shall have a minimum 28-day compressive strength  $f'_c = 8,000$  psi. The initial tensile force applied to each 0.6" dia. strand shall be 44,000 lbs. except as noted. Transfer of this tensioning load to the girder shall not be done until the compressive strength of the concrete is 6,000 psi.

Dimensions shown are to the center of the strands.

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

Holes and Inserts shall be cast into the girders. Field drilling of holes shall not be permitted.

The tops of girders shall be rough floated at approximately the time of set. The tops of girders shall be scrubbed transversely with a coarse wire brush to remove all laitance and to produce a roughened surface with an amplitude of  $\frac{1}{4}$ " to produce an adequate surface for bonding the slab.

Extreme care shall be exercised in handling and moving precast prestressed concrete girders. Girders must be maintained in an upright position at all times and must be picked up from points near the girder ends. Disregard of this requirement may lead to collapse of the girder. 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 points of support and directions 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.

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

Reinforcing steel shall be AASHTO M 31 or M 32 Type A, Gr. 60 ( $F_y = 60,000$  psi), with mill test reports.

After detensioning, saw cut, grind, or bend up strands as designated by the plans. Heat-cutting or bending methods shall not be used within 6" of the girder.

The Contractor may submit alternate strand patterns with design calculations for review and approval in accordance with Subsection 802.22.

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.

REINFORCING STEEL:

All reinforcing steel shall conform to AASHTO M 31 or M 322 Type A, Gr. 60, with mill test reports and shall be epoxy coated. 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)".

CONCRETE:

Concrete shall be poured in the dry, and all exposed corners shall be chamfered  $\frac{3}{4}$ " unless otherwise noted. All concrete in slab, rail and diaphragms 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.

The concrete deck (roadway surface) shall be given a tine 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 girder. When permitted, the use of a longitudinal strike-off will require that a vertical camber adjustment be made in the strike-off to account for the future dead load deflection due to any railings.

STRUCTURAL STEEL:

Structural steel shall be ASTM A709 with grade and payment as specified in the plans. Grade 50W steel shall not be painted, and all exposed surfaces shall be cleaned in accordance with Subsection 807.84(e) unless noted otherwise. Grade 36 and Grade 50 steel shall be painted unless otherwise noted, and all exposed surfaces shall be cleaned in accordance with Subsection 807.84. Structural steel completely embedded in concrete may be ASTM A709, Gr. 36, Gr. 50 or Gr. 50W unless otherwise noted.

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 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.

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

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 temporary or permanent, a formal request with detailed drawings shall be submitted to the Engineer for approval. All welding shall conform to Subsection 807.26.

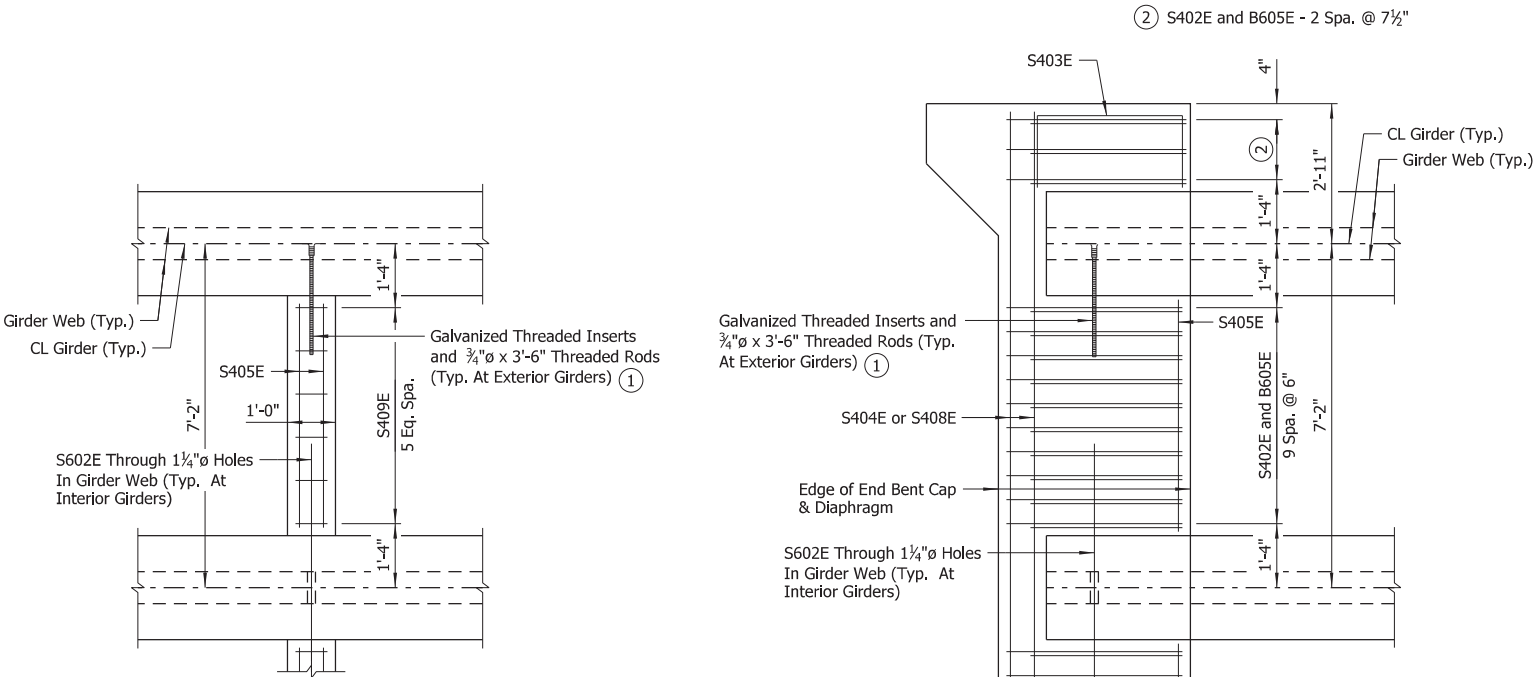
SPECIAL CAMBER NOTES

The camber and dead load deflection values shown on the plans are estimated based on the required minimum concrete strength for the prestressed concrete girders. The Contractor shall provide the Engineer with the following information:

- A. Actual 28-Day concrete strength of prestressed concrete girders
- B. Estimated age of prestressed concrete girders at time of erection
- C. Profile of each girder under its own weight in final position

Following receipt of the above data, the Engineer will evaluate the dead load and, if necessary, will provide an updated deflection diagram to the Contractor.

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	061615	99	136
		07635, 07636, 07637		COMMON		66528



PLAN - PARTIAL DEPTH INTERMEDIATE DIAPHRAGM

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

PLAN - END BENT DIAPHRAGM

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

- ① See "TYPICAL GIRDER ELEVATION (TYPE IV) - 99'-0"" on Dwg. No. 66502 and "TYPICAL GIRDER ELEVATION (TYPE IV) - 109'-0"" on Dwg. No. 66516 for number and location. Galvanized Threaded Inserts shall be Dayton-Richmond F-42 Loop Ferule Inserts or approved equal.  $\frac{3}{4}$ " Galvanized Threaded Rods shall be ASTM A709, Grade 36 or AASHTO M 31 or M 322 Type A, Grade 60. Galvanizing shall be in accordance with AASHTO M 232, Class C or ASTM B695, Class 50. These items will not be paid for directly but shall be considered subsidiary to the item "PRESTRESSED CONCRETE GIRDERS (TYPE IV)."



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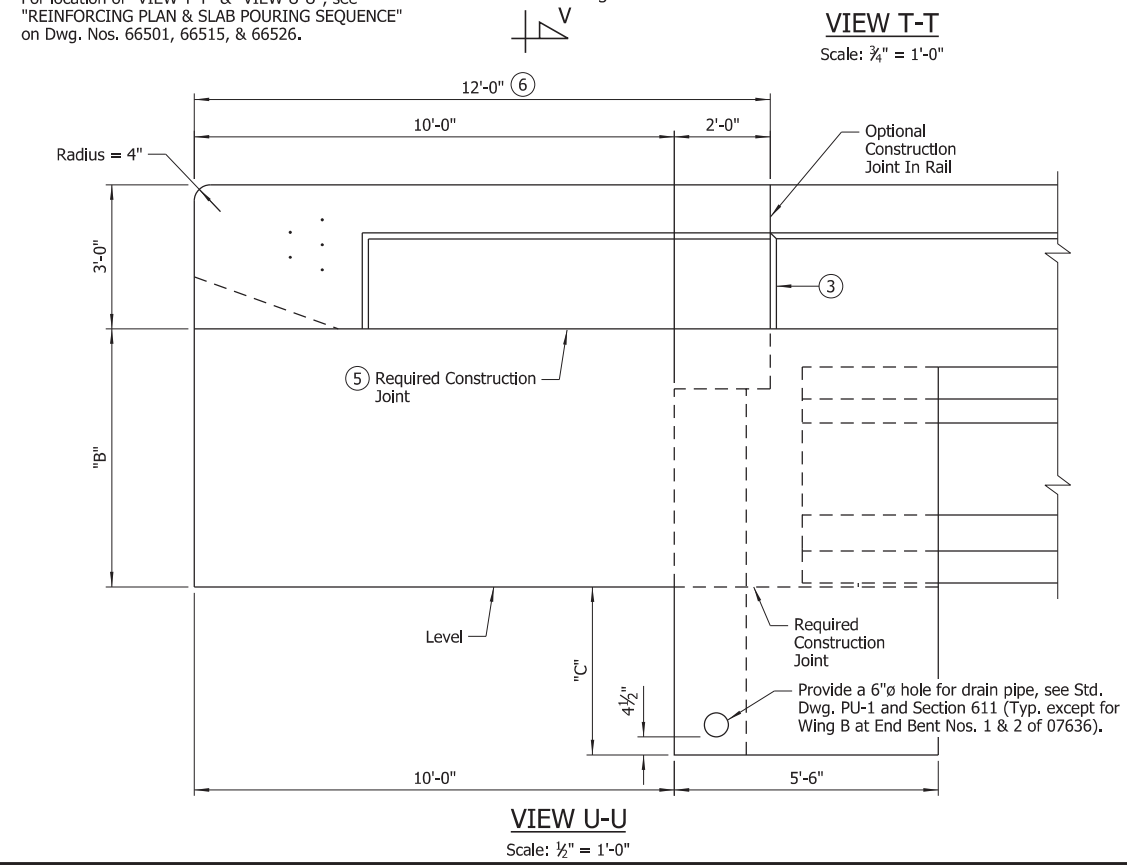
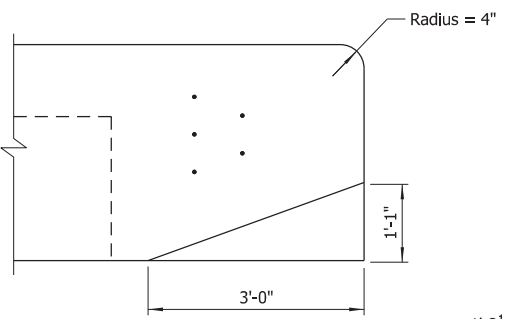
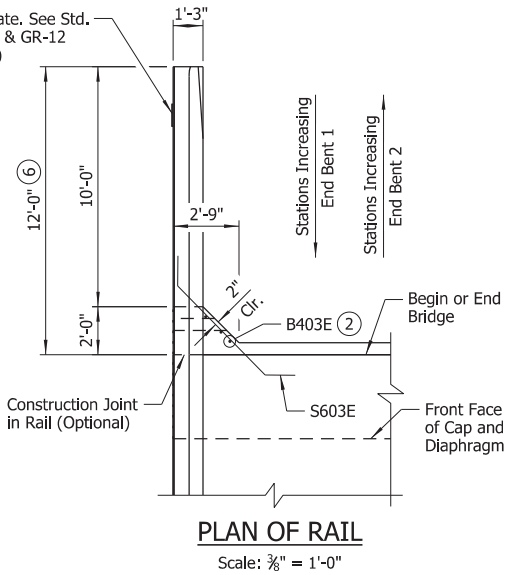
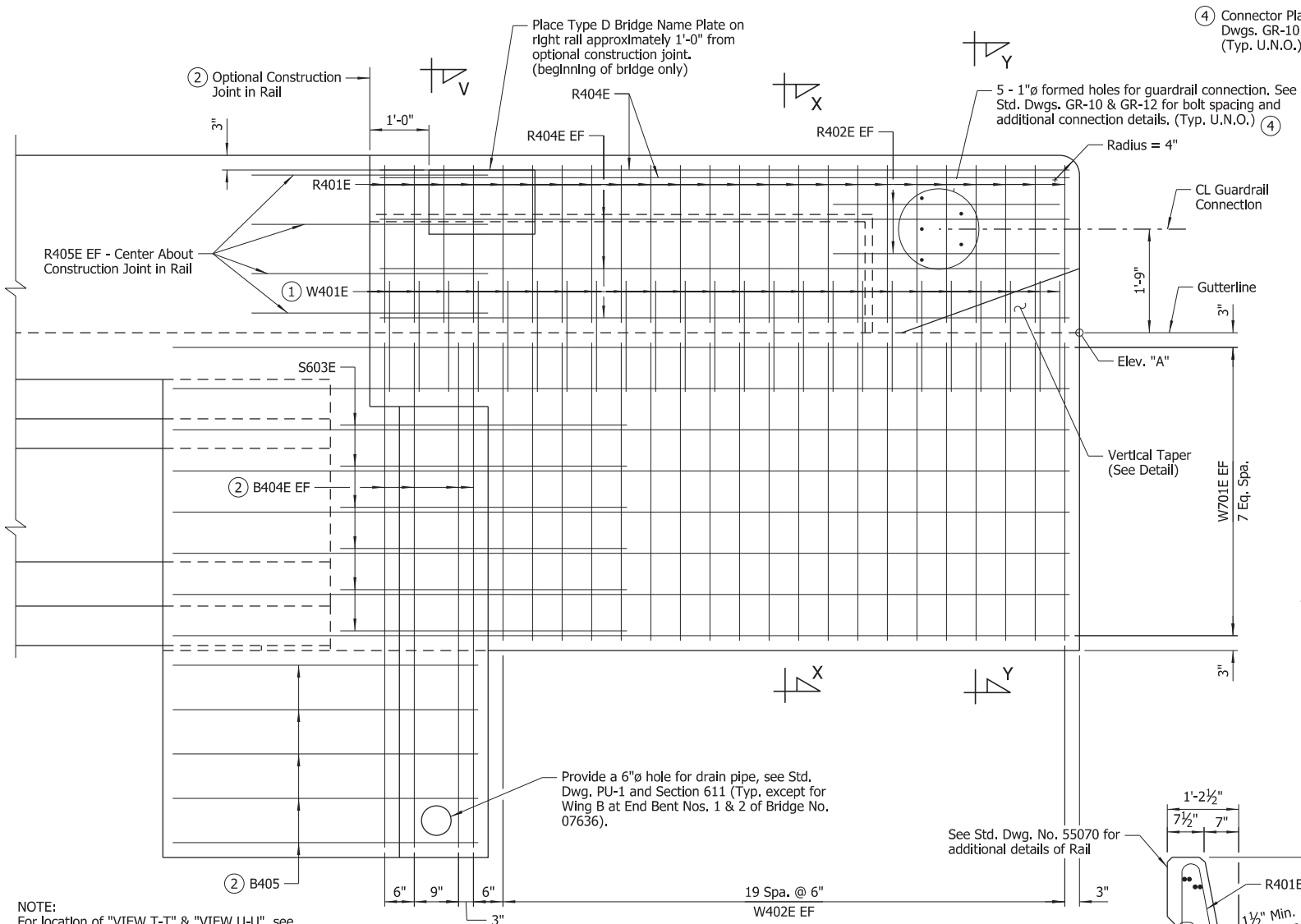
SHEET 1 OF 2  
COMMON SUPERSTRUCTURE DETAILS  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: RAK DATE: DEC. 2020 FILENAME: b061615\_s1.dgn  
CHECKED BY: NVW DATE: FEB. 2021 SCALE: As Shown

DESIGNED BY: RAK DATE: DEC. 2020

BRIDGE NO. 07635, 07636, 07637 DRAWING NO. 66528

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	061615	100	136
		07635, 07636, 07637	COMMON		66529	

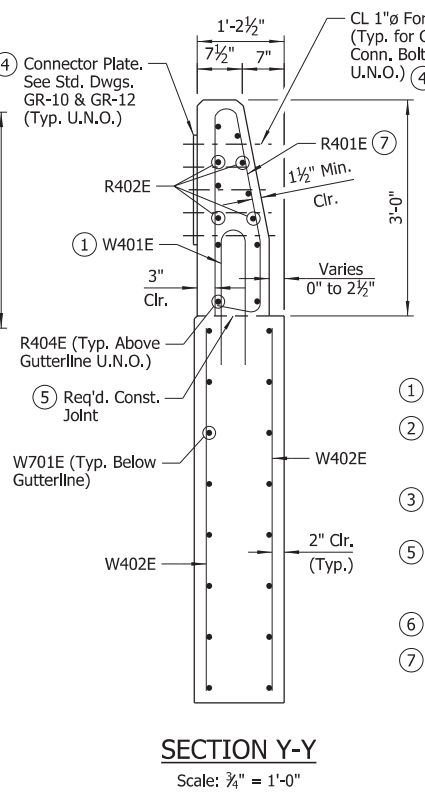
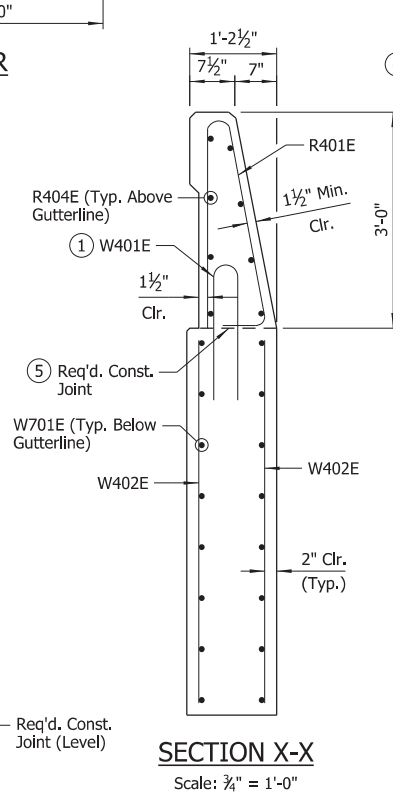
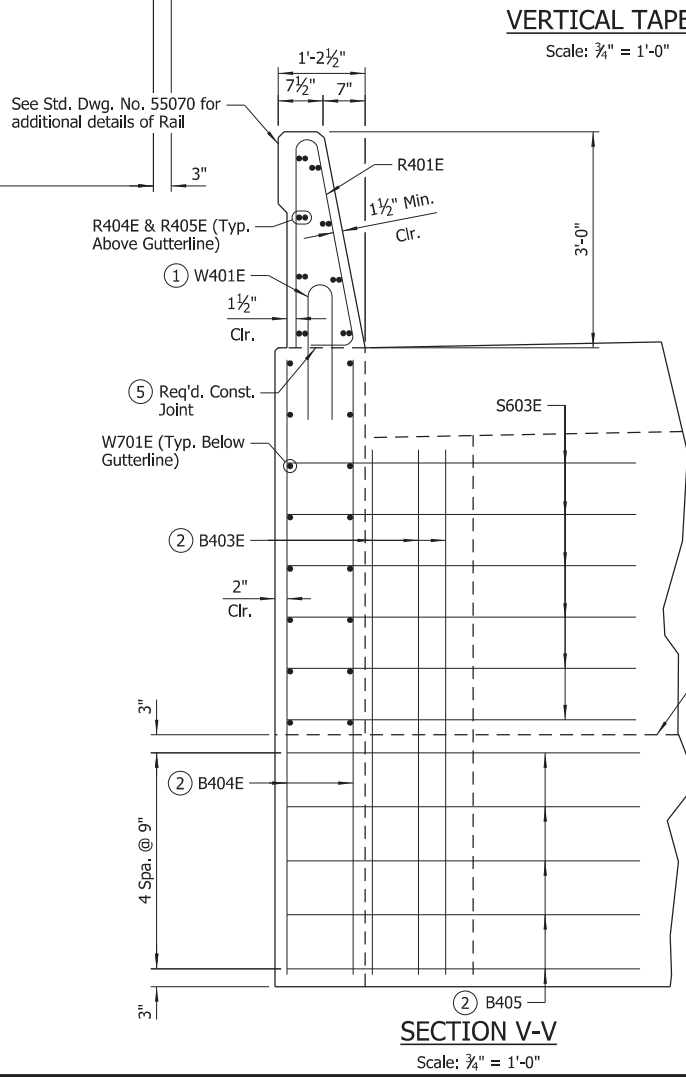
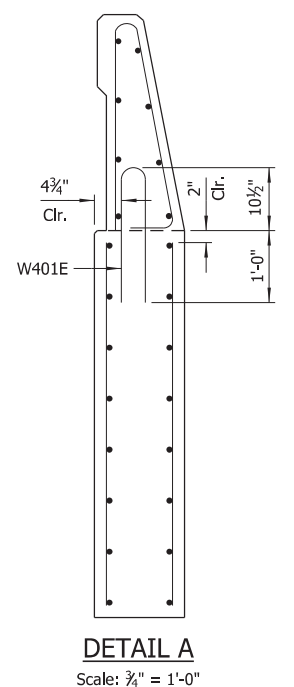


④ Bridge end terminal is required for rail at Bridge No. 07635, Bent No. 2, Wing A only.

Modify the wing rail and connection detail above the gutterline as required by the manufacturer of the bridge end terminal. Reinforcing bars that are relocated or bent to fit the modified bridge rail should have minimum concrete cover.

Connector Plate not required at location of bridge end terminal, unless required by manufacturer of the bridge end terminal.

TABLE OF VARIABLES					
Bridge No.	Bent No.	Wing	"A"	"B"	"C"
07635	1	A	215.30	5'-3½"	3'-6"
		B	215.30	5'-3½"	3'-6"
	2	A	215.37	5'-3½"	3'-6"
		B	215.37	5'-3½"	3'-6"
07636	1	A	216.11	5'-3¼"	3'-8½"
		B	218.96	5'-4¾"	3'-6½"
	2	A	216.19	5'-3½"	3'-8½"
		B	218.56	5'-4"	3'-6½"
07637	1	A	215.91	5'-3⅝"	3'-6"
		B	215.91	5'-3⅝"	3'-6"
	2	A	215.82	5'-3⅝"	3'-6"
		B	215.82	5'-3⅝"	3'-6"



- LEGEND**
- U.N.O. = Unless Noted Otherwise  
EF = Each Face
- See "DETAIL A" for placement of Bars W401E.
  - See "DETAILS OF END BENTS" on Dwg. Nos. 66495-66496, 66508-66510, & 66521-66522 for reinforcing and additional details.
  - Vertical chamfer not required if optional construction joint is used.
  - Site 1 & 3: match roadway slope  
Site 2: match roadway slope (low side) level (high side)
  - Measured along gutterline
  - Field bend front leg of R401E bar as required to maintain minimum 1½" front face clearance within limits of taper



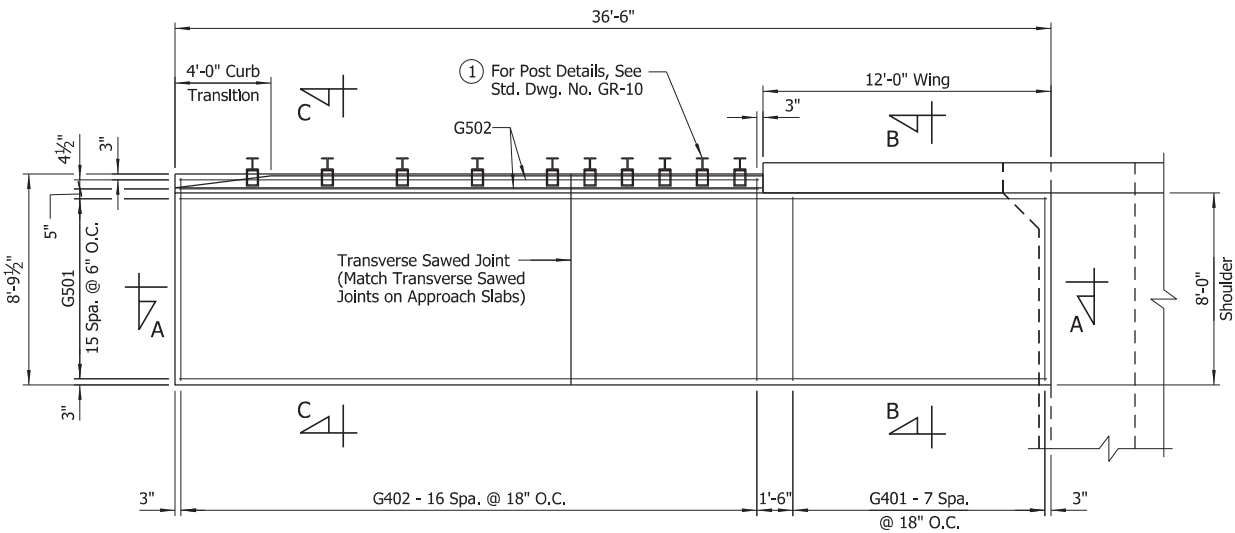
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COMMON SUPERSTRUCTURE DETAILS  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: RAK DATE: DEC. 2020 FILENAME: b061615\_s2.dgn  
CHECKED BY: NVW DATE: FEB. 2021 SCALE: As Shown  
DESIGNED BY: RAK DATE: DEC. 2020

BRIDGE NO. 07635, 07636, 07637 DRAWING NO. 66529



DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	061615	101	136
07635, 07636, 07637 APPROACH GUTTERS						66530



PLAN - TYPE 1 SPECIAL APPROACH GUTTER  
(Shown For Begin Bridge Nos. 07635, 07636, & 07637.  
End Bridge Nos. 07635, 07636, & 07637 Similar.)  
Scale: 1/4" = 1'-0"

NOTE:  
All longitudinal lines within the limits of horizontal curves shall be on curves concentric with CL Construction. Adjustment to longitudinal bar lengths may be required. Transverse reinforcing shall be placed on lines radial to CL Construction.

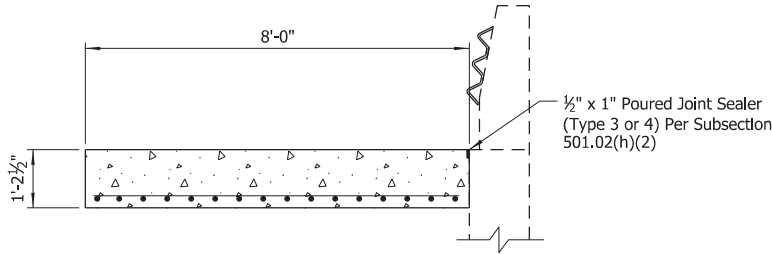
BAR LIST - TYPE 1 SPECIAL APPROACH GUTTER			
Mark	No. Req'd	Length	Pin Dia.
G401	8	7'-8"	Str.
G402	17	8'-5"	Str.
G501	16	36'-2"	Str.
G502	2	24'-2"	Str.

NOTE:  
Bars shown are for Stage 2 Construction at Begin Bridge. Bars for Stage 1 Construction at Begin Bridge and Stage 1 and Stage 2 Construction at End Bridge are similar.

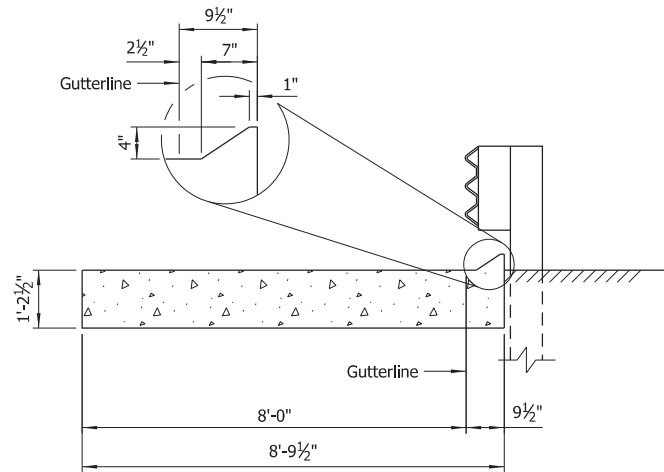
QUANTITIES (FOR INFORMATION ONLY)		
Type	Concrete	Reinforcing Steel (Gr. 60)
Type 1 Special	14,04 Cu. Yds.	791 lb.

NOTE:  
Quantities shown are for one Type 1 Special Approach Gutter. Twelve Type 1 Special Approach Gutters are required.

① See Bridge Layouts for locations of guardrails.



SECTION B-B  
No Scale



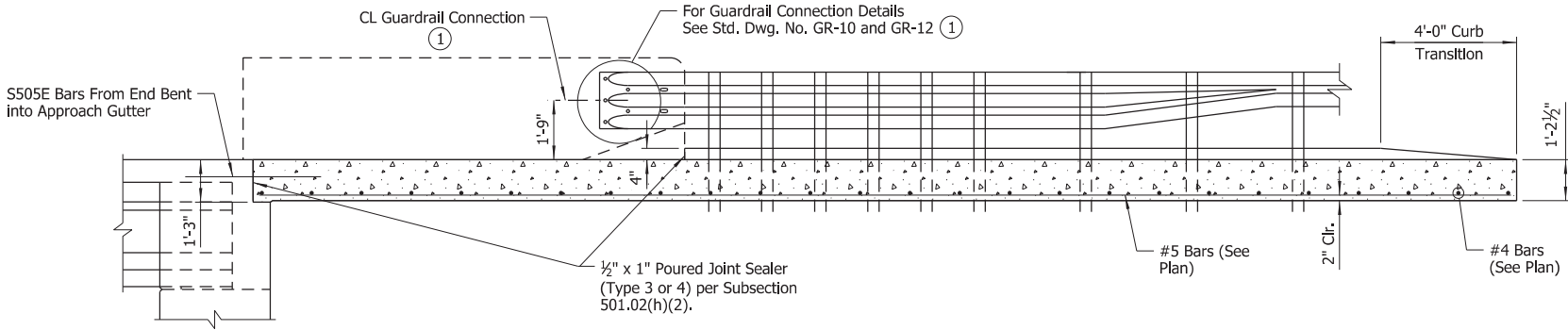
SECTION C-C  
(Reinforcing Not Shown)  
No Scale

### GENERAL NOTES

All concrete shall be Class S or Class S(AE) or mixture used for Portland Cement Concrete Pavement and shall be poured in the dry.

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.

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



SECTION A-A  
No Scale

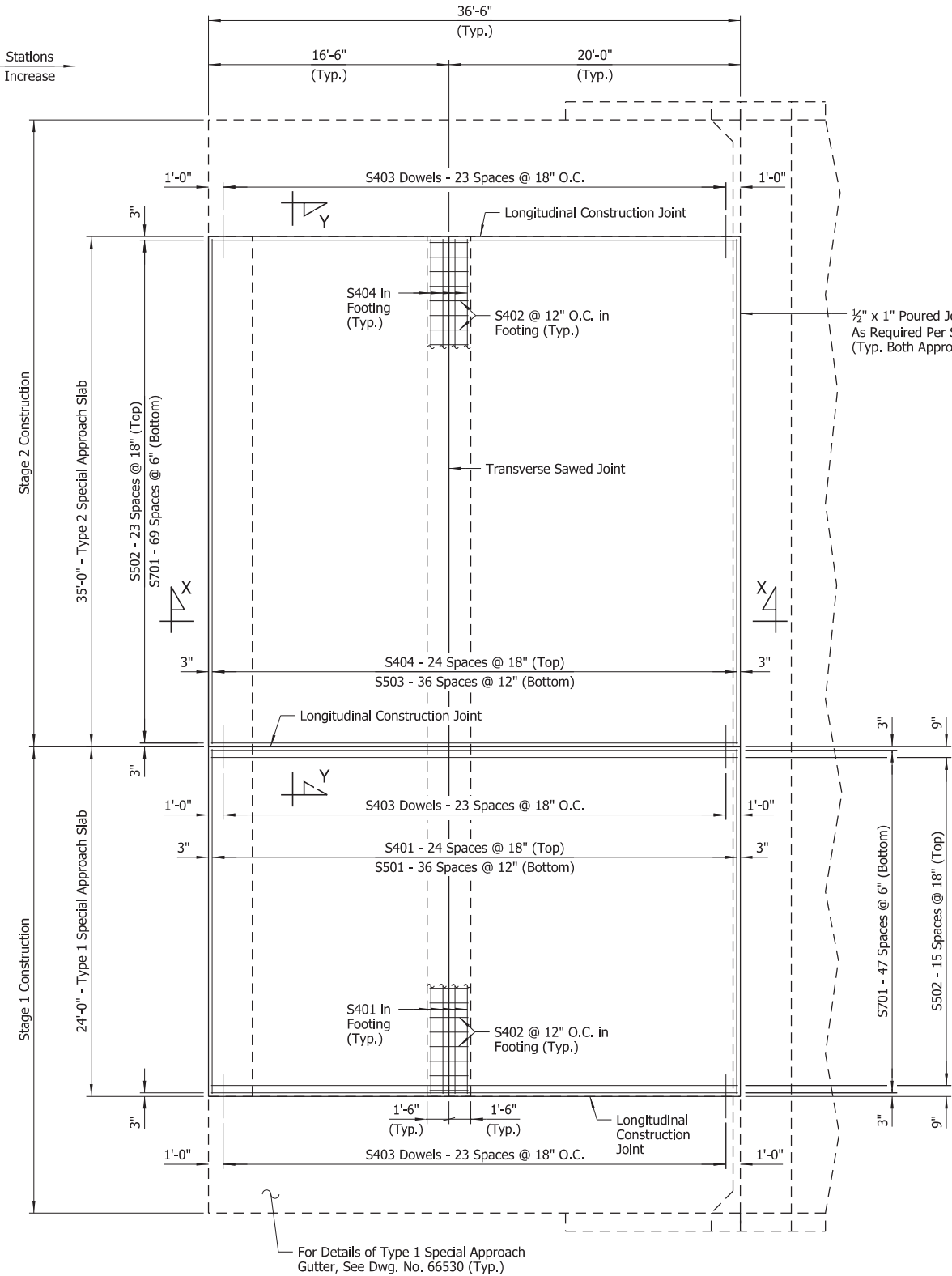


DETAILS OF TYPE SPECIAL  
APPROACH GUTTERS  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: JJB DATE: DEC. 2020 FILENAME: b061615\_ag1.dgn  
CHECKED BY: NVW DATE: MAR. 2021 SCALE: As Shown  
DESIGNED BY: JJB DATE: DEC. 2020  
BRIDGE NO. 07635, 07636, 07637 DRAWING NO. 66530

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WORKSPACE: ARDOT Bridge (2019)  
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DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	061615	102	136
07635, 07636, 07637 APPROACH SLABS						66531



NOTE:  
All longitudinal lines within the limits of horizontal curves shall be on curves concentric with CL Construction. Adjustment to longitudinal bar lengths may be required. Transverse reinforcing shall be placed on lines radial to CL Construction.

BAR LIST - TYPE 1 SPECIAL APPROACH SLAB			
Mark	No. Req'd	Length	Pln Dia.
S401	29	23'-8"	Str.
S402	25	2'-8"	Str.
S403	48	3'-0"	Str.
S501	37	23'-8"	Str.
S502	16	36'-2"	Str.
S701	48	36'-2"	Str.

BAR LIST - TYPE 2 SPECIAL APPROACH SLAB			
Mark	No. Req'd	Length	Pln Dia.
S402	36	2'-8"	Str.
S403	24	3'-0"	Str.
S404	29	34'-8"	Str.
S502	24	36'-2"	Str.
S503	37	34'-8"	Str.
S701	70	36'-2"	Str.

QUANTITIES (FOR INFORMATION ONLY)		
TYPE	Class S(AE) Concrete	Reinforcing Steel (Gr. 60)
Type 1 Special	48.97 Cu. Yds.	5,498 lb.
Type 2 Special	71.43 Cu. Yds.	8,202 lb.

NOTE:  
Quantities shown are for one Type 1 Special Approach Slab and one Type 2 Special Approach Slab. Six Type 1 Special Approach Slabs and six Type 2 Special Approach Slabs are required.

NOTES:  
For details of slab supports and longitudinal construction joint, see Dwg. No. 66532.

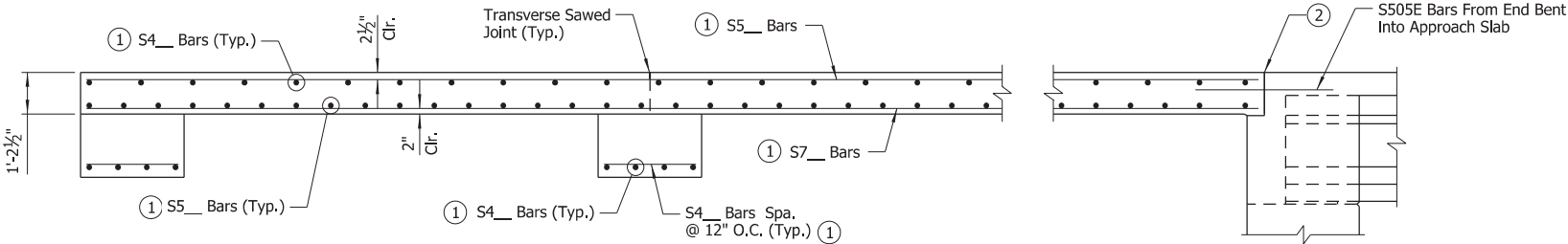
For "SECTION X-X", "SECTION Y-Y" & "GENERAL NOTES", see Dwg. No. 66532.

PLAN - TYPES 1 & 2 SPECIAL APPROACH SLABS  
(Shown For Begin Bridge Nos. 07635, 07636, & 07637, End Bridge Similar)  
Scale: 3/16" = 1'-0"

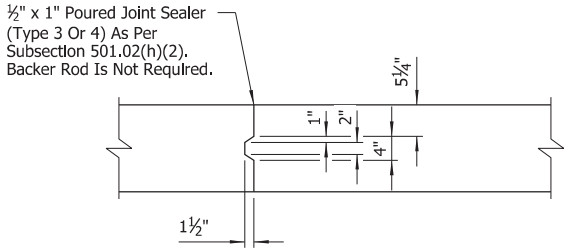


SHEET 1 OF 2  
DETAILS OF TYPE SPECIAL  
APPROACH SLABS  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.  
DRAWN BY: JJB DATE: DEC. 2020 FILENAME: b061615\_as1.dgn  
CHECKED BY: NVW DATE: MAR. 2021 SCALE: As Shown  
DESIGNED BY: JJB DATE: DEC. 2020  
BRIDGE NO. 07635, 07636, 07637 DRAWING NO. 66531

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	061615	103	136
07635, 07636, 07637 APPROACH SLABS						66532



SECTION X-X  
No Scale



DETAILS OF LONGITUDINAL  
CONSTRUCTION JOINT  
No Scale

GENERAL NOTES

All concrete shall be Class S(AE) with a minimum 28 day compressive strength  $f'_c = 4,000$  psi and shall be poured in the dry.

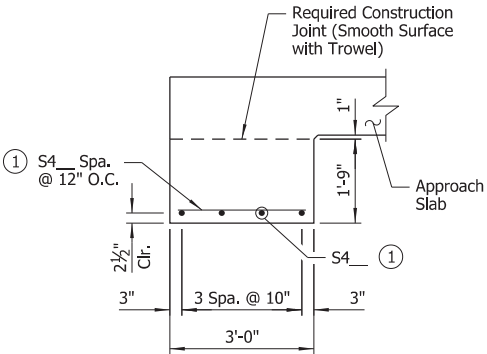
All reinforcing steel shall be Grade 60 (Yield Strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports.

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

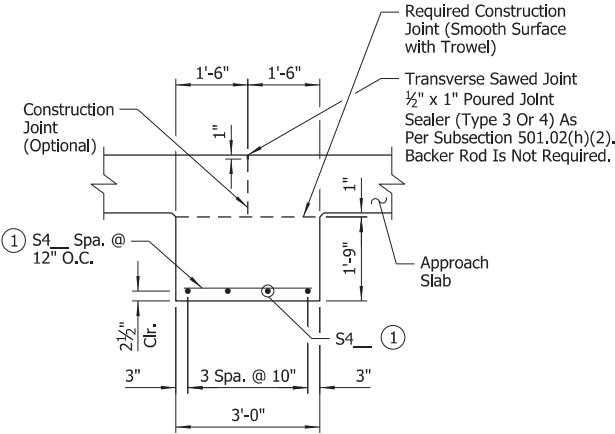
The surface finish for Approach Slabs shall match that used on the bridge deck.

- See Approach Slab Plans for bar marks.
- 1/2" x 1" Poured Joint Sealer (Type 3 or 4) as per Subsection 501.02(h)(2).

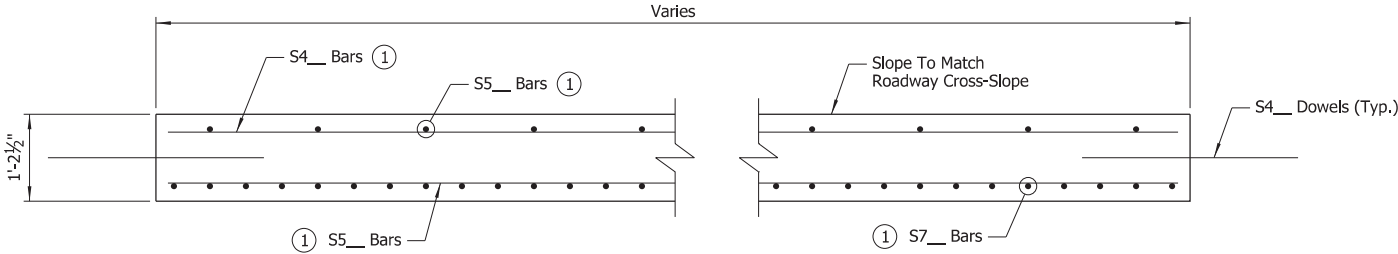
NOTE:  
Bar positions and clearances from the forms shall be maintained by means of stays, ties, hangers or other approved devices sufficient in size and number to prevent displacement during construction, per Subsection 804.06.



DETAILS OF SUPPORT  
AT END OF SLAB  
No Scale



DETAILS OF INTERIOR  
SUPPORT OF SLAB  
No Scale



SECTION Y-Y  
No Scale



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SHEET 2 OF 2  
DETAILS OF TYPE SPECIAL  
APPROACH SLABS

ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

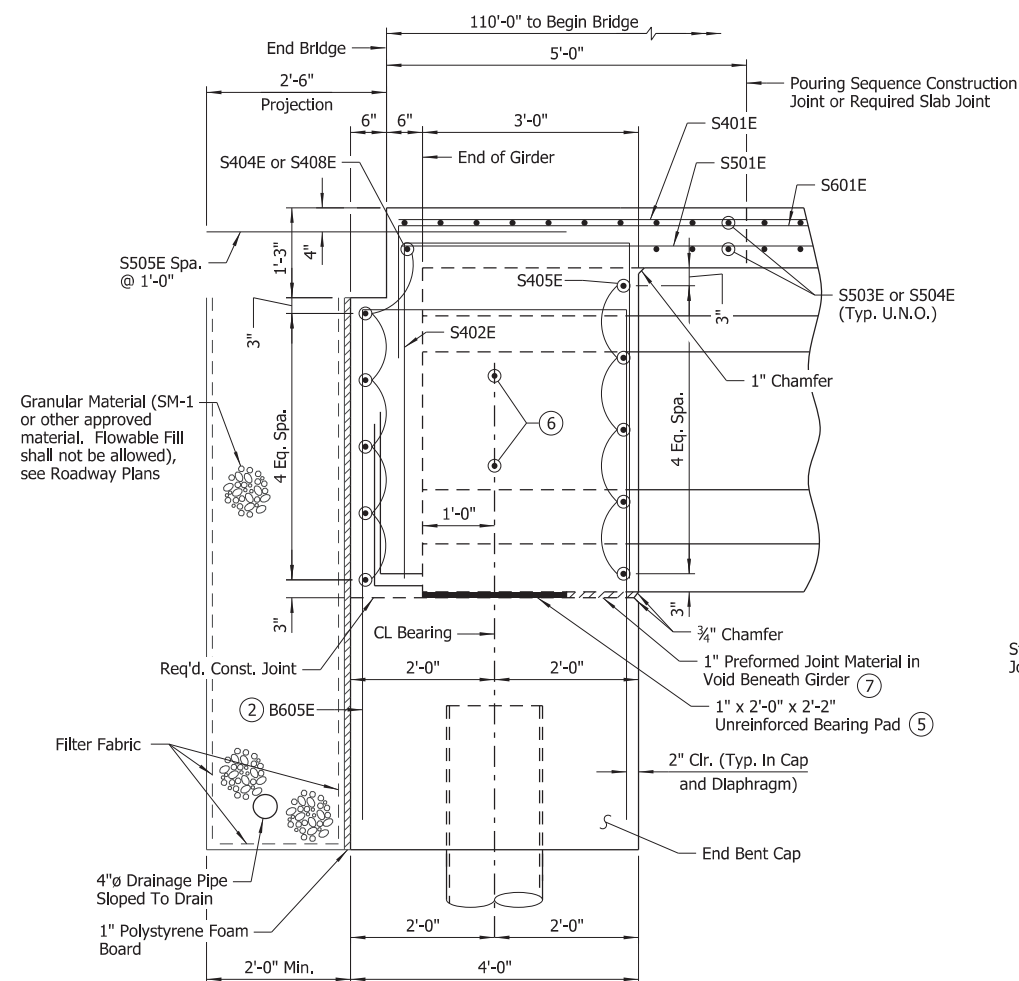
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CHECKED BY: NVW DATE: MAR. 2021 SCALE: As Shown

DESIGNED BY: JJB DATE: DEC. 2020

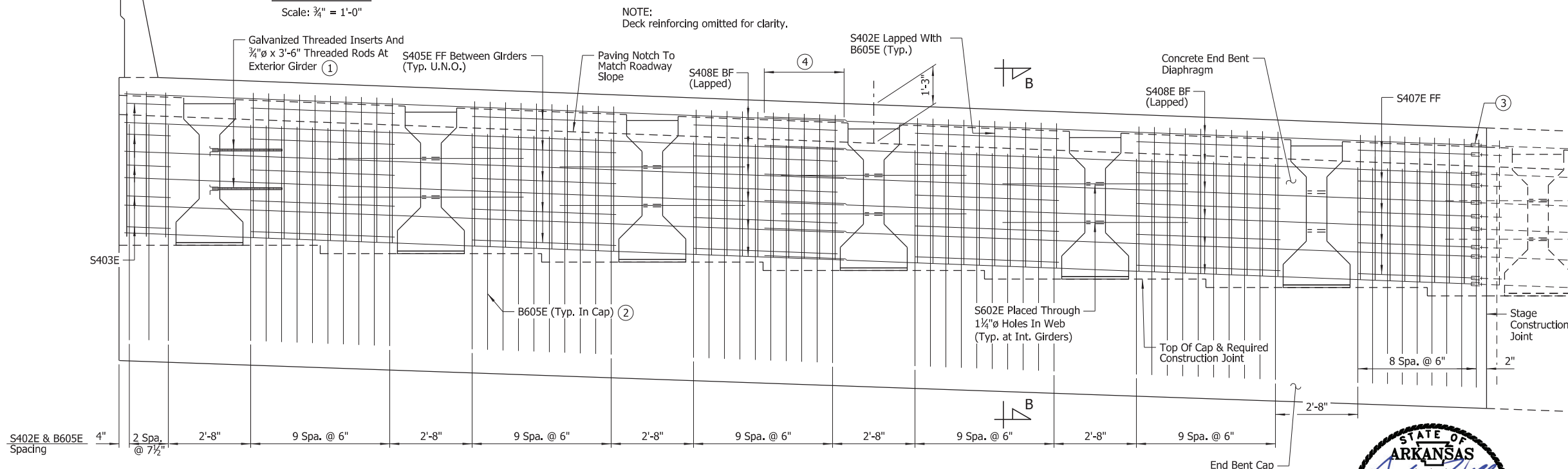
BRIDGE NO. 07635, 07636, 07637 DRAWING NO. 66532

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	061615	84	136
		07636, 07637		109'-0" SPAN		66513



## SECTION B-B

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



## TYPICAL SECTION AT END BENT DIAPHRAGMS - STAGE 2 CONSTRUCTION

(Looking Ahead At Bent 2, Diaphragm at Bent 1 similar)

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

NOTES:  
Limits of the concrete End Bent Diaphragm shall match plan dimension of End Bent Cap.

Preformed Joint Material shall not be paid for directly, but shall be considered subsidiary to the item "CLASS S(AE) CONCRETE - BRIDGE".

For additional details of pipe underdrain, see Std. Dwg. PU-1 and Section 611. Pipe underdrains will not be measured or paid for separately, but shall be considered subsidiary to the unit price bid for "UNCLASSIFIED EXCAVATION".

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

### LEGEND

FF = Front Face  
BF = Back Face  
U.N.O. = Unless Noted Otherwise



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SHEET 3 OF 7  
DETAILS OF 109'-0" INTEGRAL  
PRESTRESSED CONCRETE GIRDER SPAN  
LA GRUE BAYOU SOUTH

ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION

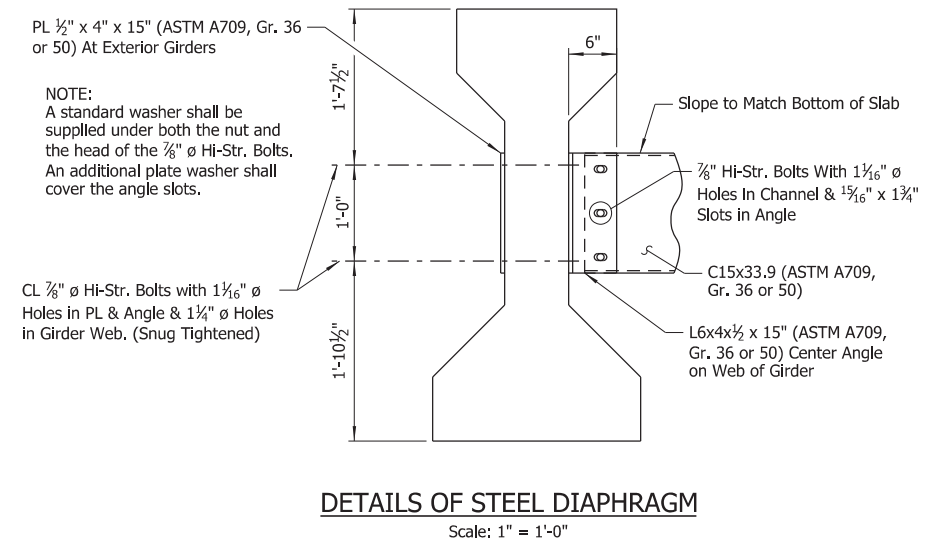
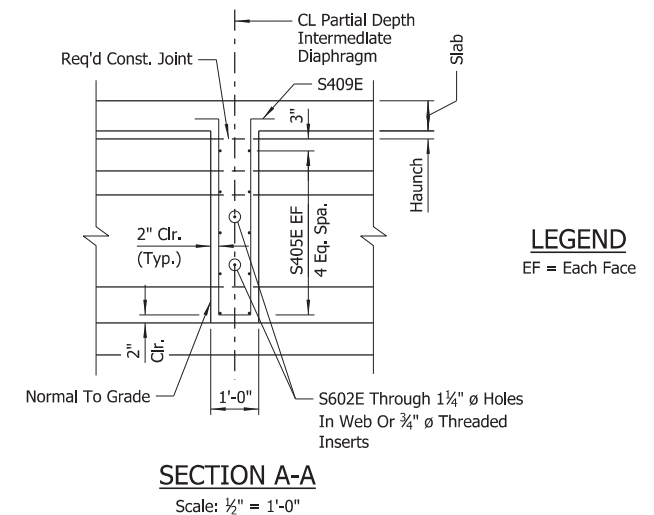
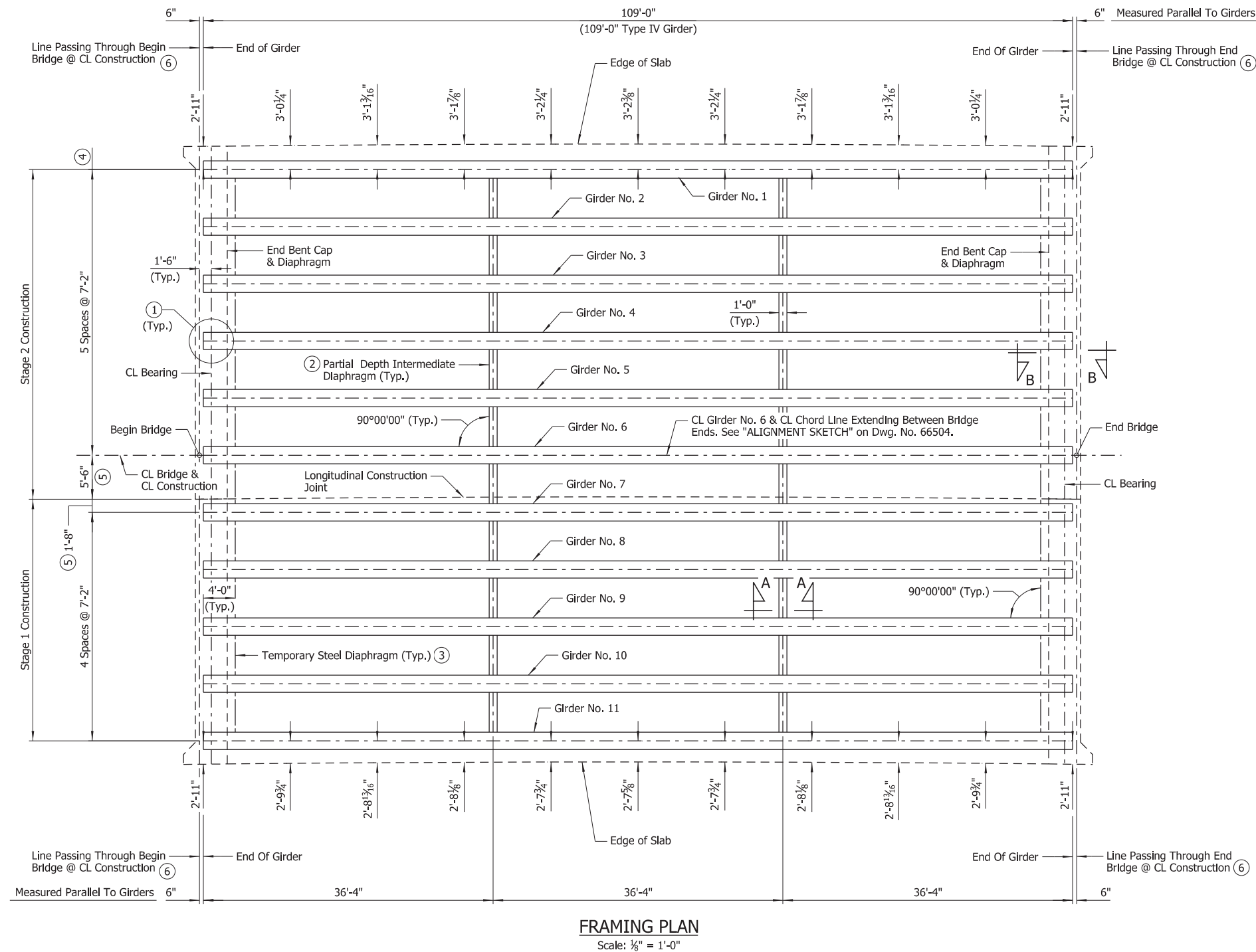
LITTLE ROCK, ARK,

DRAWN BY: ERM      DATE: NOV. 2020      FILENAME: b061615x2\_s3.dgn  
 CHECKED BY: NVW      DATE: MAR 2021      SCALE: As Shown  
 DESIGNED BY: ERM      DATE: NOV. 2020

BRIDGE NO. 07636, 07637 DRAWING NO. 66513



DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	061615	85	136
		07636	109'-0" SPAN			66514



Steel Diaphragms shall be used at locations noted as "Temporary Steel Diaphragm". The Temporary Steel Diaphragm and components will not be paid for directly, but shall be considered subsidiary to the item "PRESTRESSED CONCRETE GIRDERS (TYPE IV)".

Permanent Steel Diaphragms may be used in lieu of concrete diaphragms at locations noted as "Partial Depth Intermediate Diaphragm". Payment will be based on concrete diaphragms.

All components of Steel Diaphragms (Permanent and Temporary) shall be galvanized in accordance with AASHTO M111.

- ① After erection, the ends of girders at all bents shall be blocked using temporary blocking to maintain proper location on bent caps. The ends of girders shall remain blocked until after the temporary steel diaphragms are in place.
  - ② For details of alternate steel diaphragm, see "DETAILS OF STEEL DIAPHRAGM".
  - ③ After the concrete deck construction and curing are complete, the temporary steel diaphragm and connecting elements may remain in place or be removed and become the property of the Contractor and the holes in the girder webs filled with a QPL approved non-shrink epoxy grout. For additional diaphragm details, see "DETAILS OF STEEL DIAPHRAGM".
  - ④ Measured perpendicular to chord line extending between bridge ends. See "ALIGNMENT SKETCH" on Dwg. No. 66504.
  - ⑤ Measured to Longitudinal Construction Joint at Begin Bridge
  - ⑥ Line is perpendicular to chord line extending between bridge ends. See "ALIGNMENT SKETCH" on Dwg. No. 66504.

NOTES:  
For "SECTION B-B" and additional details of End Bents Diaphragms, see Dwg. 66513.

For additional details of Partial Depth Intermediate Diaphragms, see Dwg. 66528.

All cantilever dimensions are measured at girder tenth points along edges of slab and normal to exterior girders.

SHEET 4 OF 7  
DETAILS OF 109'-0" INTEGRAL  
PRESTRESSED CONCRETE GIRDER SPAN  
LA GRUE BAYOU SOUTH  
ROUTE                  SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: <u>RAK</u>	DATE: <u>DEC. 2020</u>	FILENAME: <u>b061615x2_s4.dgn</u>
CHECKED BY: <u>NVW</u>	DATE: <u>MAR. 2021</u>	SCALE: <u>As Shown</u>
DESIGNED BY: <u>RAK</u>	DATE: <u>DEC. 2020</u>	

BRIDGE NO. **07636**                  DRAWING NO. **66514**

abhall 11/3/2023 3:11:39 PM  
WORKSPACE: ARDOT Bridge (2019)  
L:\2171\71017628 - 061615 Wolf Bayou Honey-La Grue Creeks Drawings\061615x2\_S304\_SF.dgn

abhall 11/3/2023 3:11:46 PM  
WORKSPACE: ARDOT Bridge (2019)  
L:\2017\17017628 - 061615 Wolf Bayou Honey-La Grue Creeks\Drawings\b061615x5\_S501\_GN.dgn

## GENERAL NOTES

### PRESTRESSED CONCRETE GIRDERS:

Pretensioning steel shall be 0.6" dia. low relaxation strands with a minimum ultimate strength of 270 ksi and shall conform to AASHTO M 203.

Distances from the forms and spacing of the prestressing steel shall be maintained by stays, ties, hangers, spacers, or other approved supports which shall be shown on the shop drawings.

All girders shall be of the type noted on the details and shall be the standard prestressing sections adopted by the Joint Committee of AASHTO and the Prestressed Concrete Institute. All girders shall be cast in floored pallets and in metal forms. All work and materials shall be as specified in Subsection 802.22.

Concrete shall be Class S and shall have a minimum 28-day compressive strength  $f'_c = 8,000$  psi. The initial tensile force applied to each 0.6" dia. strand shall be 44,000 lbs. except as noted. Transfer of this tensioning load to the girder shall not be done until the compressive strength of the concrete is 6,000 psi.

Dimensions shown are to the center of the strands.

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

Holes and Inserts shall be cast into the girders. Field drilling of holes shall not be permitted.

The tops of girders shall be rough floated at approximately the time of set. The tops of girders shall be scrubbed transversely with a coarse wire brush to remove all laitance and to produce a roughened surface with an amplitude of  $\frac{1}{4}$ " to produce an adequate surface for bonding the slab.

Extreme care shall be exercised in handling and moving precast prestressed concrete girders. Girders must be maintained in an upright position at all times and must be picked up from points near the girder ends. Disregard of this requirement may lead to collapse of the girder. 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 points of support and directions 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.

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

Reinforcing steel shall be AASHTO M 31 or M 32 Type A, Gr. 60 ( $F_y = 60,000$  psi), with mill test reports.

After detensioning, saw cut, grind, or bend up strands as designated by the plans. Heat-cutting or bending methods shall not be used within 6" of the girder.

The Contractor may submit alternate strand patterns with design calculations for review and approval in accordance with Subsection 802.22.

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.

### REINFORCING STEEL:

All reinforcing steel shall conform to AASHTO M 31 or M 322 Type A, Gr. 60, with mill test reports and shall be epoxy coated. 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)".

### CONCRETE:

Concrete shall be poured in the dry, and all exposed corners shall be chamfered  $\frac{3}{4}$ " unless otherwise noted. All concrete in slab, rail and diaphragms 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.

The concrete deck (roadway surface) shall be given a tine 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 girder. When permitted, the use of a longitudinal strike-off will require that a vertical camber adjustment be made in the strike-off to account for the future dead load deflection due to any railings.

### STRUCTURAL STEEL:

Structural steel shall be ASTM A709 with grade and payment as specified in the plans. Grade 50W steel shall not be painted, and all exposed surfaces shall be cleaned in accordance with Subsection 807.84(e) unless noted otherwise. Grade 36 and Grade 50 steel shall be painted unless otherwise noted, and all exposed surfaces shall be cleaned in accordance with Subsection 807.84. Structural steel completely embedded in concrete may be ASTM A709, Gr. 36, Gr. 50 or Gr. 50W unless otherwise noted.

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 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.

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

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 temporary or permanent, a formal request with detailed drawings shall be submitted to the Engineer for approval. All welding shall conform to Subsection 807.26.

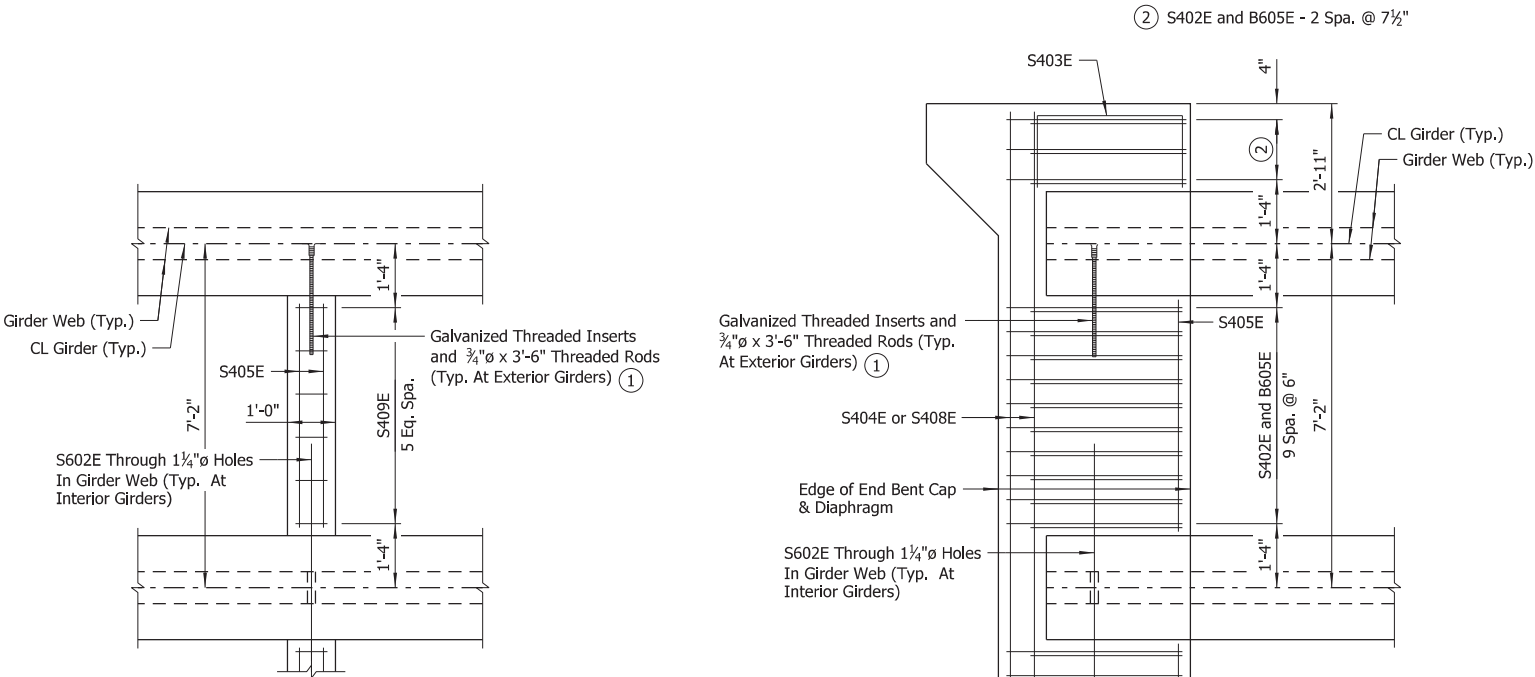
## SPECIAL CAMBER NOTES

The camber and dead load deflection values shown on the plans are estimated based on the required minimum concrete strength for the prestressed concrete girders. The Contractor shall provide the Engineer with the following information:

- Actual 28-Day concrete strength of prestressed concrete girders
- Estimated age of prestressed concrete girders at time of erection
- Profile of each girder under its own weight in final position

Following receipt of the above data, the Engineer will evaluate the dead load and, if necessary, will provide an updated deflection diagram to the Contractor.

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	061615	99	136
		07635, 07636, 07637		COMMON		66528



PLAN - PARTIAL DEPTH INTERMEDIATE DIAPHRAGM

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

PLAN - END BENT DIAPHRAGM

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

- ① See "TYPICAL GIRDER ELEVATION (TYPE IV) - 99'-0"" on Dwg. No. 66502 and "TYPICAL GIRDER ELEVATION (TYPE IV) - 109'-0"" on Dwg. No. 66516 for number and location. Galvanized Threaded Inserts shall be Dayton-Richmond F-42 Loop Ferule Inserts or approved equal.  $\frac{3}{4}$ " $\varnothing$  Galvanized Threaded Rods shall be ASTM A709, Grade 36 or AASHTO M 31 or M 322 Type A, Grade 60. Galvanizing shall be in accordance with AASHTO M 232, Class C or ASTM B695, Class 50. These items will not be paid for directly but shall be considered subsidiary to the item "PRESTRESSED CONCRETE GIRDERS (TYPE IV)."



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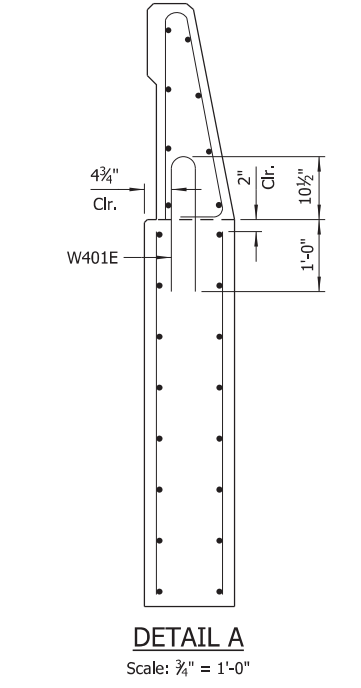
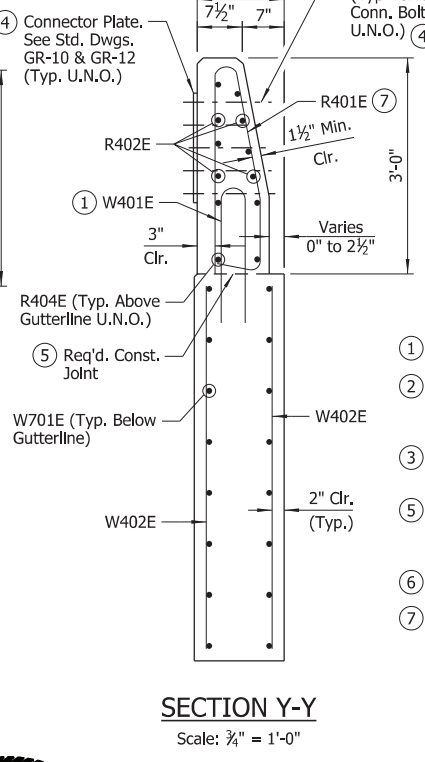
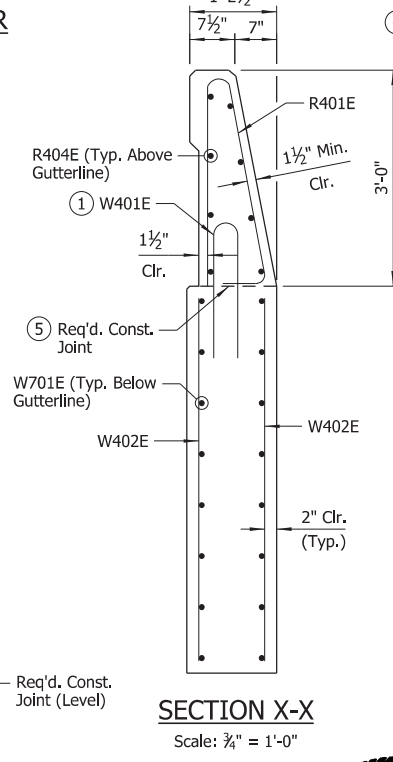
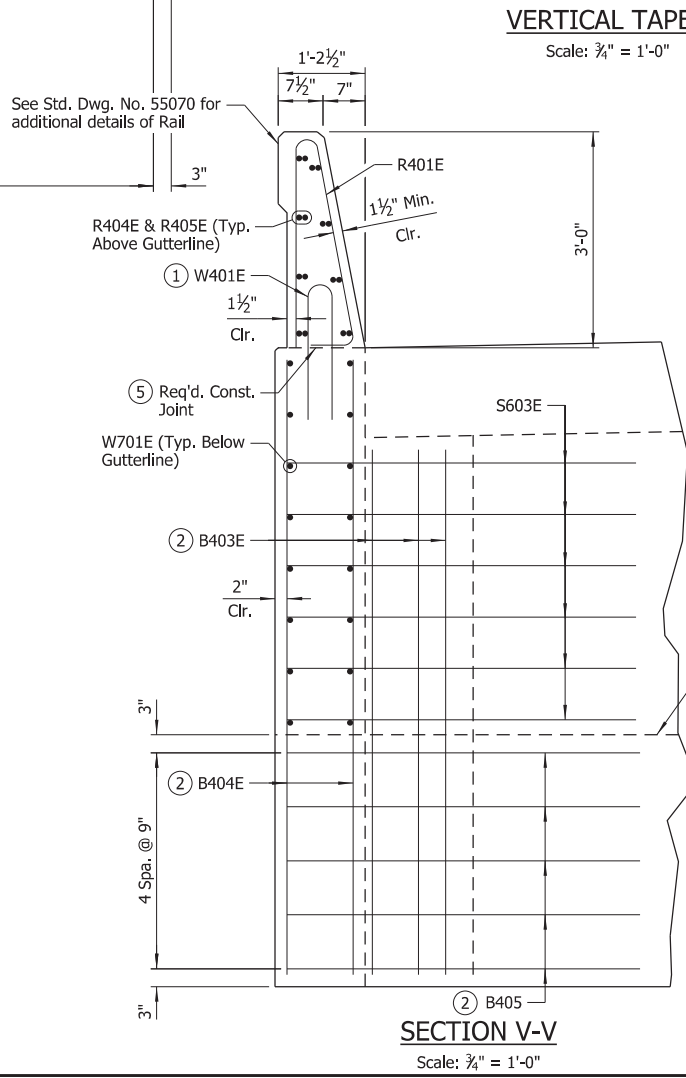
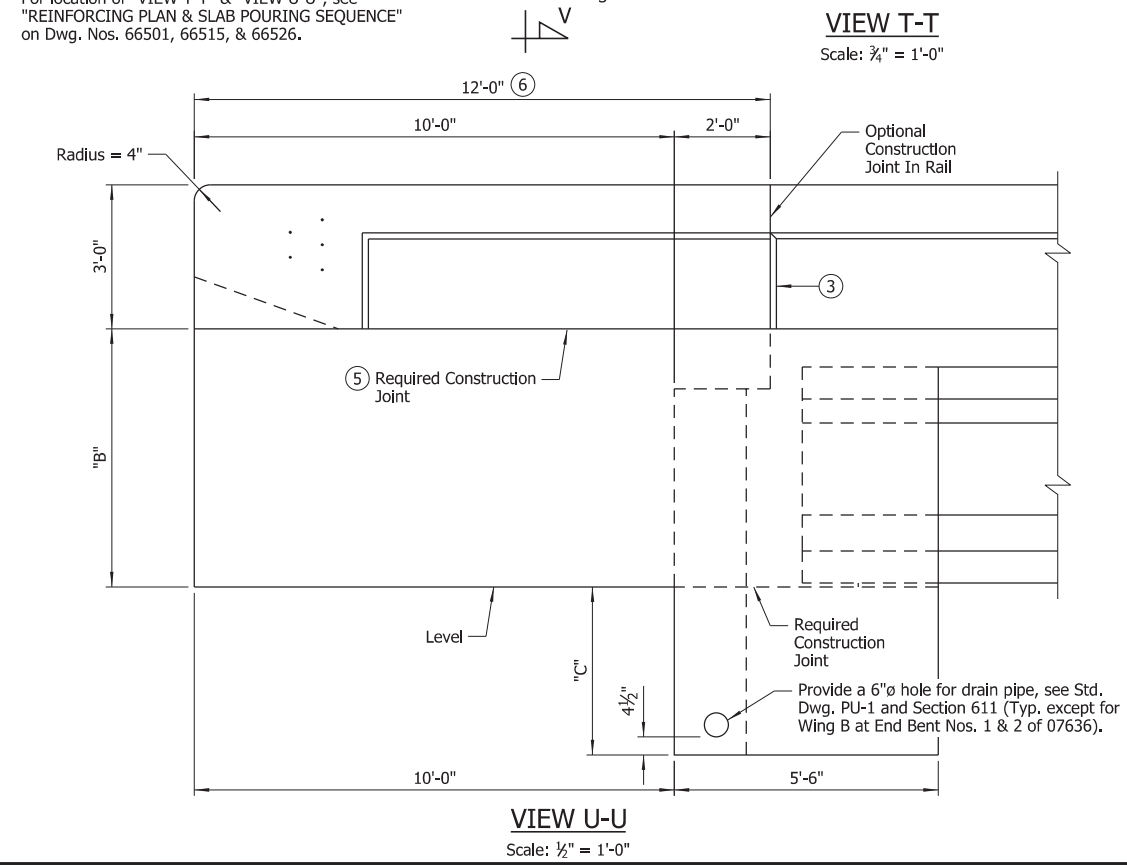
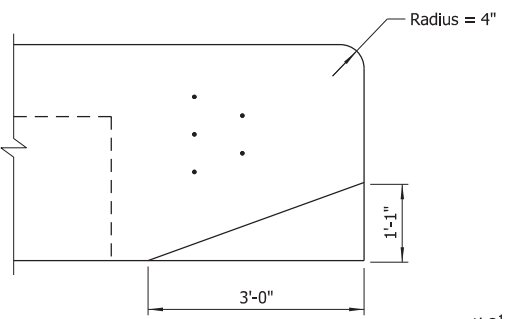
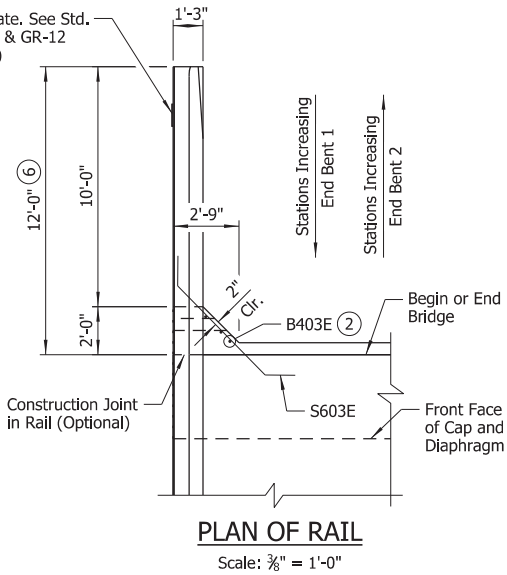
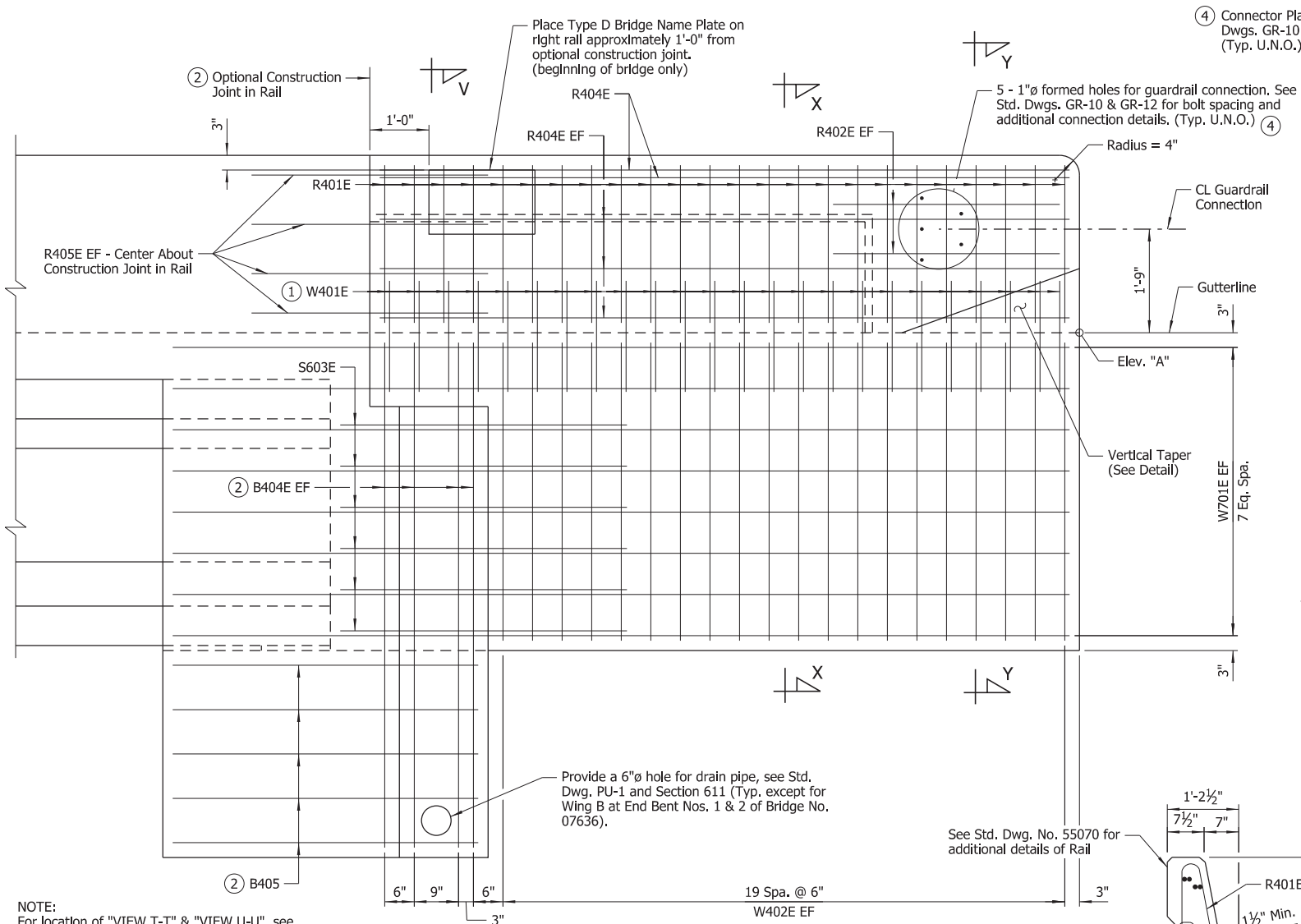
SHEET 1 OF 2  
COMMON SUPERSTRUCTURE DETAILS  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: RAK DATE: DEC. 2020 FILENAME: b061615\_s1.dgn  
CHECKED BY: NVW DATE: FEB. 2021 SCALE: As Shown

DESIGNED BY: RAK DATE: DEC. 2020

BRIDGE NO. 07635, 07636, 07637 DRAWING NO. 66528

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	061615	100	136
		07635, 07636, 07637	COMMON		66529	



④ Bridge end terminal is required for rail at Bridge No. 07635, Bent No. 2, Wing A only.

Modify the wing rail and connection detail above the gutterline as required by the manufacturer of the bridge end terminal. Reinforcing bars that are relocated or bent to fit the modified bridge rail should have minimum concrete cover.

Connector Plate not required at location of bridge end terminal, unless required by manufacturer of the bridge end terminal.

TABLE OF VARIABLES					
Bridge No.	Bent No.	Wing	"A"	"B"	"C"
07635	1	A	215.30	5'-3 1/2"	3'-6"
		B	215.30	5'-3 1/2"	3'-6"
	2	A	215.37	5'-3 1/2"	3'-6"
		B	215.37	5'-3 1/2"	3'-6"
07636	1	A	216.11	5'-3 1/4"	3'-8 1/16"
		B	218.96	5'-4 3/4"	3'-6 5/16"
	2	A	216.19	5'-3 1/2"	3'-8 9/16"
		B	218.56	5'-4"	3'-6 5/16"
07637	1	A	215.91	5'-3 3/8"	3'-6"
		B	215.91	5'-3 3/8"	3'-6"
	2	A	215.82	5'-3 3/8"	3'-6"
		B	215.82	5'-3 3/8"	3'-6"

**LEGEND**

U.N.O. = Unless Noted Otherwise  
EF = Each Face

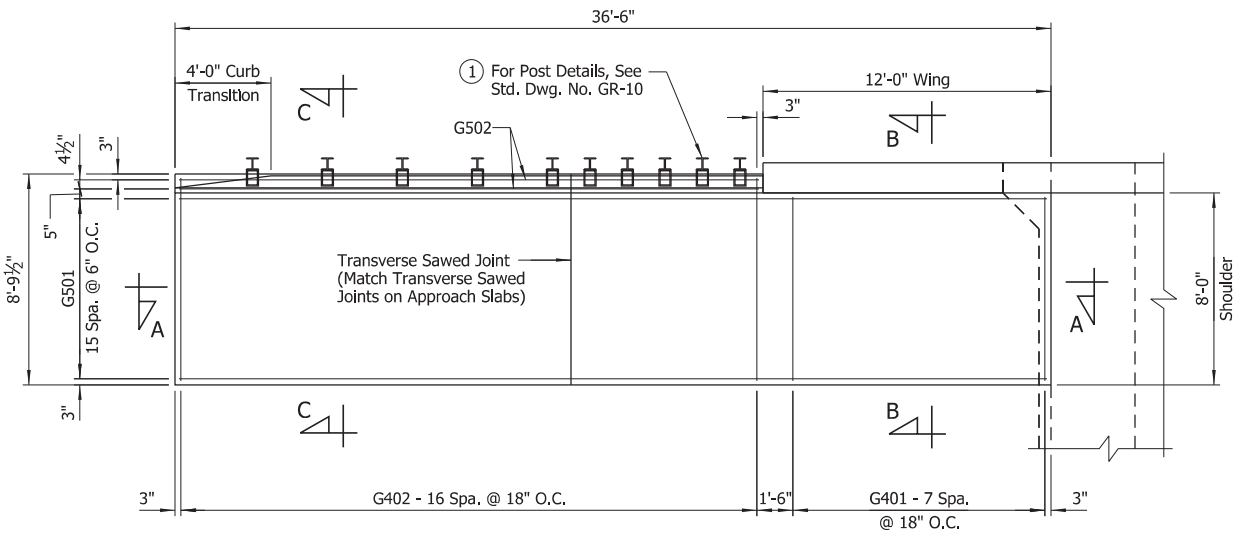
- See "DETAIL A" for placement of Bars W401E.
- See "DETAILS OF END BENTS" on Dwg. Nos. 66495-66496, 66508-66510, & 66521-66522 for reinforcing and additional details.
- Vertical chamfer not required if optional construction joint is used.
- Site 1 & 3: match roadway slope  
Site 2: match roadway slope (low side) level (high side)
- Measured along gutterline
- Field bend front leg of R401E bar as required to maintain minimum 1 1/2" front face clearance within limits of taper



**SHEET 2 OF 2**  
**COMMON SUPERSTRUCTURE DETAILS**  
ROUTE SEC.  
**ARKANSAS STATE HIGHWAY COMMISSION**  
LITTLE ROCK, ARK.

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CHECKED BY: NVW DATE: FEB. 2021 SCALE: As Shown  
DESIGNED BY: RAK DATE: DEC. 2020  
BRIDGE NO. 07635, 07636, 07637 DRAWING NO. 66529

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	061615	101	136
07635, 07636, 07637 APPROACH GUTTERS						66530



PLAN - TYPE 1 SPECIAL APPROACH GUTTER  
(Shown For Begin Bridge Nos. 07635, 07636, & 07637.  
End Bridge Nos. 07635, 07636, & 07637 Similar.)  
Scale: 1/4" = 1'-0"

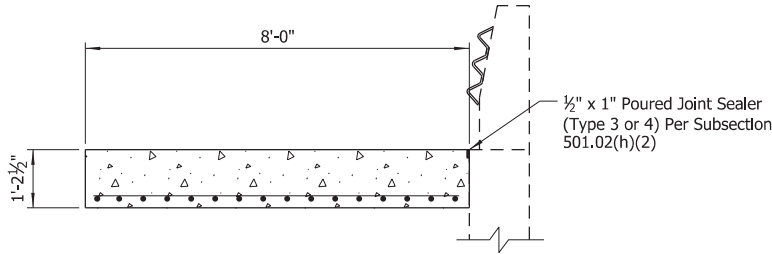
NOTE:  
All longitudinal lines within the limits of horizontal curves shall be on curves concentric with CL Construction. Adjustment to longitudinal bar lengths may be required. Transverse reinforcing shall be placed on lines radial to CL Construction.

BAR LIST - TYPE 1 SPECIAL APPROACH GUTTER			
Mark	No. Req'd	Length	Pin Dia.
G401	8	7'-8"	Str.
G402	17	8'-5"	Str.
G501	16	36'-2"	Str.
G502	2	24'-2"	Str.

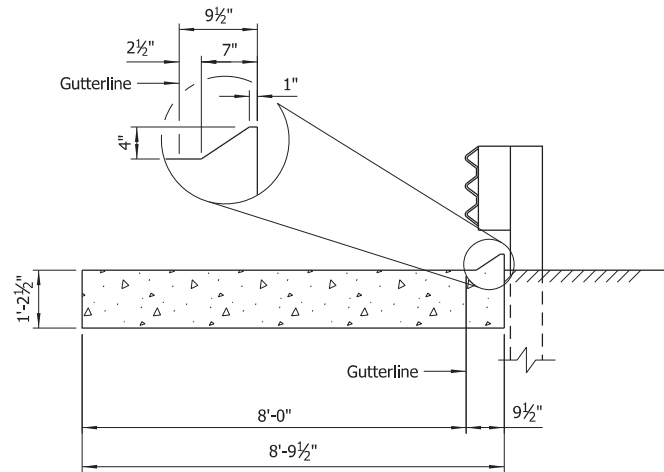
NOTE:  
Bars shown are for Stage 2 Construction at Begin Bridge. Bars for Stage 1 Construction at Begin Bridge and Stage 1 and Stage 2 Construction at End Bridge are similar.

QUANTITIES (FOR INFORMATION ONLY)		
Type	Concrete	Reinforcing Steel (Gr. 60)
Type 1 Special	14,04 Cu. Yds.	791 lb.

NOTE:  
Quantities shown are for one Type 1 Special Approach Gutter. Twelve Type 1 Special Approach Gutters are required.

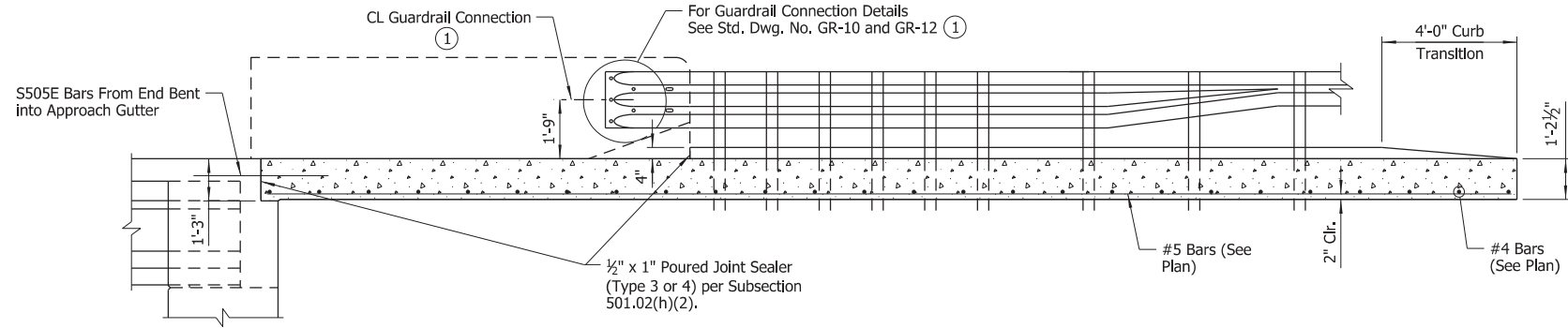


SECTION B-B  
No Scale



SECTION C-C  
(Reinforcing Not Shown)  
No Scale

① See Bridge Layouts for locations of guardrails.



SECTION A-A  
No Scale

### GENERAL NOTES

All concrete shall be Class S or Class S(AE) or mixture used for Portland Cement Concrete Pavement and shall be poured in the dry.

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.

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

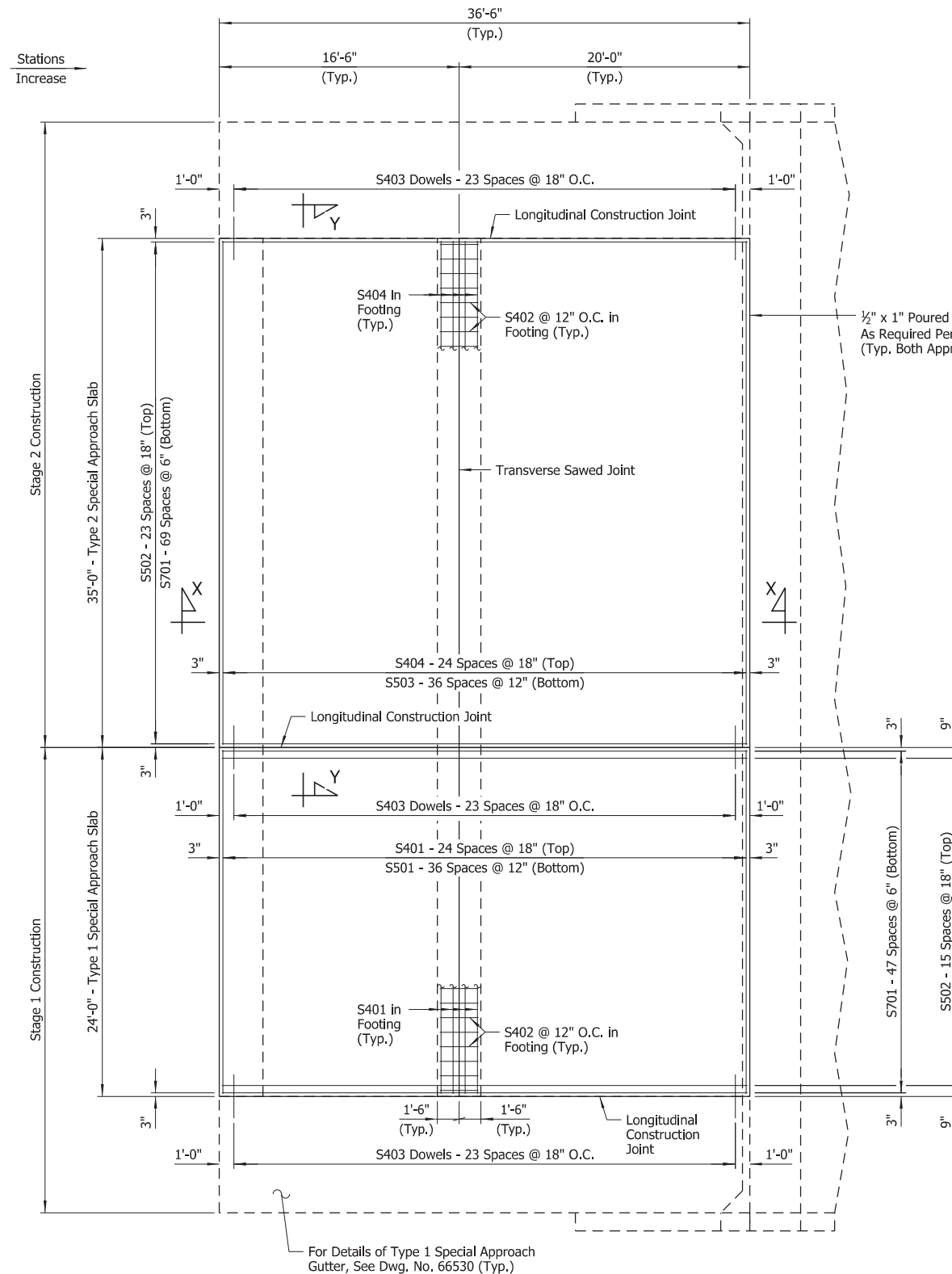


DETAILS OF TYPE SPECIAL APPROACH GUTTERS  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: JJB DATE: DEC. 2020 FILENAME: b061615\_ag1.dgn  
CHECKED BY: NVW DATE: MAR. 2021 SCALE: As Shown  
DESIGNED BY: JJB DATE: DEC. 2020  
BRIDGE NO. 07635, 07636, 07637 DRAWING NO. 66530



DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	061615	102	136
		07635, 07636, 07637 APPROACH SLABS				66531



**NOTE:**  
All longitudinal lines within the limits of horizontal curves shall be on curves concentric with CL Construction. Adjustment to longitudinal bar lengths may be required. Transverse reinforcing shall be placed on lines radial to CL Construction.

BAR LIST - TYPE 1 SPECIAL APPROACH SLAB			
Mark	No. Req'd	Length	Pln Dia.
S401	29	23'-8"	Str.
S402	25	2'-8"	Str.
S403	48	3'-0"	Str.
S501	37	23'-8"	Str.
S502	16	36'-2"	Str.
S701	48	36'-2"	Str.

BAR LIST - TYPE 2 SPECIAL APPROACH SLAB			
Mark	No. Req'd	Length	Pln Dia.
S402	36	2'-8"	Str.
S403	24	3'-0"	Str.
S404	29	34'-8"	Str.
S502	24	36'-2"	Str.
S503	37	34'-8"	Str.
S701	70	36'-2"	Str.

<h1 style="text-align: center;">QUANTITIES</h1> <p style="text-align: center;">(FOR INFORMATION ONLY)</p>		
TYPE	Class S(AE) Concrete	Reinforcing Steel (Gr. 60)
Type 1 Special	48.97 Cu. Yds.	5,498 lb.
Type 2 Special	71.43 Cu. Yds.	8,202 lb.

NOTE:  
Quantities shown are for one Type 1 Special Approach Slab and one Type 2 Special Approach Slab. Six Type 1 Special Approach Slabs and six Type 2 Special Approach Slabs are required.

NOTES:  
For details of slab supports and longitudinal construction joint, see Dwg. No. 66532.

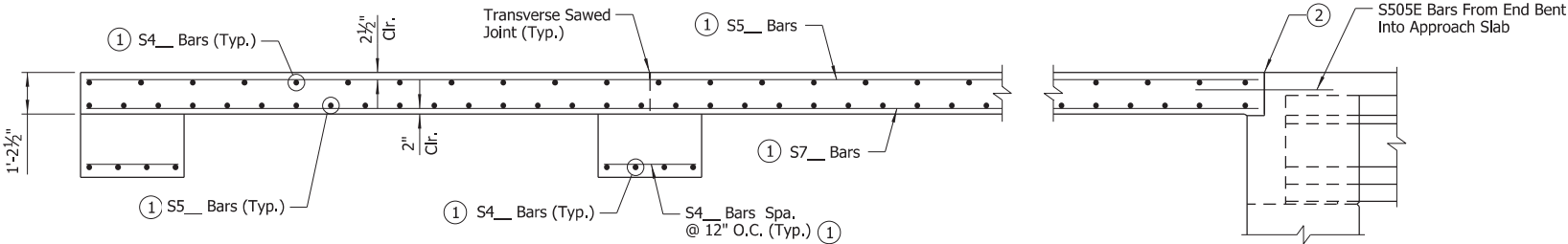
For "SECTION X-X", "SECTION Y-Y" & "GENERAL NOTES",  
see Dwg. No. 66532.

**PLAN - TYPES 1 & 2 SPECIAL APPROACH SLABS**  
(Shown For Begin Bridge Nos. 07635, 07636, & 07637, End Bridge Similar)  
Scale:  $\frac{3}{16}" = 1'-0"$

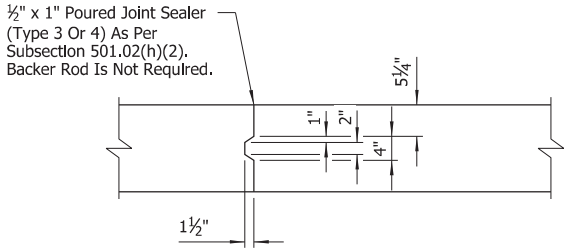


SHEET 1 OF 2  
DETAILS OF TYPE SPECIAL  
APPROACH SLABS  
ROUTE          SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.  
DRAWN BY:     JJB          DATE: DEC. 2020      FILENAME: b061615\_as1.dgn  
CHECKED BY:     NVW          DATE: MAR. 2021      SCALE: As Shown  
DESIGNED BY:     JJB          DATE: DEC. 2020  
RIDGE NO.    07635, 07636, 07637      DRAWING NO.    66531

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	061615	103	136
07635, 07636, 07637 APPROACH SLABS						66532



SECTION X-X  
No Scale



DETAILS OF LONGITUDINAL  
CONSTRUCTION JOINT  
No Scale

GENERAL NOTES

All concrete shall be Class S(AE) with a minimum 28 day compressive strength  $f'_c = 4,000$  psi and shall be poured in the dry.

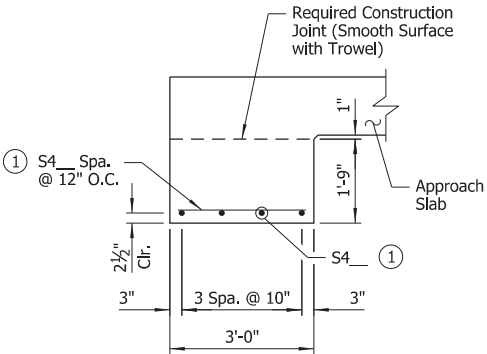
All reinforcing steel shall be Grade 60 (Yield Strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports.

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

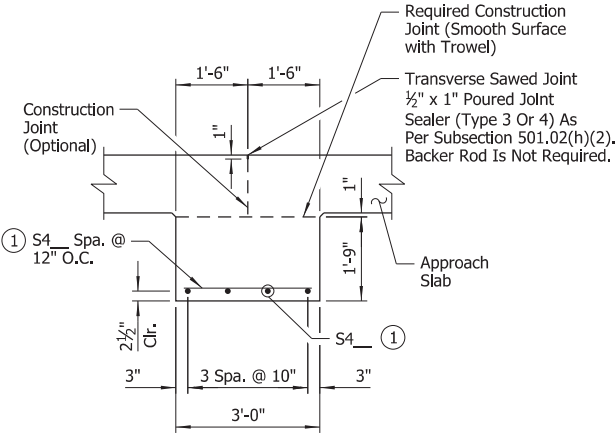
The surface finish for Approach Slabs shall match that used on the bridge deck.

- See Approach Slab Plans for bar marks.
- 1/2" x 1" Poured Joint Sealer (Type 3 or 4) as per Subsection 501.02(h)(2).

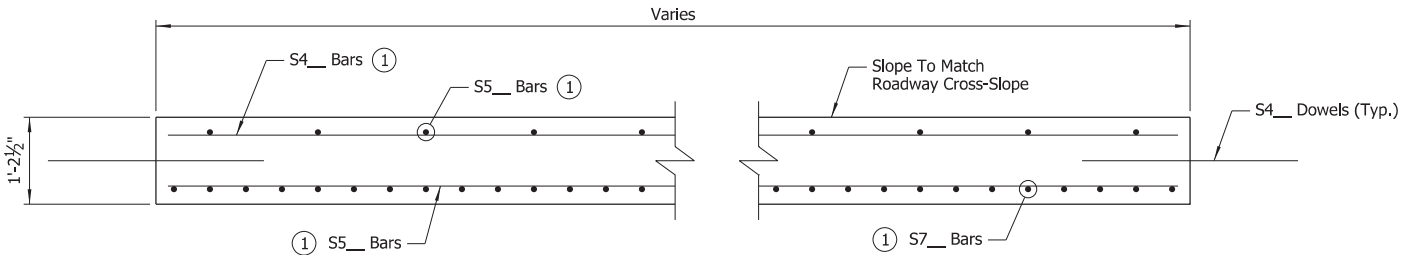
NOTE:  
Bar positions and clearances from the forms shall be maintained by means of stays, ties, hangers or other approved devices sufficient in size and number to prevent displacement during construction, per Subsection 804.06.



DETAILS OF SUPPORT  
AT END OF SLAB  
No Scale



DETAILS OF INTERIOR  
SUPPORT OF SLAB  
No Scale



SECTION Y-Y  
No Scale



DIGITALLY SIGNED 11/3/2023  
BRIDGE ENGINEER

SHEET 2 OF 2  
DETAILS OF TYPE SPECIAL  
APPROACH SLABS

ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: JJB DATE: DEC. 2020 FILENAME: b061615\_as2.dgn

CHECKED BY: NVW DATE: MAR. 2021 SCALE: As Shown

DESIGNED BY: JJB DATE: DEC. 2020

BRIDGE NO. 07635, 07636, 07637 DRAWING NO. 66532